DEVELOPMENT OF THE POSITIVE COPING BEHAVIOURAL INVENTORY: A POSITIVE PSYCHOLOGICAL APPROACH

by

ANNA ALETTA MARX

submitted in accordance with the requirements for
the degree of

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in the subject

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at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROF M COETZEE

CO-SUPERVISOR: PROF I L POTGIETER

FEBRUARY 2017

DECLARATION

I, Anna Aletta Marx hereby declare that this thesis entitled, **Development of the Positive Coping Behavioural Inventory: A Positive Psychology Approach**, is my own work and that all the sources that I have used and quoted have been indicated and acknowledged by means of a complete list of references. I declare that the thesis has not in part or in whole previously been submitted for any other degree or examination at this or any other university.

I further declare that ethical clearance to conduct the research was obtained from the Department of Industrial and Organisational Psychology, University of South Africa. I took great care in ensuring that I adhered to the ethical obligations and principles of research ethics as prescribed by the UNISA Code of Ethics and Conduct, during all phases of the research process.

---------- 26 OCTOBER 2016
Anna Aletta Marx
Student no: 8585377

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I believe that this questionnaire, the PCBI, will enrich the lives of many people. I hope that this will be only the beginning of great things. Therefore I am humbly grateful to God for supporting me and enabling me to reach this point.

To my spouse, Mel: next to God you are my securest rock. You have such a unique way of motivating me. You knew my tears and struggles and when I felt I could not continue, you were the one who motivated me. I THANK YOU. I also thank my two sons, Melchior and Briers.

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Barbara Bradley, thank you for the language editing, especially your patience with me, whose mother tongue is Afrikaans.

I also wish to thank all others who contributed to the completion of this study. It was truly a team effort. I salute all of you.

STUDENT NUMBER: 8585377

UMI

DOCTORAL DISSERTATION
PUBLISH ABSTRACT ONLY AGREEMENT

D(I)

PAO

2001

PERSONAL DATA

1. Last Name: Marx | First Name: Anna | Middle Name: Aletta
2. Year of Birth (Optional): 1969
3. Country of Citizenship: South Africa
4. Present Mailing Address Street address:

P O Box 578, Deneysville, 1932

City: Deneysville | State/Province: Free State | Postal code: 1932 | Country: South Africa

Future Mailing Address Street address:

Reitz Street 8

City: Deneysville | State/Province: Free State | Postal code: 1932 | Country: South Africa

Effective date for future mailing address (mm dd yy) _____

E-mail address: antamarx@telkomsa.net

Do not write in this space

Vol/Issue

School Code

DOCTORAL DEGREE DATA

5. Full name of university conferring degree, and college or division if appropriate

UNISA

6. Abbreviation for degree awarded: DCOM (Industrial and organisational psychology)
7. Year degree awarded: 2017

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ABSTRACT / SUMMARY

Development of the Positive Coping Behavioural Inventory:
A Positive Psychology Approach
by
Anna Aletta Marx

SUPERVISOR: Prof M Coetzee

CO-SUPERVISOR: Prof I.L. Potgieter

DEPARTMENT: Industrial and Organisational Psychology

DEGREE: DLitt et Phil

The general aim of this research was to determine the theoretical elements of positive coping behaviour and operationalise these into a reliable and valid measurement scale, the Positive Coping Behaviour Inventory (PCBI). Positive coping behaviour was conceptualised in the context of employee wellness in the contemporary world of work. The literature review guided the development of a theoretical model comprising four constructs denoting positive coping behaviour: cognitive, affective, conative and social coping behaviour. Scale development protocols were followed in generating items for each dimension.

The empirical study (research scale development) employed a non-probability, purposive sampling technique. The empirical study targeted the total population of N = 525 employees working in Omnia. The Omnia Group comprises a balanced and diversified range of complementary chemical service businesses with a broad geographic spread. The sample was diverse in terms of age, gender and race, overall mood description and general health. The respondents were purposefully selected based on the requirement that respondents had to be working and aged between 19 and 65 years.

The empirical research provided evidence of the factorial (multidimensional) validity, unidimensionality, internal consistency reliability and structural and intra-test construct validity of the PCBI. Construct equivalence of the PCBI across age, gender and race groups was also confirmed. The statistical analyses provided evidence of the PCBI being anchored in a strong theoretical foundation with the scale having the potential to provide researchers and practitioners with a reliable instrument to measure the positive coping behaviour of adult

workers. Furthermore, the PCBI contributes to the field of positive psychology and industrial and organisational psychology in terms of better understanding of the behavioural dimensions that constitute positive coping behaviour. As a valid theoretical framework, the PCBI dimensions provide useful information on measuring individuals' positive coping behaviour in a holistic manner by focusing on a broad spectrum of positive psychological constructs in terms of cognitive, affective, conative and social behavioural elements.

Keywords: positive coping behaviour, employee wellness, multidimensional, behavioural dimensions, positive psychological constructs.

CONDENSED CURRICULUM VITAE

STUDENT NUMBER: **8585377**

FOR THE DEGREE: **DCOM (INDUSTRIAL AND ORGANISATIONAL PSYCHOLOGY)**

FULL NAMES & SURNAME: **ANNA ALETTA MARX**

Birth Date:	2	6	0	2	1	9	6	9

I declare that I have completed the following tertiary qualifications:

Tertiary qualifications	Year of Completion	University
BA Social Work	1991	University of Pretoria
MA Social Work	1997	University of Pretoria
BA Honours Industrial Psychology	2008	UNISA
MA Industrial Psychology	2012	UNISA

Current occupation, designation and responsibilities:

I am a registered Social Worker and Psychomerist (Independent practitioner).

Responsibilities entail but are not limited to:

- HR General: staffing, recruitment, talent management, training, employee wellness, performance management and appraisals, exit interviews, labour relations, Seta based- SDF, WSP, learnerships, internships and short skills programs, development of personal and professional of personnel, policies and procedures, job descriptions and contracting, managing advanced salaries and loans, leave and attendance management, health & safety and project management

- Psychometrics: testing for selection, career development, retrenchment, apprenticeship.

- Training: design own training manuals in; customer service, customer care, leadership, warehousing system, life skills, HIV related, soft skills.

- Social Work: therapeutically counselling: suicide attempts, Schedule 5 Phil addiction, trauma counselling, loss of family counselling, molestation counselling, bereavement counselling. Groupwork: aggressive, assult, HIV, life skills, alcohol and drug abuse. Community work projects: HIV, family and parental awareness, alcohol and drug awareness. Handcraft development.

Signature: _____ **Date:** _____

TABLE OF CONTENTS

DECLARATION ..... **ii**
ACKNOWLEDGEMENTS ..... **iii**
ABSTRACT / SUMMARY ..... **v**
CONDENSED CURRICULUM VITAE ..... **vii**
TABLE OF CONTENTS ..... **ix**
LIST OF FIGURES ..... **xvii**
LIST OF TABLES ..... **xviii**
CHAPTER 1: SCIENTIFIC OVERVIEW OF THE RESEARCH **1**
1.1 BACKGROUND AND MOTIVATION FOR THE RESEARCH **1**
1.2 PROBLEM STATEMENT **9**
1.2.1 General aim of the research **12**
1.2.2 Specific aims of the research **13**
1.2.2.1 Literature review……*12*
1.2.2.2 Empirical study……...*12*
1.3. RESEARCH QUESTIONS ..... Error! Bookmark not defined.**2**
1.3.2.1 Research question arising from the literature review ***Error! Bookmark not defined.****2*
1.3.2.2 Research questions with regard to the empirical study ***Error! Bookmark not defined.***
1.4 STATEMENT OF SIGNIFICANCE **13**
1.4.1 Potential contribution on a theoretical level **14**
1.4.2 Potential contribution on an empirical level **14**
1.4.3 Potential contribution on a practical level **14**
1.5 THE RESEARCH MODEL **15**
1.6 PARADIGM PERSPECTIVES OF THE RESEARCH **15**
1.6.1 The intellectual climate **15**
1.6.1.1 Humanistic paradigm *16*
1.6.1.2 Cognitive-behaviouristic paradigm *17*
1.6.1.3 Post- positivist research paradigm *17*
1.6.2 The market of intellectual resources **18**
1.6.2.1 Meta-theoretical statements *18*
1.6.2.2 Central hypothesis *19*
1.6.2.3 Theoretical assumptions *19*
1.6.2.4 Methodological assumptions *20*
1.7 RESEARCH DESIGN **22**

1.7.1 Exploratory research 23
1.7.2 Descriptive research 24
1.7.3 Explanatory research 24
1.7.4 Validity 25
1.7.4.1 Validity with regard to the literature 25
1.7.4.2 Validity with regard to the empirical research 26
1.7.5 Reliability 30
1.7.6 The unit of analysis 30
1.7.7 The variables 31
1.7.8 Ethical considerations 32
1.7.9 Delimitations 33
1.8 RESEARCH METHOD 33
1.8.1 Phase 1: Literature review 34
1.8.2 Phase 2: Empirical study 35
1.9 CHAPTER DIVISION 41
1.10 CHAPTER ONE SUMMARY 42
CHAPTER 2: META-THEORETICAL CONTEXT OF THE STUDY: EMPLOYEE WELLNESS AND COPING BEHAVIOUR IN THE CONTEMPORARY EMPLOYMENT ENVIRONMENT 43
2.1 EMPLOYEE WELLNESS IN THE CONTEMPORARY EMPLOYMENT ENVIRONMENT 43
2.1.1 Characteristics of the contemporary employment environment 43
2.1.2 Wellness in the organisational context 46
2.2 COPING BEHAVIOUR 51
2.2.1 Models of coping strategies 53
2.2.1.1 Ways of Coping Questionnaire (Folkman & Lazarus, 1988). 54
2.2.1.2 Strategic Approach to Coping Scale (SACS) (Hobfoll, Dunahoo, & Monnier, 1993) 54
2.2.1.3 Defensive Style Questionnaire (DSQ-60) (Thygesen, Drapeau, Trijsburg, Lecours & de Roten, 2008) 55
2.2.1.4 The Coping Orientation for Problem Experiences Questionnaire (COPE) (Carver, Scheier, & Weintraub, 1989) 55
2.2.1.5 Response to Stress Questionnaire (Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000) 56
2.2.2 Coping behaviour models 60
2.2.2.1 Self-regulatory of Behaviour (Carver & Scheier, 1998) 60
2.2.2.2 Dual-process Model of Coping (Stroebe & Schut, 2010) 61
2.2.2.3 Band and Weisz Model of Coping (Band & Weisz, 1988) 62

2.2.2.4 The Stress Model (Lazarus & Folkman, 1984) *63*
2.2.2.5 TheTransactional Model of Stress (Lazarus, 1966) *63*
2.2.2.6 Ajzen's Theory of Planned Behaviour (Ajzen's, 1991) *64*
2.2.2.7 The Social–contextual Model of Coping (Berg, Meegan, & Deviney, 1998) *65*
2.2.3 Positive psychology focus on coping behaviour **67**
2.3 VARIABLES INFLUENCING COPING BEHAVIOUR **72**
2.3.1 Age **73**
2.3.2 Gender **74**
2.3.3 Race **75**
2.3.4 Organisational context **75**
2.4 IMPLICATIONS FOR WELLNESS PRACTICES **78**
2.5 EVALUATION AND SYNTHESIS **80**
2.6 CHAPTER SUMMARY **81**
CHAPTER 3: POSITIVE COPING BEHAVIOUR **82**
3.1 CONCEPTUALISATION OF POSITIVE COPING BEHAVIOUR **82**
3.2 DIMENSIONS OF POSITIVE COPING BEHAVIOUR: CONCEPTUAL DESCRIPTIONS **84**
3.2.1 Cognitive coping behaviour **84**
3.2.1.1 Cognitive attributes *85*
3.2.1.2 Wisdom *85*
3.2.1.3 Self-esteem *85*
3.2.1.4 Optimism *86*
3.2.1.5 Humour *86*
3.2.1.6 Sense of coherence *86*
3.2.1.7 Locus of control *87*
3.2.1.8 Openness to experience *87*
3.2.1.9 Positive reframing *87*
3.2.2 Affective (emotional) coping behaviour **88**
3.2.2.1 Positive affect *89*
3.2.2.2 Emotional granularity *89*
3.2.2.3 Happiness *90*
3.2.3 Conative (motivational) coping behaviour **90**
3.2.3.1 Self- efficacy *90*
3.2.3.2 Resilience *91*
3.2.3.3 Flourishing *91*
3.2.3.4 Intention for positive health *92*
3.2.3.5 Proactive coping *92*

3.2.3.6 Conscientiousness *92*
3.2.3.7 Adaptability *93*
3.2.4 Interpersonal (social) coping behaviour **93**
3.2.4.1 Extroversion *95*
3.2.4.2 Social support *95*
3.2.4.3 Agreeableness *96*
3.3 THEORETICAL MODEL: POSITIVE COPING BEHAVIOUR **97**
3.3.1 Cognitive coping behaviour **98**
3.3.1.1 Cognitive attributes *99*
3.3.1.2 Wisdom *100*
3.3.1.3 Self-esteem *102*
3.3.1.4 Optimism *104*
3.3.1.5 Humour *106*
3.3.1.6 Sense of coherence *108*
3.3.1.7 Locus of control *109*
3.3.1.8 Openness to experience *111*
3.3.1.9 Positive reframing *112*
3.3.2 Affective (emotional) coping behaviour **117**
3.3.2.1 Positive affect *117*
3.3.2.2 Emotional granularity *118*
3.3.2.3 Happiness *119*
3.3.3 Conative (motivational) coping behaviour **122**
3.3.3.1 Self- efficacy *122*
3.3.3.2 Resilience *124*
3.3.3.3 Flourishing *126*
3.3.3.4 Intention for positive health *127*
3.3.3.5 Proactive coping *128*
3.3.3.6 Conscientiousness *130*
3.3.3.7 Adaptability *130*
3.3.4 Interpersonal (social) coping behaviour **135**
3.3.4.1 Extroversion *135*
3.3.4.2 Social support *136*
3.3.4.3 Agreeableness *137*
3.4 TOWARDS CONSTRUCTING THE POSITIVE COPING BEHAVIOUR INVENTORY **162**
3.5 IMPLICATIONS FOR WELLNESS PRACTICES **178**
3.6 CRITICAL REFLECTION AND SYNTHESIS **215**

3.7 CHAPTER SUMMARY 216
CHAPTER 4: RESEARCH METHODOLOGY 217
4.1 DETERMINATION AND DESCRIPTION OF THE SAMPLE 217
4.1.1.1 Purposive sampling technique 217
4.1.1.2 Sampling procedure 218
4.1.1.3 Characteristics of the sample 220
4.2 RESEARCH METHOD: PHASE 1 (DEVELOPMENT OF SCALE) 224
4.2.1 Scale development procedure 225
4.2.1.1 Planning stage 226
4.2.1.2 Construction stage 227
4.2.1.3 Evaluation and validation stages 227
4.2.2 Conceptualisation of the constructs 228
4.2.2.1 Cognitive coping behaviour 228
4.2.2.2 Affective coping behaviour 228
4.2.2.3 Conative coping behaviour 229
4.2.2.4 Interpersonal coping behaviour 229
4.2.3 The development of the Positive Coping Behavioural Inventory 230
4.2.3.1 Item generation 230
4.2.3.2 Item development 231
4.2.3.3 Item evaluation and refinement 234
4.3 RESEARCH METHOD: PHASE 2 (ITEM EVALUATION WITH EXPLORATORY FACTOR ANALYSIS) 234
4.3.1 Exploratory factor analysis 235
4.3.1.1 Diagnostics tests 235
4.3.1.2 Establishing the factor structure of the PCBI inventory 236
4.3.2 RASCH modelling technique 238
4.3.2.1 Unidimensionality 238
4.3.2.2 Person/item fit 239
4.3.2.3 Person and item separation and reliability 239
4.3.2.4 Rating category functioning 240
4.3.2.5 Differential item functioning and bias 241
4.4 RESEARCH METHOD: PHASE 3 (CONFIRMATORY FACTOR ANALYSIS) .. 243
4.4.1 Confirmatory factor analysis 243
4.4.2 Structural equivalence 246
4.4.3 Goodness of fit indices 247
4.5 CORRELATIONAL AND INFERENTIAL STATISTICAL ANALYSES 251
4.5.1 Inter-correlations of the subscales of the PCBI scale 251

4.5.1.1 Minimising Type I error ... *251*
4.5.1.2 Minimising Type II error ... *252*
4.5.2 Multiple regression analysis ... **253**
4.5.3 Test for distribution normality ... **253**
4.5.4 Tests for significant mean differences ... **255**
4.6 VALIDITY OF THE RESEARCH AND ITS FINDINGS ... **257**
4.6.1 Face validity ... **257**
4.6.2 Content validity ... **257**
4.6.3 Criterion-related validity ... **258**
4.6.4 Construct validity ... **258**
4.7 CHAPTER SUMMARY ... **260**
CHAPTER 5 RESEARCH RESULTS ... **261**
5.1 PRELIMINARY STATISTICAL ANALYSIS ... **262**
5.1.1 Exploratory factor analysis: Sample adequacy ... **263**
5.1.2 Exploratory factor analysis: Item loadings of the PCBI ... **264**
5.1.3 Testing for common method variance ... **268**
5.1.4 RASCH: Rating scale functionality ... **269**
5.1.4.1 Cognitive coping behaviour dimension ... *289*
5.1.4.2 Affective coping behaviour dimension ... *289*
5.1.4.3 Conative coping behaviour dimension ... *290*
5.1.4.4 Social coping behaviour dimension ... *290*
5.1.5 RASCH: Unidimensionality and reliability analysis ... **291**
5.1.6 RASCH: Differential item functioning ... **292**
5.1.6.1 Differential item functioning: Cognitive coping behaviour subscale ... *293*
5.1.6.2 Differential item functioning: Affective coping behaviour subscale ... *295*
5.1.6.3 Differential item functioning: Conative coping behaviour subscale ... *298*
5.1.6.4 Differential item functioning: Social coping behaviour subscale ... *301*
5.2 EVALUATING THE MEASUREMENT MODEL: ASSESSING STRUCTURAL VALIDITY ... **304**
5.2.1 Measurement model for the Positive Coping Behaviour Inventory ... **305**
5.2.2 Convergent validity of the structural equation model ... **307**
5.2.3 Discriminant validity of the measurement model ... **309**
5.3 DESCRIPTIVE AND CORRELATIONAL STATISTICS ... **311**
5.3.1 Descriptive statistics: means and standard deviations ... **311**
5.3.2 Correlation statistics ... **313**
5.4 MULTI-GROUP STRUCTURAL EQUIVALENCE ... **315**

5.5 AGE, GENDER AND RACE AS PREDICTORS OF POSITIVE COPING BEHAVIOUR 317
5.6 TESTS FOR SIGNIFICANT MEAN DIFFERENCES 318
5.7 DISCUSSION 320
5.7.1 Biographical profile of the sample 321
5.7.2 Psychometric properties of the Positive Coping Behaviour Inventory 323
5.7.2.1 Evidence of dimensionality and factorial validity 324
5.7.2.2 Evidence of rating scale functionality 328
5.7.2.3 Evidence of unidimensionality and internal consistency reliability 328
5.7.2.4 Evidence of differential item functioning 329
5.7.2.5 Evidence of measurement model fit and structural validity 330
5.7.2.6 Evidence of multi-group structural equivalence 331
5.7.3 Age, gender and race as predictors of positive coping behaviour 331
5.7.4 Significant mean differences among age, gender and race groups 332
5.7.5 Implications for theory, research and practice 333
5.7.5.1 Implications for theory 333
5.7.5.2 Implications for research 334
5.7.5.3 Implications for practice 335
5.8 CHAPTER SUMMARY 336
CHAPTER 6: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS 338
6.1 CONCLUSIONS 338
6.1.1 Conclusions relating to the literature review 338
6.1.1.1 Research aim 1: to conceptualise positive coping behaviour in the context of employee wellness in the contemporary world of work 339
6.1.1.2 Research aim 2: To conceptualise the psychosocial dimensions that constitute positive coping behaviour and the relevant constructs in the research literature 341
6.1.1.3 Research aim 3: To conceptualise what the theoretical implications of positive coping behaviour for employee wellness are 345
6.1.2 Conclusions relating to the empirical study 346
6.1.2.1 Research aim 1: To operationalise the elements of the theoretical framework for positive coping behaviour into a valid and reliable measure, the PCBI 347
6.1.2.2 Research aim 2: To empirically assess whether the factorial structure of the PCBI is equivalent for age, gender and race groups 347
6.1.2.3 Research aim 3: To determine whether age, gender and race groups significantly predict positive coping behaviour 347
6.1.2.4 Research aim 4: To determine whether age, gender and race groups differ significantly regarding the sub-scale dimensions of the PCBI 347
6.1.2.5 Research aim 5: To formulate conclusions and recommendations for employee wellness practices and future research 348

6.1.3 Conclusions relating to the central hypothesis 352
6.1.4 Conclusions relating to the field of organisational psychology 352
6.2 LIMITATIONS 353
6.2.1 Limitations of the literature review 353
6.2.2 Limitations of the empirical study 354
6.3 RECOMMENDATIONS 355
6.3.1 Recommendations for the field of organisational psychology 355
6.3.1.1 Positive coping behaviour recommendations 355
6.3.1.2 Wellness in the organisational context 356
6.3.2 Recommendations for future research 356
6.4 EVALUATION OF THE STUDY 357
6.4.1 Value added at a theoretical level 357
6.4.2 Value added at an empirical level 357
6.4.3 Value added at a practical level 358
6.5 CHAPTER SUMMARY 358
REFERENCES 360
APPENDIX A 469

LIST OF FIGURES

Figure 1.1: The scale development process……31
Figure 1.2: Illustration of the steps in conceptualisation of constructs……...35
Figure 1.3: Steps in scale development procedure…….. 38
Figure 2.1: The benefit of positive coping behaviour…….51
Figure 2.2: Difference between coping and positive coping behaviour…… 51
Figure 3.1: The psychosocial dimensions of positive coping behaviour…… 97
Figure 3.2: Interaction between the dimensions of positive coping behaviour……140
Figure 3.3: Item generation process……..163
Figure 4.1: Age distribution of the sample……..221
Figure 4.2: Age distribution between <35 years and >35 years…….221
Figure 4.3: Gender distribution of the sample……...222
Figure 4.4: Race distribution of the sample……..…….223
Figure 4.5: Overall mood…….223
Figure 4.6: General health……224
Figure 4.7: Scale development procedure…….226
Figure 5.1: Scree plot for factor retention of the PCBI…….265
Figure 5.2: Age subgroup contract plot for the cognitive coping behaviour subscale……293
Figure 5.3: Gender subgroup contract plot for the cognitive coping behaviour subscale..294
Figure 5.4: Race subgroup contract plot for the cognitive coping behaviour subscale…..295
Figure 5.5: Age subgroup contract plot for the affective coping behaviour subscale…….296
Figure 5.6. Gender subgroup contract plot for the affective coping behaviour subscale..297
Figure 5.7: Race subgroup contract plot for the affective coping behaviour subscale…..298
Figure 5.8: Age subgroup contract plot for the conative coping behaviour subscale…….299
Figure 5.9: Gender subgroup contract plot for the conative coping behaviour subscale...300
Figure 5.10: Race subgroup contract plot for the conative coping behaviour subscale…301
Figure 5.11: Age subgroup contract plot for the social coping behaviour subscale……302
Figure 5.12: Gender subgroup contract plot for the social coping behaviour subscale….303
Figure 5.13: Race subgroup contract plot for the social coping behaviour subscale…….304
Figure 5.14: Mean scores for the Positive Coping Behavioural Inventory……...312

LIST OF TABLES

Table 1.1: *Research Hypotheses*……..39
Table 2.1: *Summary of the Coping Strategies Models*…….. 57
Table 2.2: *Summary of the Models of Coping Behaviour*……..66
Table 2.3: *Comparison between Coping Strategies Models, Coping Behaviour Models and Positive Psychology on Coping Behaviour*……... 70
Table 3.1: *Summary of the Core Cognitive Attributes of Positive Coping*…… 113
Table 3.2: *Summary of the Core Affective Attributes of Positive Coping*…….. 121
Table 3.3: *Summary of the Core Conative Attributes of Positive Coping*……... 132
Table 3.4: *Summary of the Core Interpersonal Attributes of Positive Coping*…….. 139
Table 3.5: *Empirical Evidence Relating to the Positive Behavioural Constructs*……..143
Table 3.6: C*oping Styles Associated with the Positive Coping Behavioural Constructs*…156
Table 3.7: *The Constructive part of the Coping Behavioural Constructs*…….. 160
Table 3.8: *Dimensions and Items of the Positive Coping Behavioural Inventory*……164
Table 3.9: *Interventions on Individual-, Group- and Organisational level of the Psychosocial Positive Coping Behavioural Capacity*…… 179
Table 4.1: *Age Distribution of the Sample*…….. 220
Table 4.2: *Gender Distribution of the Sample*…..……222
Table 4.3: *Race Distribution of the Sample.*……222
Table 4.4: *Summary of Parameters used during the Exploratory Factor Analysis (EFA)*..238
Table 4.5: *Summary of Parameters for Measures used in RASCH Modelling*…… 243
Table 4.6: *Summary of Parameters for Statistical Techniques used in the CFA, Structural Equation Modelling, and Multi-group Structural Equivalence*……...249
Table 4.7: S*ummary of Parameters for Statistical Techniques used in Multiple Regression Analysis, Test for Distribution Normality and Test for Significant Mean Differences*……256
Table 5.1: *KMO and Bartlett's test: PCBI.*……263
Table 5.2: *Factor extraction using Principal Component Analysis..*……..265
Table 5.3: *Revised Item Loadings of the PCBI: Factor Loadings.*……266
Table 5.4: *Testing for Common Method Variance: Factor olution*s……. 268
Table 5.5: *Rating Scale Categories and Item Fit Statistics for the Four Dimensions of the PCBI*……...270
Table 5.6: *Descriptive Statistics: Rasch Summary Statistics and Internal Consistency Reliability Coefficients for the Positive Coping Behavioural Inventory (PCBI)*……...291
Table 5.7: *Model Fit Statistics: Competing Measurement Models*…..…….306
Table 5.8: *Standardised Path Coefficients for the Final Hypothesised Structural Equation Model*……..... 307

Table 5.9: *Average Variance Extracted (AVE) Estimates for Each PCBI Factor vs the Squared Interconstruct Correlations (SIC) Associated with the Relevant Factor*……..*310*
Table 5.10: *Descriptive Statistics: Mean Scores, Standard Deviations, Skewness and Kurtosis for the Positive Coping Behavioural Inventory (PCBI)*……... *311*
Table 5.11: *Bi-variate correlations: PCBI Scale and Biographical Variables.*……*314*
Table 5.12: *Model Fit Statistics for the Various Sub-groups*……... *315*
Table 5.13: *Fit Statistics for the Multi-group Equivalence Models*…….. *316*
Table 5.14: *Regression Analysis Results*……... *317*
Table 5.15: *Results of Independent Samples t-Tests*……...*319*
Table 5.16: *Revised Labels and Definitions of the 41-Item PCBI*……...*326*
Table 6.1: *New Positive Coping Inventory*……..*330*

CHAPTER 1: SCIENTIFIC OVERVIEW OF THE RESEARCH

This research focuses on the design and development of the Positive Coping Behaviour Inventory (PCBI) from a positive psychological approach. Positive coping behaviour is approached from a multidimensional and psychosocial perspective. The following psychosocial dimensions of positive coping behaviour will be explored in the present research: cognitive (cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing); affective/emotional (positive affect, emotional granularity and happiness), conative/motivational (self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability) and interpersonal (extroversion, social support and agreeableness).

This chapter provides the background to and motivation for the research, which will result in the formulation of the problem statement and the research questions. Subsequently, the aims of the research will be stated and the paradigm perspectives, which guide the research, discussed. Furthermore, the research design and the research method, including the different steps that give structure to the research process, will be formulated. Finally, the manner in which the chapters will be presented will be introduced.

1.1 BACKGROUND AND MOTIVATION FOR THE RESEARCH

The context of the research is individual coping behaviour and wellness in the contemporary employment environment. More specifically, the research focuses on positive psychology constructs that are associated with positive coping behaviour. The aim of the research is to operationalise these constructs into a reliable and valid measure of positive coping behaviour.

Organisations are operating in extremely turbulent and dynamic environments globally and nationally and have to adapt to increasing changing circumstances, as well as cope with severe pressure to ensure their economic survival (Smit, Cronje, Brevis, & Vrba, 2011). In the competitive world of global business in today's workplace, understanding behaviours of employees and their relationship orientation is paramount to succeed as individuals and organisations. Absenteeism and occupational maladjusted behaviour as consequences of workplace stress are concerns for organisations (Machado, Sathyanarayanan, Bhola, & Kamath, 2013). Employees are mostly left to their own resources to cope with work stress. It is imperative that employers begin to realise that the difficulties experienced by employees are in fact issues of employers' concern. The personal resources such as positive coping

behaviour an individual has to draw on when confronted with workplace stressors may moderate (buffer) the impact of stress on an employee's well-being (Taylor, McLoughlin, Meyer, & Brooke, 2013).

The workplace has changed substantially over the past century and it is a major challenge for organisations to keep track of employee well-being (Smit, Willemse, de Lange, & Pot, 2014). Adding to this challenge is the changing employment relationship characterised by diversity, complexity and high levels of work stress, which contribute to poor physical and mental health and employee disengagement (Bakker, Albrecht, & Leiter, 2011). Individuals are strongly influenced by their work environments and the well-being of employees is therefore critical, as it relates directly to work performance (De Waal, 2013). To cope with all the demands in life and especially at work is a big challenge for most employees (Slatten, Kerry, & Philips, 2011). Stressful life events, such as employment difficulties and daily pressures, can drain or exceed a person's ability to cope with the events. Factors that play important roles in stress and coping revolve around interpersonal functioning (Overholster & Fisher, 2009). Working in a profession is demanding and often stressful. How employees cope is important. How and to what extent an employee copes may be as important as the stressful event itself (Laal & Aliramaie, 2010). Coping always has to do with the situation in which the stressor occurs (Schoenmakers, van Tilburg, & Fokkema, 2012). Autonomy may help in coping with job demands and organisations can increase employees' self-efficacy and judgement about their ability to cope successfully (Loi, Lam, & Chan, 2012). It is evident from the foregoing that there is a need for focusing on employee strengths and positive organisational environments. The aim is a healthy and productive work environment as the basis for employee well-being. Employees are human assets to be developed for maximum results rather than personnel costs to be expended for economic gain (Gittell, Seidner, & Wimbush, 2010).

Researchers have come to understand quite a bit about how people survive and cope when confronted with adversity, but the challenge is to determine how normal people thrive under challenging circumstances (Kouzes & Posner, 2011). Coping is a built-in condition. Humans are hard-wired to have a physical and psychological coping reaction when facing a perceived threat, whether it is real or not (Carter, 2011). Everyone experiences coping differently for various reasons and reacts differently to coping in the face of the same stressor (Humphrey, Yow, & Bowden, 2012). Stressors produce different coping levels in different people and combined with the external factors of coping. Research indicates that how one is affected by a stressor depends on how one perceives the stressor and the relative importance of the stressor to the person, and the traits and characteristics of the person, e.g. reaction in the

face of a challenge or threat (Friedman, 2011). As an effect of coping, one reacts physically, psychologically and behaviourally, and this has consequences, which affect both physical and mental well-being and performance at work. These consequences have implications for businesses, especially in a highly competitive and dynamic environment (Maharaj, 2013).

Coping does not occur in a vacuum; for example, in the social context, the choice of coping strategies have an influence on a person's coping (Aldwin, Yancura, & Boeninger, 2010). It further appears that coping does change, as people may develop better strategies and more collaborative coping skills and learn to cope in ways that are more accommodative of the situation in which they find themselves (Robertson, Holleran, & Samuels, 2015). Personality and human nature differ and can be observed as a useful basis for construing coping (Carver & Connor-Smith, 2010). Employees need to maintain positive feelings about themselves and their jobs in order to face the demands of current fast-paced daily challenges, especially in the South African business and economic context. Meaningful solutions can be found through understanding positive coping behaviour (Le Roux & Van Niekerk, 2010).

The notion of positive coping behaviour is anchored in the positive psychology movement. Positive psychology has focused attention on positive human experiences and healthy outcomes, which is an important step toward a fuller understanding of human functioning in the contemporary world of work (Snyder, Lopez, & Pedrotti, 2011). Positive psychology is the scientific study of positive characteristics and strengths that enable individuals to thrive. By placing the focus on positive psychology, organisations have the potential to develop an approach that allows employees to excel at what they do best and to create a sustainable, positive and rewarding culture. Positive psychology gives organisations the potential to serve as instruments for the development of all that is best in their employees (Jeve, Oppenheimer, & Konje, 2015; Sheldon, Kashdan, & Steger, 2011). Positive psychology is being applied to improve workplace practices, leadership and organisational development efforts, workflow and the quality of work life (Donaldson, Csikszentmihalyi, & Nakamura, 2011). Ultimately, positive psychology focuses on the characteristics of the positive, on what make employees and organisations flourish, rather than languish (Hefferon & Boniwell, 2011).

Researchers in positive psychology have discovered that when individuals identify and build on their strengths, they feel better about themselves and those around them (Linley, Harrington, & Garcea, 2010). Snyder et al. (2011) state that positive psychology offers a look at that which is good and strong in humankind and in people's environments; it offers a science of what is needed for a good life (Slade, 2010). Positive psychology further refers to the balance of positive emotions and behaviour against negative ones in people's lives. The

more positive emotions and behaviour are studied, the clearer it becomes that they are important and powerful factors in human well-being (Lewis, 2011). The role of positive psychology can be seen across a range of life domains, for example, in areas of performance, motivation and achievement, in the workplace and relationships, and in its impact on health and well-being (Moore, 2002). Positive psychology is premised on the idea that although one is faced with adverse circumstances, which may never change, one can choose to identify qualities in that situation or in oneself that can serve as strengths with which to deal with the adversity or view the adversity positively (Mhlanga, 2013). A positive psychological approach to life further leads to optimal physical and psychological health, successful performance and achievement, intelligent decision-making, creativity, self-actualisation and finding meaning in life, the ability to thrive and flourish, and happiness and well-being (Bar-On, 2010).

Millions of people, indeed, the majority, appear to cope constructively with physical limitations, cognitive changes and various losses (Madhu, Anamika, & Ruchi, 2013). Still, there is no general agreement about what ought to be regarded as positive coping behaviour. The idea of coping is quite general, encompassing a wide variety of behaviours, as well as several traditionally distinct lines of research. Coping is a multidimensional construct that is not adequately represented by a single measure, and numerous inventories to assess coping have been proposed (Knight & Sayegh, 2010). Some of these include:

- Coping Inventory for Stressful Situations (CISS). The CISS is a valid and reliable measure of basic coping styles, measuring emotion- and avoidance–oriented coping and situation specific coping responses (Endler & Parker, 1994).
- Multidimensional Coping Inventory (MCI). The MCI is a valid and highly reliable multidimensional measure of coping styles that identifies three types of coping styles: task-oriented, emotion-oriented and avoidance-oriented coping (Endler & Parker, 1990).
- The Proactive Coping Inventory (PCI). The seven scales of the PCI are: the proactive coping scale, the reflective coping scale, strategic planning, preventive coping, instrumental support seeking, emotional support seeking and avoidance coping. Six of the seven proactive coping scales focus on positive facets of coping, including taking the initiative, envisioning success, planning for future eventualities and accumulating resources that will strengthen coping initiatives (Greenglass, Schwarzer, Jakubiec, Fiksenbaum, & Taubert, 1999).

- The Responses to Stress Questionnaire (RSQ). The scale includes volitional coping efforts and involuntary responses to specific stressful events or specified domains of stress (Connor-Smith, Compas, Wadsworth, Thomsen, Harding, & Saltzman, 2000).
- The Coping Strategy Indicator (Amirkhan, 1990), the Ways of Coping-revised (Folkman & Lazarus, 1985), and the COPE (Carver, Scheier, & Weintraub, 1989). Coping measures were correlated with a variety of external criteria, including hassles and uplifts, physical symptoms, satisfaction with life, positive affectivity and negative affectivity. Each of these outcome measures was related to at least some of the coping strategies (Clark, Bormann, Cropanzano, & James, 1995).
- The Adolescent Coping Scale, Second Edition (ACS-2). The scale measures the usage and helpfulness of coping strategies in general and specific situations. The coping styles are productive coping, non-productive coping and other coping styles (Frydenberg & Lewis, 2011).
- The Coping Pattern Schedule describes how people tend to act in problematic situations (Staudinger, Freund, & Smith, 1995).

In summary, these measures of coping focus predominantly on coping styles, positive facets of coping, responses to stressful events and coping strategies. The scales show the effectiveness of the type of coping style and the positive outcomes. However, there is still insufficient understanding of positive coping at a deeper level which the present research endeavours to address.

Measuring coping behaviour helps industrial psychologists to assess strengths and areas for enrichment to assist in the development of interventions to enhance well-being. The focus is to understand those individuals who experience deep happiness, wisdom, resilience and psychological, physical and social well-being, and to help others develop those capacities in themselves. The capacities that allow people to thrive are the same strengths that form a buffer against stress and prevent both mental and physical illness. Building positive behaviour in individuals helps them to cope effectively. Well-being can be enhanced by increasing positive moods (Carruthers & Hood, 2004). The purpose of measuring coping behaviour is to acquire a scientific understanding of the strengths and virtues that individuals need in order to thrive.

Individuals who behave positively generally experience positive emotions and demonstrate greater understanding resulting in them adapting more effectively to stressors. Positive emotions play a significant role in overcoming and coping with difficult situations (Weisman de Mamani, Weintraub, Tauler, Gurak, Maura, Mejia, & Sapp, 2014). Employees who often

experience positive emotions actually perform better at work. Employees who are positively oriented are more sensitive to opportunities at work, more outgoing and helpful to others, more confident and optimistic. They can build enduring psychological resources that trigger upward spirals toward emotional well-being (Merritt & McCallum, 2013). Positive emotions serve as a buffer against stress (Craddock & Folse, 2015). Coping is a stabilising factor, which can help individuals maintain psychosocial adaptation during stressful periods. Positive emotions encompass cognitive and behavioural efforts to reduce or eliminate stressful conditions and associated emotional distress. Coping continuously changes cognitive and behavioural efforts aimed at managing specific external and internal demands that are perceived as threatening or exceeding the individual's resources (Van Zyl, 2010). Emotions focus people's attention on important information. Emotions also adjust people's priorities. If one sees something frightening one concentrates on the danger, as if one is hardly seeing anything else (Kalat, 2011).

Ferguson (2001) indicates that there are indeed conceptual links between models of personality and coping. The focus must be on coping as a process rather than a static event (Connor–Smith & Flachsbart, 2007). The protective function of coping behaviour can be exercised in three ways: 1) by eliminating experience in a manner that neutralises its problematic character, 2) by keeping the emotional consequences of problems within manageable bounds and 3) by eliminating or modifying conditions giving rise to problems (Pearlin & Schooler, 1978). If coping is a major factor in the patterning of physiological response, then the one-dimensional concept of arousal must give way to the concept that different psychological conditions or processes will affect the physiological response pattern in different ways (Lazarus & Folkman, 1984). Coping traits are regarded as dispositional characteristics that predispose people to react in certain ways in certain situations (Lazarus, 1984). Coping traits (self-esteem and mastery) are negatively related to psychological distress (state anxiety and state depression). These internal coping traits are seen as immediately available to individuals, despite the suddenness of the event (Hobfoll & London, 1986). Coping strategies refer to the specific efforts, both behavioural and psychological, that people employ to master, tolerate, reduce or minimise stressful events (Lawuo, Machumu, & Kimaro, 2015).

Researchers into coping are of the opinion that there are virtually hundreds of specific coping behaviours that individuals could exhibit in dealing with stressful situations, but to increase the functional knowledge of coping, these theorists and researchers on coping have tried to derive broader categories of coping behaviour (Jooste, 2012). Since coping is mainly controlled by personality, it may be assumed that coping consists of spontaneous and

immutable behaviour patterns (Norman & Endler, 1996). Just as stressors affect each person differently in each situation, each person will likewise try to cope with stressors in a different way, in accordance with individual variables and with his or her resources (Dixon-Gordon, Aldao, & De Los Reyes, 2015).

The use of certain employee coping behaviours influences subsequent levels of participation in decision-making, as well as the quality of relationships with co-workers and supervisors (Heaney, House, Israel, & Mero, 1995). Meta-analyses link optimism, extraversion, conscientiousness and openness to more engaged coping and optimism, conscientiousness and agreeableness to less disengaged coping (Foley & Murphy, 2015). It is suggested that future research can expand on the growing understanding of how personality and coping shape adjustment to stress (Carver & Conner-Smith, 2010). Personality traits may influence the effectiveness of coping strategies, with strategies that are beneficial for some individuals being less effective, or even harmful, for those with different personality traits (Bolger & Zuckerman, 1995; DeLongis & Holtzman, 2005). Research revealed that extroversion, openness, agreeableness, conscientiousness and coping levels significantly relate to perceptions of posttraumatic growth (Shakespeare–Finch, Gow, & Smith, 2005).

An intra-individual approach to coping attempts to identify basic coping behaviours or strategies used by individuals in particular types of stressful or upsetting situations. An intra-individual approach to coping assumes that individuals have a repertoire of coping options available to them from which they can build what they believe to be the most effective strategy, depending on the nature of the situation (Zeidner & Endler, 1996). The lack of interest shown by most researchers on coping in integrating inter-individual and intra-individual approaches is a distinctive feature of the contemporary coping area. Coping researchers rarely assess both situational and stylistic coping variables in their research. The interaction model of personality has been regarded as an important advance in the study of personality. The interactional model proposes that behaviour is a function of a continuous multidirectional process of person-by-situation interactions and that cognitive, motivational and emotional factors have important determining roles in behaviour. The person side and the perception or psychological meaning that the situation has for the person are essential determining factors of behaviour (Matthews, Deary, & Whiteman, 2003).

For some people there is always the prospect that the desirable state will sour, and for those who believe that one must ultimately pay for feeling good with some later harm, benign appraisals can generate guilt or anxiety. Appraisals can be complex and mixed, depending on personal factors and the situational context (Roberts & Clare, 2013). One could view

coping as contextual; that is, influenced by the person's appraisal of the actual demands in the encounter and resources for managing them. It means that particular person-and-situation variables together shape coping efforts (Widiger, 2011).

Contextual approaches reflect on how a person copes with a particular type of stressful event and are responsive to changes in coping efforts during a stressful episode. These approaches emphasise that both enduring personal and more changeable situational factors shape coping efforts (Allen, Greenlees, & Jones, 2011). The developmental model, for example, emphasises that dyadic coping may be different at various phases of the life span, changing temporarily at different stages of dealing with a problem, as well as unfolding daily as spouses interact around dyadic stressors. In addition, couples engaged in dyadic coping are affected by broad socio-cultural factors (culture and gender), as well as more proximal contextual factors (quality of the marital relationship and the specific demands of a chronic illness) (Berg & Upchurch, 2007). A contextual approach to coping research opens up the frame of inquiry. It requires the researcher not simply to include both characteristics of the person and characteristics of the environment as predictors of coping, but to emphasise and actually assess the dynamic pattern of interaction between person and environment in shaping coping and health outcomes. In a contextual approach, individual behaviour can be understood only within its social context and individuals exist within a number of independent systems, as well as a broader political, social and cultural context (Lyons & Chamberlain, 2005).

The intra-individual approach to coping is relevant to this study. Individuals have a built-in repertoire of coping options available and cognitive, motivational and emotional factors are important in determining a person's coping behaviour.

In summary, organisations are faced with constant change, which may result in employee stress. Employees need to adapt and cope with changing environments and constant work stress. As a result of the complex dynamics of the working environment, employees are forced to rely on their own resources to cope with work stress. Coping is a multidimensional construct that is not adequately represented by a single measure and is a built-in condition. Individuals can cope either by reacting physically, psychologically or behaviourally. Coping comprises stabilising factors that can help individuals adapt psychologically during stressful periods. The way in which individuals cope has an effect on both the business as well as employees' well-being. In order for employees to face the demands from the working environment, they need to maintain positive feelings about themselves and their jobs. Positive emotions play a significant role in overcoming and coping with difficult situations and

serve as a buffer against stress. Meaningful solutions can be found through positive coping. Coping is a process and not a static event. Internal coping traits are immediately available to individuals and since coping is mainly controlled by personality, each person will cope with stressors in a different way. Individuals have a repertoire of coping capacities available to assist in the coping process. A positive psychological approach to life leads to the ability to thrive and flourish, and to happiness and well-being. It is evident that positive coping behaviour results in employee well-being. Further research into positive coping behaviour is thus important. The focus of this study is on understanding those individuals who cope effectively and to help those that does not cope effectively develop effective positive coping capacities.

1.2 PROBLEM STATEMENT

The research literature provides evidence of the importance of positive coping behaviour for employee well-being. Changes in the workplace have tended to increase the demands placed on employees significantly, often to the detriment of their health and personal life. In recent days organisations are expecting more from their workforce. This increased pressure placed on employees significantly influences their well-being and emphasises the need for positive coping resources (Cartwright & Holmes, 2006).

However, current measures of coping still emphasise coping styles or one or two constructs related to coping or stress and do not provide an integrated measure of positive coping behaviour. The literature search clearly showed that insufficient or no measurements on specific positive coping behavioural constructs currently appear to exist.

Stress and coping are regarded as the most highly researched fields in psychology. Many coping inventories have been developed over the years. Most coping measures ask participants to recall how they cope (Frydenberg, 2014). The most common grouping of approaches to coping is the dichotomous grouping of strategies by Lazarus and Folkman (1984) and Lazarus (1993), which identifies problem- and emotion-focused coping. Alternative categorisations range from groupings of 8–10 strategies or scales (social support, wishful thinking, tension-reduction, self-blame and physical recreation strategies) (Stark, Spirito, Williams, & Guevremont, 1989), to the specificity of 18 strategies that make up the Adult Coping scale (Frydenberg & Lewis, 1993) and 20 in the Adult Coping scale-2 (Frydenberg & Lewis, 2011). Numerous coping strategies are currently being assessed but styles are made up of the five basic types of strategies, namely problem-solving, support seeking, avoidance, distraction and positive cognitive restructuring. Instruments such as

COPE (Carver et al., 1989), Hobfoll's Strategic Approaches to Coping (Hobfoll, Dunahoo, Ben-Porath, & Monnier, 1994) and Frydenberg and Lewis's ACS (Frydenberg & Lewis, 1993) and Coping Scale for Adults (CSA) (Frydenberg & Lewis, 1997) recognise that there is consistency and variation in coping. Much of the coping research to date has focused on past events. Researchers such as Aspinwall and Taylor (1997) refer to future events. For example, how individuals anticipate events as potential stressors, the ways in which they deal with them and the use of feedback constitute proactive coping. Future-oriented coping could be construed as building resilience. Social support has been a key index of successful coping and an interest of many researchers (Lelorain, Tessier, Florin, & Bonnaud-Antignac, 2012). The importance of resources is recognised and incorporated into the behavioural and cognitive coping repertoire of the individual.

Folkman (2010) states that continuous and rapid development of new technologies and the concurrent development of multidisciplinary fields of enquiry open the way to new theoretical models, new hypotheses and new discoveries. Coping research was born directly from stress research, but as the decades have progressed coping has moved closer into the realm of positive psychology with positive emotions, health and well-being and issues concerning being proactive (Boyatzis, Rochford, & Taylor, 2015). The shift towards positive organisational and individual behaviour calls for the re-evaluation of current measures of coping and the development of scales that measure coping from a positive behavioural perspective (Frydenberg, 2014).

A review of the current literature on positive behavioural constructs in coping indicates the following problems:

- The assessment of coping is discussed in terms of two major debates, namely whether coping should be conceptualised as a trait-like personality characteristic or as a state-like response to a specific stressor, and the use of general scales as opposed to situation-specific scales (Aitken, 2011).
- Research deals with one or two behavioural constructs, but there is no agreement on which behavioural construct is adequate in measuring coping behaviour (Fellows & Liu, 2015).
- The challenges employees have to face in the contemporary workplace require unique psychosocial capacities in coping. Industrial psychologists lack knowledge regarding the multidimensional nature of coping, and more specifically, positive psychological coping behaviour. Developing a comprehensive scale from a positive

psychology perspective may bring new insights to employee wellness practices (Baicker, Cutler, & Song, 2010; Kailas, Chong, & Watanabe, 2010).

Generally, in the context of the present research, it is hypothesised that positive coping behaviour is multidimensional in nature and will constitute a range of psychosocial dimensions (cognitive, affective, conative and interpersonal) that can be measured in a valid and reliable manner.

The problem statement leads to the following general research question and a set of subsequent specific research questions outlined below:

What constitutes the psychosocial dimensions of positive coping behaviour and how can the relevant constructs be operationalised in a reliable and valid scale?

From the above problem statement, the following aims are formulated:

1.2.1 General aim of the research

The general aim of this research is to determine the theoretical elements of positive coping behaviour and operationalise these into a reliable and valid measurement scale, the Positive Coping Behaviour Inventory (PCBI).

1.2.2 Specific aims of the research

The following specific aims have been formulated for the literature review and the empirical study:

1.2.2.1 Literature review

Research aim 1: To conceptualise positive coping behaviour in the context of employee wellness the contemporary world of work.

Research aim 2: To conceptualise the psychosocial dimensions that constitute positive coping behaviour and the relevant constructs in the research literature.

Research aim 3: To critically evaluate the theoretical implications of positive coping behaviour for employee wellness.

1.2.2.2 Empirical study

The specific aims of the empirical study are the following:

Research aim 1: To operationalise the elements of the theoretical framework for positive coping behaviour into a valid and reliable measure the Positive Coping Behaviour Inventory (PCBI).

Sub-aim 1.1: To empirically assess the psychometric properties (internal consistency, reliability and construct validity) of the newly developed PCBI.

Sub-aim 1.2: To empirically assess the nature of the interrelationships between the sub-scale dimensions of the PCBI.

*Research aim 2***:** To empirically assess whether the factorial structure of the PCBI are equivalent for age, gender and race groups.

Research aim 3: To determine whether age, gender and race groups significantly predict positive coping behaviour.

Research aim 4: To determine whether age, gender and race groups differ significantly regarding the sub-scale dimensions of the PCBI.

Research aim 5: To formulate conclusions and recommendations for employee wellness practices and future research.

From the above, the following specific research questions were formulated in terms of the literature review and the empirical study:

1.3 RESEARCH QUESTIONS

1.3.1 Research question arising from the literature review

Research question 1: How is positive coping behaviour conceptualised in the context of employee wellness in the contemporary world of work?

Research question 2: What are the psychosocial dimensions that constitute positive coping behaviour and how are the relevant constructs conceptualised in the research literature?

Research question 3: What are the theoretical implications of positive coping behaviour for employee wellness?

1.3.2 Research questions with regard to the empirical study

In terms of the empirical study, the following specific research questions have been formulated:

Research question 1: How can the elements of the theoretical framework for positive coping behaviour be operationalised into a valid and reliable measure (the Positive Coping Behaviour Inventory)?

Sub-question 1.1: What are the psychometric properties (internal consistency reliability and construct validity) of the newly developed Positive Coping Behaviour Inventory (PCBI)?

Sub-question 1.2: What is the nature of the interrelationships between the sub-scale dimensions of the PCBI?

Research question 2: Is the factorial structure of the PCBI equivalent for age, gender and race groups?

Research question 3: Do age, gender and race significantly predict positive coping behaviour?

Research question 4: Do age, gender, and race groups differ significantly regarding the sub-scale dimensions of the PCBI?

Research question 5: What conclusions and recommendations can be formulated for employee wellness practices and future research?

1.4 STATEMENT OF SIGNIFICANCE

Building positive behaviour in individuals helps them to cope effectively. Coping behaviour should be measured to obtain a scientific understanding of the strengths and virtues that

individuals need in order to thrive. The advantages of focussing on a positive psychology perspective in the development of the PCBI are:

- Gaining insight into humans from a positive functioning viewpoint.
- Exploring people's strengths and focusing on the strengths to lessen the importance and pain associated with human suffering.
- Focusing on the positive in order to make the best of difficult situations.
- Finding the positive in daily life through the power of positive emotions and human strengths and healthy processes.

1.4.1 Potential contribution on a theoretical level

On a theoretical level the study will explore a comprehensive range of positive psychology constructs and critically evaluate their relevance to coping behaviour in the contemporary workplace context. The study will further evaluate these constructs from a psychosocial and multidimensional perspective by differentiating between the cognitive, affective, conative and interpersonal behavioural elements of positive coping behaviour. In this regard, the study breaks new ground and may potentially add novel insights to positive coping behaviour that can be measured in a reliable and valid manner. The study may potentially add to the extant research literature on coping behaviour in the positive psychology context.

1.4.2 Potential contribution on an empirical level

Measuring people's coping behaviour by means of an empirically tested scale may stimulate further research initiatives in the field of industrial and organisational psychology and contribute to the research literature on positive behaviour in the workplace and especially the scale's relevance for diverse groups of employees (age, gender and race).

1.4.3 Potential contribution on a practical level

On a practical level, industrial and organisational psychologists and human resource practitioners may develop a better understanding of the behavioural coping patterns of diverse groups of employees in order to assist them to cope effectively by:

- neutralising and/or buffering the negative effects of stressors in the organisation through positive coping behaviour;

- developing positive coping behaviour patterns through the assessment of current coping behavioural strengths and enrichment areas through the PCBI. Employees who cope effectively are more likely to be satisfied with their job and demonstrate higher levels of job performance;
- becoming motivated after a negative event. Techniques can be learned by using the positive behavioural constructs measured by the PCBI, for example learned optimism;
- adjusting ineffective coping styles through the development of positive coping behaviour that potentially has a positive influence on physical and mental health; this may ultimately reduce the rate of absenteeism the organisation.

1.5 THE RESEARCH MODEL

The research model of Mouton and Marais (2001) will serve as a framework for this research. The model aims to incorporate the five dimensions of social science research, namely the sociological, ontological, teleological, epistemological and methodological dimensions, and to arrange these according to a system within the framework of the research process. These five dimensions are aspects of research. The research model represents a social process of collaboration of human activity in which social reality is studied (Mouton & Marais, 2001). The model is described as a systems theoretical model with three subsystems. These subsystems are equivalent to one another and to the research domain of the specific discipline, which is industrial and organisational psychology. The subsystem represents the paradigmatic perspective that forms the definitive boundary of the present research, including the intellectual climate, the market of intellectual resources and the research process itself.

1.6 PARADIGM PERSPECTIVES OF THE RESEARCH

Colman (2009) defines a paradigm as a pattern, stereotypical example, model or general conceptual framework within which theories in a particular area of research are constructed. According to Morgan (1980), the meta-theoretical paradigm may include different schools of thought, with different ways of approaching or studying a shared reality or world view. In the context of the present study the paradigm perspective refers to the intellectual climate and variety of meta-theoretical values, beliefs and assumptions underlying the theories and models that form the definitive boundary of the present study (Babbie & Mouton, 2009).

1.6.1 The intellectual climate

The literature review will be presented from the humanistic and cognitive-behaviouristic paradigm, while the empirical study will be presented from the perspective of the post-positivist research paradigm.

1.6.1.1 Humanistic paradigm

Humanism has a positive and optimistic view of human nature (Sheather, 2011). The focus of humanism is on individuals' strengths and not their weaknesses. To encourage personal growth rather than relieving distress, human nature is regarded as basically good and it is believed that everyone has the need to self-actualise, to realise their full potential, or strive to do so (Hergenhahn & Henley, 2013). Humanism is a reflection of the hopes of mankind associated with the progressive development of human reason, science, technology and new lifestyles, as well as scientific thinking about religion, morality, politics and human consciousness (MacMillan, 2012). Humanistic philosophy takes the human individual as its starting point and emphasises the human capacity of reasoning. Humanism assumes that human nature is not entirely given through education and learning. A cornerstone in humanism is that it attributes unalienable rights to everybody, independent from ethnicity, nationality, social status or gender. Humanism addresses everybody and is universal in its outreach (Pirson & Lawrence, 2010).

Thematically, the development of a measure of positive coping behaviour relates to the humanistic paradigm by focusing on people's strengths and psychological capabilities.

1.6.1.2 Cognitive-behaviouristic paradigm

The cognitive-behaviouristic paradigm postulates that most human responses (output) are determined by the way human beings represent and evaluate the events (input), not the events themselves (Kaila, 2006). People's interpretation of events and not the events themselves, determines their responses to the events. The cognitive behaviourist paradigm accepts the fact that stimuli do not exercise direct control over the behaviour of an organisation. Learning does not take place in a pure stimulus–response manner, but in a stimulus-cognitive-processing-response manner. Stimuli are processed by the organism into an organised cognitive structure. Various cognitive abilities are used to make sense of the environment (Rabipour & Raz, 2012).

Thematically, the development of a measure of positive coping behaviour relates to the cognitive-behaviouristic paradigm. Positive behavioural constructs display the strategies people will use to cope. Techniques can be learned by using the positive behavioural constructs, for example learned optimism.

1.6.1.3 Post- positivist research paradigm

The post-positivism approach is concerned with decisiveness, decreasing, empirical observation and measurement and theory verification (Bevir & Daddow, 2015). This paradigm is based on a deterministic philosophy with the emphasis on causality. Furthermore, post-positivism is decisive in that it reduces ideas into hypotheses or research questions. The post-positivist approach is based on cautious measurement and observation of individual behaviour in order to underpin or counter a theory and make the necessary modifications before additional tests are conducted (Creswell, 2012).

The following basic assumptions are based on post-positivism:

- Knowledge is hypothetical in that absolute truth can never be found.
- Research is the making statements, improving or repudiating some of them to allow for other statements that are more vigorously guaranteed.
- Knowledge is form through information, corroboration and cogent deliberation.
- Research seeks to develop true statements that can clarify or explicate causal relationships.
- Objectiveness is an essential aspect of credentialed studies (Nawrin & Mongkolsirikiet, 2012).

Characteristic of positivist research is the view that objective value-free knowledge exists and is attainable through the application of instruments of measurement (Yanow & Schwartz–Shea, 2014). Thematically, the empirical study will deal with the construction of a scale to objectively measure positive psychological coping behaviour in individuals.

1.6.2 The market of intellectual resources

The market of intellectual resources refers to the collection of beliefs that has a direct bearing upon the epistemic status of scientific statements (Mouton & Marais, 2001). For the purpose of this study, the theoretical models, meta-theoretical statements and conceptual descriptions about a comprehensive range of positive psychological constructs, as well as the central hypothesis and theoretical and methodological assumptions, are presented.

1.6.2.1 Meta-theoretical statements

Meta-theoretical statements are the underlying assumptions of theories, models and paradigms that form the context of a specific study (Mouton & Marais, 2001). In the disciplinary context this study focuses on the field of positive psychology within the broader context of industrial and organisational psychology, which is a branch of psychology that applies the principles of psychology to the workplace (Berry, Reichman, Klobas, MacLachlan, Hui, & Carr, 2011). Industrial and organisational psychology as an applied field of study aims to enhance the dignity and performance of human beings and the organisation in which they work, by advancing the science and knowledge of human behaviour (Aamodt, 2010). The domain of industrial and organisational psychology stretches further than the physical boundaries of the workplace, because many factors that could influence work behaviour are not found in the work setting. These factors include things such as family responsibilities, cultural influences, employment-related legislation and non-work events that are reflected in the working life of most people. Industrial and organisational psychology is concerned about the effect of a bad day at work on home life and concentrates on the reciprocal impact of work on life and life on work (Landy & Conte, 2010). The essence of industrial and organisational psychology is that it goes further than the workplace and therefore recognises and is aware of all the influences on the individual in the work and home environment (Hatch, 2013).

Industrial and organisational psychology incorporates the philosophy of positive psychology which addresses questions of happiness, vitality and meaning in life. As the 21st century

unfolds, a different question is being asked: “What is right about people?” This question is at the heart of positive psychology, which is a scientific and applied approach to uncovering people’s strengths and promoting their positive functioning (Snyder et al., 2011). Traditionally, psychology has emphasised the understanding and treatment of depression, schizophrenia and anxiety, whereas positive psychology focuses on happiness, optimism and character strengths. Positive psychologists are researchers who investigate the dynamics of healthy relationships and what leads to lasting personal fulfilment (Biswass-Diener & Dean, 2007).

Positive psychology encompasses the study of positive emotions, full engagement in activities, virtuous personal characteristics and paths to fulfilment and meaning in life. It also investigates how relationships and institutions can support the quest for increased satisfaction and meaning (Carr, 2011). Positive psychology emphasises forward-thinking, which focuses on individuals’ potential, on researching things that make life worth living (Boniwell, 2006). Thematically, in the context of the present study, a comprehensive range of psychosocial behavioural constructs is studied from the perspective of positive psychology. Stratton–Berkessel (2010) states that the positive psychology perspective adds to understanding and knowledge by studying what supports optimal human functioning. Positive psychology does not discount the original way of working with people and their worlds when the focus is on strengths and wholeness in coping.

1.6.2.2 Central hypothesis

The central hypothesis of the research can be formulated as follows:

Generally, it is hypothesised that positive coping behaviour is multidimensional in nature and will constitute a range of psychosocial behavioural dimensions (cognitive, affective, conative and interpersonal) that can be measured in a valid and reliable manner.

1.6.2.3 Theoretical assumptions

Based on the literature review, the following theoretical assumptions are addressed in this research:

- There is a need for basic research that seeks to isolate positive psychological constructs that can be operationalised into a valid and reliable measurement scale of positive coping behaviour. Such research can potentially add new insights in the design of employee wellness practices for positive coping in the contemporary workplace.

- Environmental, biographical and psychological factors such as sociocultural background, age, gender, race and employees' range of psychosocial coping behaviours influence employee wellness.
- The positive psychological constructs that will be measured in the present research can be influenced by external factors such as age, gender and race.
- Knowledge of an individual's positive coping behaviour will increase understanding of the attributes and characteristics that may potentially inform employee wellness practices for diverse groups of employees

1.6.2.4 Methodological assumptions

Methodological assumptions are beliefs that concern the nature of social science and scientific research. Social science research is a collaborative human activity in which social reality is studied objectively with the aim of gaining a valid understanding of it (Babbie, 2013). The structure and process of social science can be divided into two broad categories. One is the philosophical nature and the second is conducting research. Social science is analysed in its relationship to other fields of human endeavour where issues relating to ethics, human nature and society are addressed. The primary aim of social science is the problems of rationality, objectivity and truth, different interpretations of social theorising and questions relating to the theoretical and practical aims of social science (Mouton & Marais, 2001).

The dimensions of research in the social sciences are:

(a) Sociological dimension

The sociological dimension complies with the fundamentals of the sociological research ethic and theory development taking place in the research community. In the sociological dimension, research is an experimental, analytical, exploratory and explanatory process, because of quantitative methods and analysis (Mouton & Marais, 2001).

(b) Ontological dimension

The reality that researchers investigate is ontology. It presents the study of human activities and institutions whose behaviour can be measured. The ontological dimension asks what reality is and what can be known about it (Mouton & Marais, 2001). This research is intended to develop a positive coping behaviour inventory in a South African context. In addition, the research proposes to develop a valid and reliable measurement scale of coping so that the individual can work to improve his/her coping mechanisms to cope more constructively in the South African context. From an ontological point of view, the researcher acknowledges that realism is accessible, as a result of the triangulation of observations, but that it is not fully comprehensible because of complex systems and human limitations.

(c) The teleological dimension

This dimension is systematic and goal-directed. The problem being investigated must relate to the research goals (Mouton & Marais, 2001). The research goal is explicit in this research, namely to develop a positive coping behaviour inventory that is valid and reliable. In terms of the teleological dimension, industrial and organisational psychology will benefit practically from the development of such an inventory on the dimensions of a holistic and integrated theoretical model. The researcher remains objective, which allows involvement in the discovery process.

(d) The epistemological dimension

The relationship between reality and the researcher and the way in which knowledge about that reality becomes known to the researcher is the focus of epistemology (Loh, 2012). According to Mouton and Marais (2001), this dimension relates to the inquiry for authenticity. A primary aim of research in the social sciences is to generate valid findings that approximate reality as closely as possible. The epistemological dimension involves the relationship between the investigator and theory. This research pursues correctness by relying on the narrative of research participants. The views, values and intentions of research participants as presented in their own narratives are respected and recognised as valid data.

(e) The methodological dimension

The technique used by researchers to investigate reality is described as methodology (Corbin & Strauss, 2008). Methodological hypotheses are beliefs regarding the nature of social science and scientific research. Methodological views are more than the methodological propensity, hypothesis and theory about what constitutes sound research (Mouton & Marais, 2001).

In this research, quantitative (exploratory) research will be presented in the form of a literature review on cognitive (cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing); affective/emotional (positive affect, emotional granularity and happiness), conative/motivational (self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability) and interpersonal (extroversion, social support and agreeableness) constructs. Quantitative research will be presented in the empirical study.

1.7 RESEARCH DESIGN

Research designs are used by researchers to answer research questions. Research design is the entire process of research from conceptualising, analysis, interpretation and report writing. The design is the logical sequence that connects the empirical data to a study's initial research questions and, ultimately, to its conclusions (Creswell, 2012). Designing research is a combination of creativity and techniques, like many endeavours in life. Testing research hypotheses empirically, by design, provides supporting evidence for proposed relationships. The design of research provides the researcher with criteria by which procedures can be checked as the project progresses (Black, 2005).

In this research a cross-sectional quantitative research design will be followed, where the aim generally is to determine the relationship between one thing (an independent variable) and another (a dependent or outcome variable) in a population (Hopkins, 2008). Thematically, in the context of the present research, the biographical variables (age, gender and race) will be treated as independent variables and the variables of the newly developed scale will be treated as dependent variables. The factorial dimensions of the new scale will also be treated as independent variables and the overall construct (positive coping behaviour) as the dependent variable.

Quantitative data allows a general picture of a literary study to emerge that might otherwise be obscured by more conventional qualitative methods of textual analysis (Bergman, 2011). Cross-sectional measures are administered to a single sample at a particular moment in time and no repeat measures are applied. Cross-sectional quantitative designs provide a strong background for more complex research (McDonald & Thomas, 2013).

The purpose of the research design relevant to the present research is to solve the research problem by developing a strategy for operationalising the positive psychology constructs into a valid and reliable measurement scale. This will be achieved by developing a strategy for obtaining empirical data that will answer the general research question and the research hypothesis posited. The research design further endeavours to eliminate or minimise the contamination of results by extraneous variables. For this purpose, age, gender and race will be used as control variables and efforts will be made to ensure the internal and external validity of the research design.

The researcher considered the following aspects when deciding on the appropriateness of the research design:

- The research problem under investigation, the research question and research hypothesis;
- The purpose and aims of the research;
- The protocols of scale development;
- The methods of data collection adopted;
- The population and sample of the research;
- The data collection instrument; and
- The data analysis techniques.

The next section describes the types of research relevant to the current study.

1.7.1 Exploratory research

Exploration is a way of approaching and carrying out a social study (Boston & Merrick, 2010). Exploratory research is about putting one's self in a place where discovery is possible and requires personal concern and long-standing interest in a topical area. Exploratory research asks the question, what is causing this to happen? Why does one cope better than another? The reason for doing exploratory research is that little previous research into this topic has

been undertaken (Gray, 2013). The study is limited, which means that the results should be seen as a basis for future research. The focus is on exploring a range of research literature on positive coping behaviour constructs with the view to empirically operationalise these constructs into a measure and empirically testing the psychometric properties (internal consistency, reliability and construct validity) of the newly developed positive coping behavioural inventory (PCBI).

1.7.2 Descriptive research

The word descriptive is defined as referring to, constituting or grounded in matters of observation or experience (Casadevall & Fang, 2008). Descriptive research deals with questions of what things are like and depends on what the researcher wishes to describe. Descriptions can highlight puzzles that need to be resolved and as such provide the stimulus for constructing theory (de Vaus, 2002). A descriptive strategy of enquiry will also be used as part of the research design for this research.

In the literature review, descriptive research applies to the conceptualisation of the constructs, cognitive (cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing); affective/emotional (positive affect, emotional granularity and happiness), conative/motivational (self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability) and interpersonal (extroversion, social support and agreeableness).

In the empirical study, descriptive research applies to the elements of the theoretical framework for positive coping behaviour operationalised into a valid and reliable measure, namely the PCBI, and assessment of the psychometric properties (internal consistency, reliability and construct validity) of the newly developed PCBI.

1.7.3 Explanatory research

In social science two distinct kinds of explanations can be found. Social scientists can search for broad relationships and probe to narrow these (Babbie, 2013). In explanatory research, research can be seen as a quest for the truth. It may lead to new research questions that may be answered through explanatory research. Explanatory research is searching for causes or consequences. It is more specific and asks, for example in the context of the present research, is positive coping behaviour multidimensional in nature; how can it be

measured in a valid and reliable manner? The research then concentrates on these specific questions (De Vaus, 2002). The focus is therefore:

- Exploring the interrelationships between the sub-scale dimensions of the PCBI so as to assess whether the PCBI is a valid measurement of coping behaviour.
- Assessing the factorial structure of the scale equivalent for age, gender and race groups and whether there are substantial differences between age, gender and race groups' coping behaviour.

1.7.4 Validity

Validity is traditionally understood to be concerned with the question of whether a measurement instrument, such as a test or scale, measures what it claims to measure (Groth-Marnat, 2009). Focusing on the accuracy of scores reflects the importance of identifying the construct to be measured and the way in which the construct should be measured. It is also necessary for ensuring accurate measurement and fair decisions about issues that affect test users. The value of a particular test depends on accepted assumptions about validity in the particular context (Lentillon-Kaestner, Berchtold, Rousseau, & Ferrand, 2014).

1.7.4.1 Validity with regard to the literature

In this research, validity is ensured by making use of literature that relates to the nature, problems and aims of the research. The constructs, concepts and dimensions that form part of the research include cognitive (cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing); affective/emotional (positive affect, emotional granularity and happiness), conative/motivational (self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability) and interpersonal (extroversion, social support and agreeableness), all of which are to be found in the relevant literature. Constructs, concepts and dimensions have not been chosen subjectively. Moreover, such concepts and constructs are ordered logically and systematically, and every attempt has been made to search for and make use of the most recent literature sources, although a number of classic and contemporary mainstream research streams have also been referred to, because of their relevance to the conceptualisation of the constructs pertinent to this research.

1.7.4.2 Validity with regard to the empirical research

In the empirical research, validity of the PCBI will be ensured through construct, discriminant and convergent validity. Construct validity pertains to the degree to which the measure of a construct sufficiently measures the intended concept and has been shown to be a necessary component of the research process (Streiner, 2013). A primary goal of scale development is the creation of a valid measure of an underlying construct.

First, it is essential to begin with a clear conceptualisation of the target construct. Moreover, the content of the initial item pool should be over-inclusive and item wording needs careful attention. Next, the item pool should be tested, along with variables that assess closely related constructs, on a heterogeneous sample representing the entire range of the target population. Finally, in selecting scale items, the goal is internal consistency. Factor analysis plays a crucial role in ensuring the uni-dimensionality and discriminant validity of scales (Voon, Abdullah, Lee, & Kueh, 2014).

Construct validity entails either proving or disproving the interpretation of scores, drawing together requirements for a rational statement and empirical verification of the statement. A construct is the specific ability, linguistic structure or aspect of a skill that test developers aim to measure with a specific instrument (Helling, 2014). The term construct does not refer to a physical ability, but rather to an underlying ability that can only be investigated by observing behaviour. Construct validity refers to the extent to which the relevant psychological structure that underlies a performance such as coping behaviour is being measured. A construct is a way of classifying behaviour, providing a definition of an ability that allows researchers to theorise about how that ability relates to other abilities and to observed behaviour (Fishbein & Ajzen, 2011). Intra-construct validity of the PCBI will be explored in this study which hopefully will stimulate cross-validation studies of the PCBI. Future cross-validation studies should explore the construct validity of the PCBI by analysing the structure of the measure (face validity) and its association with other scale constructs and variables based on the literature (content validity) (Stein, Slavin-Mulford, Sinclair, Siefert, & Blais, 2012).

The present research is focused on scale development and is therefore also concerned with ensuring face validity and content validity of the newly developed PCBI.

(a) Face validity

Face validity refers to the surface credibility of a test and suitability of the content of a test or item(s) for an intended purpose as perceived by test takers and users. Face validity is primarily concerned with relationships of constructs and not meant as a substitute for criterion-related evidence of the validity of a measure (Ledesma, Sanchez, & Diaz-Lazaro, 2011). Face validity is not so much concerned with technical validity, in other words what the test actually measures, but rather with what the test appears to measure. A test that looks authentic has face validity. An instrument that looks valid on the surface is not necessarily representative of the construct domain to be tested. Developers must be careful not to rely on a quick overview to determine whether an assessment is content valid or not (Lopez & Guarino, 2013).

(b) Content validity

Measuring content validity of instruments is important. Content validity is a characteristic of the test itself, and since the content of the test does not change, neither will its content validity. This type of validity can help to ensure construct validity and give the readers and researchers confidence about instruments. Findings from content validity could support the construct validity of an instrument. A single approach is insufficient and a variety of approaches should be tested (Clayes, Neve, Tulkens, & Spinewine, 2013). If the content of a measuring instrument over- or under-represents a certain aspect of the construct domain, the assessment may lead to invalid scores, unfair inferences and negative effects (Lund, Nielsen, Henriksen, Schmidt, Avlund, & Christensen, 2014). Therefore, the content should reflect the detailed test specifications according to which an assessment is constructed. The level of task item difficulty, the quality of rubrics and the accuracy of the scoring key should also be considered under content validity. Items that are too difficult or easy, poor rubrics and inaccurate scoring keys cause construct irrelevant variance (Panter & Sterba, 2011).

The first step in developing a scale is devising the items themselves (Dalal, Carter, & Lake, 2014). Research findings can be a fruitful source of items and subscales. For the purpose of the scale construction, research can be of two types: a literature review done on the area or new research carried out specifically for developing the scale. In a new area, though, there may not be any research that can serve as the basis for the items. It may be necessary for the scale developer to conduct some preliminary research, which can be the source of items (Guion, 2011). The latter approach is relevant to the present study.

Once the items have been generated from the scale, the developer is left with the items. One has to ensure that the scale has enough items and adequately covers the domain under investigation, called content validation (Flake, Barron, Hulleman, McCoach, & Welsh, 2015). Each item on the scale should relate to one of the theoretical dimensions (content relevance). Conversely, each part of the domain under investigation should be represented by one or more questions (content coverage) (van der Linden & Pashley, 2010). Firstly, each item should fall into at least one content area represented by the core construct. Secondly, each objective should be represented by at least one question, otherwise it is not being evaluated by the test. Thirdly, the number of questions in each area should reflect its actual importance in the domain under investigation (Blackman, Sweet, & Byrne, 2015). The scale should be as inclusive as possible, even to the point of being over-inclusive. The items of the pool should be chosen so as to sample all possible content that might comprise the putative trait according to all known alternative theories of the trait (Streiner & Norman, 2008).

The research is also interested in ensuring internal and external validity. Internal validity refers to a study that has produced accurate and valid findings of the specific phenomenon under investigation. External validity refers to the generalisability of findings to more general populations whereas measurement validity refers to the fit between conceptual and operational definitions and includes face, content, construct and criterion validity (Neuman, 2012).

(c) Internal validity

The internal validity of research studies may be called into question if the extraneous variable in a statistical model correlates with both the dependent variable and the independent variable. The main purpose of validation research is to ascertain whether it allows for accurate prediction of positive coping behaviour. When there are strong positive correlations between the scores that candidates obtain, high validity results are observed. The determination of internal validity is a crucial pre-requisite for the exploration of external validity (Hill, McMeekin, & Parry, 2014).

(d) External validity

External validity refers to the extent to which findings from individual investigations generalise to other individual contexts and time periods (Prohaska & Etkin, 2010). The most effective way to determine whether or not studies possess external validity is to compare them with other research endeavours that are oriented towards the investigation of the same basic variables but in different ways. If similar findings emerge from studies that are conducted in different settings, with different populations and different test takers, then these studies may possess external validity. Studies that investigated the relationship between the same dependent positive coping behaviour and independent (positive coping behaviour constructs) variables using different research procedures, in different settings and using different groups and test takers, will be compared (Slavin, Sinclair, Stein, Malone, Bello, & Blais, 2010). In the present study external validity was ensured through targeting the total population of a company.

(e) Discriminant validity

Discriminant validity assessment has become a generally accepted prerequisite for analysing relationships between latent variables. Discriminant validity ensures that a construct measure is empirically unique and represents phenomena of interest that other measures in a structural equation model do not capture. Discriminant validity is shown when each measurement item correlates weakly with all other constructs except for the one to which it is theoretically associated (Henseler, Ringle, & Sarstedt, 2015). Discriminant validity ensures that items of a given construct do not conceptually overlap with items of other constructs (Merschmann & Thonemann, 2011). Evidence of satisfactory discriminant validity of the measurement can be demonstrated if the square root of the average variance extracted for each construct is greater than the correlations between that construct and all other constructs (Shen, Wang, Sun, & Xiang, 2013). This aspect is addressed in the empirical study.

(f) Convergent validity

Convergent validity is agreement between measures of the same construct assessed by different methods. Convergent validity can be explored by the multi-trait–multi-method analysis, in which two or more traits are each assessed by two or more methods. Different measures of the same trait should correlate highly with each other but should correlate less strongly with measures of distinct traits (Podsakoff, MacKenzie, & Podsakoff, 2012). Convergent validity is intended to demonstrate that multiple measures of a construct are

related to one another rather than to measures of other constructs (Christian, Garza, & Slaughter, 2011). Convergent validity indicates the extent to which the measures of a construct that are theoretically related are related in reality. It can be demonstrated that if the items' factor loadings are greater than .70, the values of composite reliability are greater than .70 and the values of average variance extracted are more than .50 (Shen et al., 2013). This aspect is addressed in the empirical study.

1.7.5 Reliability

Reliability refers to the consistency of a measure. A test is considered reliable if one gets the same result repeatedly. The literature review is reliable when it collects information that is correct, comprehensive and unbiased (Fink, 2014). Internal consistency will be used to assess the reliability of the measuring instruments in the empirical study. Internal consistency is typically a measure based on the correlations between different items in the same test (Crelin, Charlesworth, & Orrell, 2014). Reliability measures whether several items that propose to measure the same general construct produce similar scores. Internal consistency is usually measured with Cronbach's alpha, a statistic calculated from the pairwise correlations between items. Internal consistency ranges between negative infinity and one. Coefficient alpha will be negative whenever there is greater within-subject variability than between-subject variability. The goal in designing a reliable instrument is to ensure that scores on similar items are related (internally consistent), but that each contributes some unique information as well (Lewis, Weiner, Stanick, & Fischer, 2015).

1.7.6 The unit of analysis

The unit of analysis distinguished between the characteristics, conditions, orientations and actions of the individuals, groups (age, gender and race), organisations and social artefacts (Mouton & Marias, 2001). This research focuses on a comprehensive range of positive psychology constructs that are operationalised into a valid and reliable measure of positive coping behaviour. On an individual level, the individual scores on the newly developed PCBI will be taken into consideration; on a group level the overall scores on the PCBI will be taken into consideration; and on a sub-group level the age, gender and race scores will be taken into consideration.

1.7.7 The variables

A variable can be defined as an image, perception or concept that can be measured (Chan & Kumar, 2007). The general aim of the research is to isolate and conceptualise the behavioural elements of positive coping behaviour and to operationalise the constructs into a valid and reliable measurement scale that may be used to inform employee wellness practices on individual and organisational level. The research will be conducted in two stages, which are illustrated in figure 1.1: During stage one, the scale development phase, the independent variables are the psychosocial behavioural elements (cognitive, affective, conative and interpersonal) and the constructs that constitute these elements. The overall construct positive coping will be treated as the dependent variable. In stage two, the sub-group variables of age, gender and race are the independent variables and the PCBI construct elements are the dependent variables.

The study is designed to measure the nature, direction and magnitude of the relationship between the various psychosocial behavioural elements and the sub-dimensional constructs that constitute these elements. Exploring the relationship between the intra-scale elements is important for assessing the construct validity of the newly developed scale.

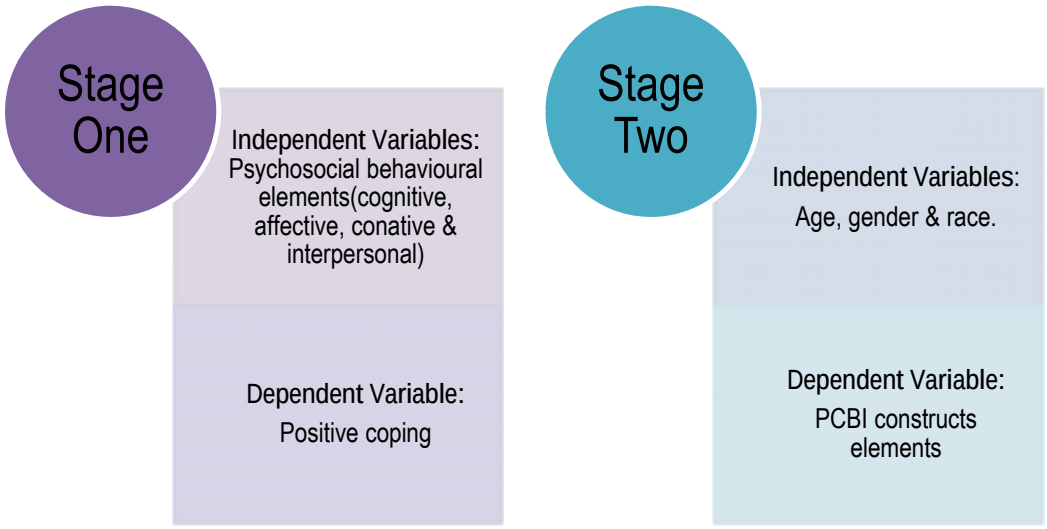


Figure 1.1: The scale development process

1.7.8 Ethical considerations

Frowe (2015) stated that ethics are concerned with the process by which people clarify what is right and wrong, and according to which they act. They maintain that ethics call individuals to action, to analyse and to seek guidance on the proper way to proceed. Ethics are a formal statement of what values and ethical standards guide individuals and organisations. Codes of ethics lay down acceptable standards of conduct and moral behaviour. Codes of ethics must lead to virtuous, efficient and effective rendering of services to benefit the person involved (Punch, 2014).

The researcher will adhere to the Unisa Policy on Research Ethics rules/ principles:

- Essentiality and relevance, to demonstrate clearly that the research is essential to the pursuit of knowledge and/or the public good.

- Respect for and protection of the rights and interests of participants, including the dignity, privacy and confidentiality of participants and refraining from exposing them to procedures or risks not directly attached to the research project or its methodology.

- Respect for cultural differences, treating participants as unique human beings and respecting what is sacred and secret by tradition.

- Justice, fairness and objectivity and the fair and scientific selection of participants in research.

- Integrity, transparency and accountability through the research process.

- Subjecting participants to only those risks that are clearly necessary for the conduct of the research.

Obtaining informed consent. Only information that is relevant and necessary will be collected. Participants' right to refuse to participate in research and to change their decision at any stage of the research, without giving any reason and without any penalty, will be respected.

Participants have the right to complete the questionnaire anonymously to ensure confidentiality.

For the purpose of this study, ethical clearance was obtained from the research ethics committee of the particular institution. Permission to conduct the research was obtained from the participating organisation. A survey questionnaire was administered electronically in order to gain relevant information for this study. A covering letter accompanied the questionnaire inviting participation in the study. The covering letter stated that completing and returning the questionnaire was considered informed consent and constituted agreement to use the information for research purposes only. Participation in the study was voluntary; respondents had the option to withdraw from the study at any time without fear of any consequence. Participants were informed of the purpose of the study, the confidentiality of the responses and instructions for completing the questionnaire. After giving informed consent, participants were asked to complete the questionnaire electronically or in groups. All data collected was secured on an online, password-protected server.

1.7.9 Delimitations

The nature of this research dictates that some limitations of scope have to be set. The research approach is only intended to gather the relevant data that will answer the research questions and achieve the research aims set for this research. The research data was drawn exclusively within South Africa and in one industry, which will limit the generisability of the findings to other industries. The research was undertaken in the organisational and employee wellness context. The paradigmatic perspective of the research was limited to the interpretation of the findings to the definitive boundary of industrial and organisational psychology and positive psychology. The development of the PCBI was limited to the isolation of the range of positive psychology constructs of relevance to this research cognitive (cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing); affective/emotional (positive affect, emotional granularity and happiness), conative/motivational (self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability) and interpersonal (extroversion, social support and agreeableness). The sub-group variables are further limited to age, gender and race.

The biggest limitation was to focus on one organisation for the research which limits the generalisability of the findings to other occupational and industry contexts. For future research opportunities the research must involve other organisations.

1.8 RESEARCH METHOD

The proposed research followed a triangulated design that took place in two phases as outlined below; each phase contained a series of steps that would be executed with scientific rigour.

1.8.1 Phase 1: Literature review

In order to achieve the research aims set for the literature review, a theoretical analysis and exploration of the research literature were conducted into the phenomenon under inquiry, namely positive coping behaviour. The analysis will took place following the steps outlined below:

Step 1: Research literature review
The psychosocial behavioural dimensions that constitute positive coping behaviour were conceptualised. The theoretical implications of positive coping behaviour for employee well-being were critically evaluated.

Step 2: Conceptualisation of constructs
The core constructs of this research were conceptualised based on the review in step 2.

Step 3: Development of an integrated theoretical model of positive coping behaviour for employee wellness

The outcomes of step 1 and step 2 were used to identify the behavioural elements and sub-dimensions that were relevant to enhancing coping and employee wellness in the contemporary workplace. In step 3, the outcome of these two steps was used to formulate items for the PCBI. Step 3 also explored how the variables age, gender and race influenced positive coping behaviour. The implications for employee wellness practices were also critically evaluated during step 3. Figure 1.2 illustrated the steps in the conceptualisation of the constructs.

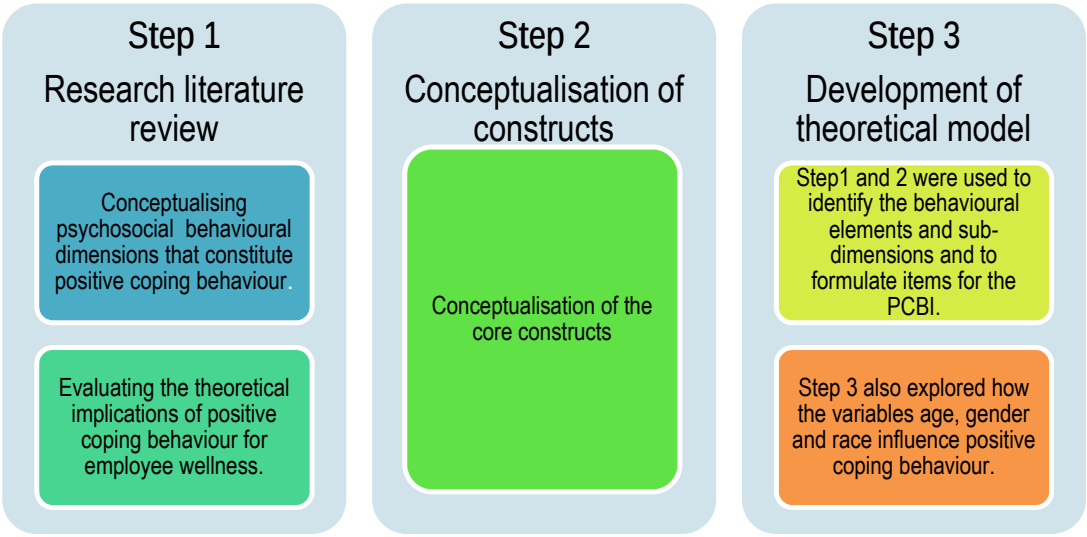


Figure 1.2: Illustration of the steps in conceptualisation of constructs

1.8.2 Phase 2: Empirical study

The outcome of Phase 1 (literature review) was a draft measure for positive coping behaviour (the PCBI). The drafting of the PCBI was guided by existing scale development protocols and scientific conventions. The empirical study involved the following steps:

Step 1: Determination and description of the sample

The total population of which 500 employees were targeted as sample included individuals working in Omnia (The Omnia Group comprises a balanced and diversified range of complementary chemical services businesses with a broad geographic spread). A targeted sample numbering 500 was involved, using the purposive sampling method. Purposive sampling is described as a random selection of sampling units in the segment of the population with most information on the characteristic of interest (McGhan, Loeb, Baney, & Penrod, 2013).

Advantages of purposive sampling (Denscombe, 2010):

- The merit of purposive sampling lies in the selection of rich cases, which could provide valuable information for the purpose of the research.
- The inherent bias of the method contributes to its efficiency and the method stays robust even when tested against random probability sampling.
- Purposive sampling offers researchers a degree of control rather than being at the mercy of any selection bias inherent in pre-existing groups.

- Researchers deliberately seek to include outliers conventionally discounted in quantitative approaches (Smith, 2013).
- The goal of purposive sampling is to identify information-rich participants with both depth and breadth of experience who also share commonalties

Disadvantages of purposive sampling (Malina, Norreklit, & Selto, 2011):

- Purposive samples cannot guarantee randomness of the sample recruited.
- Purposive sampling does somewhat limit the generalisability of research findings.
- The disadvantage of purposive sampling is the possibility of an unrepresentative and self-selecting biased sample (Southgate, Kelly, & Symonds, 2015).

Step 2: Scale development procedure

The development of the PCBI took place in line with the existing scale development protocols. According to DeVellis (2003), when theoretical variables cannot be directly observed, scales are developed to measure the phenomena. The critical element in the contribution of knowledge in a specific field of study is the measurement scales with reliable and valid properties (Du Preez, Visser, & Janse Van Noordwyk, 2008). Likert scales are commonly used to measure attitude, providing a range of responses to a given question or statement. Typically, there are six categories of response, from (for example) 1= strongly disagree to 6 = strongly agree, although there are arguments in favour of scales with seven or an even number of response categories. Likert scales fall within the ordinal level of measurement. That is, the response categories have a rank order, but the intervals between values cannot be presumed equal. The general guideline for an analysis of effective category functioning is a minimum of 10 responses in each category. The average measure (average of the ability estimates of all participants endorsing a particular response category) of the categories is expected to increase in size as the value of the underlying variables increases (Leung & Tsang, 2010).

A potential set of items were identified for inclusion in the measure if they are relevant to the construct, for example positive coping behaviour, under enquiry (Sargeant, 2015). The critical steps of the scale construction state are selecting a response format, generating an item pool and obtaining face and content validity (DeVellis, 2011). The choice of which item response format best suits the intended participants in relation to their age and ability is important. In terms of the present study, a six point Likert-type scale measure of the various behavioural

categories was considered. In this case, each consecutively higher number on the rating scale is assumed actually to correspond to a higher level of ability (Leung & Tsang, 2010).

Advantages:

- Overall scale and subscale internal consistency reliability.
- Multi-item measures are used for measuring psychological attributes because individual items have considerable random measurement error and are therefore unreliable.
- Multi-item measurement can categorise people into a relatively bigger number of groups.
- A multi-item can discriminate among fine degrees of an attribute.
- A multi-item can fully represent a complex theoretical concept or any specific attribute (Hartley, 2014).
- Findings indicate that having more scale points seems to reduce skewness, and only the 6- and 11-point scales follow normal distributions (Leung, 2011).

Disadvantage:

- The analysis of the data must use summated scales or subscales and not individual items. If a multi-item does otherwise, the reliability of the items is at best probably low and at worst unknown. Cronbach's alpha does not provide reliability estimates for single items.
- Low literacy participants had trouble answering questions with the standard 6-point Likert scale (DeWalt, Malone, Bryant, Kosnar, Corr, Rothman, & Pignone, 2006).

As shown in figure 1.3, there are six steps of scale development (Oswald & Schell, 2010):

- *Sub-step 1,* involves a thorough literature review by defining constructs and determining domain content.
- In *sub-step 2,* items are generated for the research and the appropriateness of the items is determined. A measure's dimensionality is concerned with the homogeneity of items. The process of generating items will be guided by the aims of the research to ensure content validity. The outcome of the literature review will be used as a base for item generation.
- *Sub- step 3,* consists of designing and conducting studies to test the scale.

- *Sub-step 4,* involves finalising the scale based on data collected in the previous step (Netemeyer, Bearden, & Sharma, 2003).
- *Sub-step 5,* Measurement scale administration.

  A draft measurement scale was administered to a pool of five to six (n) subject matter experts for further content analysis and validation of items. A pilot test involved 30 people. The outcomes of this process were used for further refinement of the measurement scale. After this process, the final version of the measurement scale was administered on the target sample of 500. Permission was obtained from Omnia and respondents were requested to agree to participate. Ethical principles were applied to the administration of the PCBI.
- *Sub-step 6,* Measurement scale scoring

  The questionnaire that was returned was recorded and screened for completeness (missing values and inappropriate responses). Items were coded in preparation for capturing on the spread sheet for further statistical analysis (Oswald & Schell, 2010).

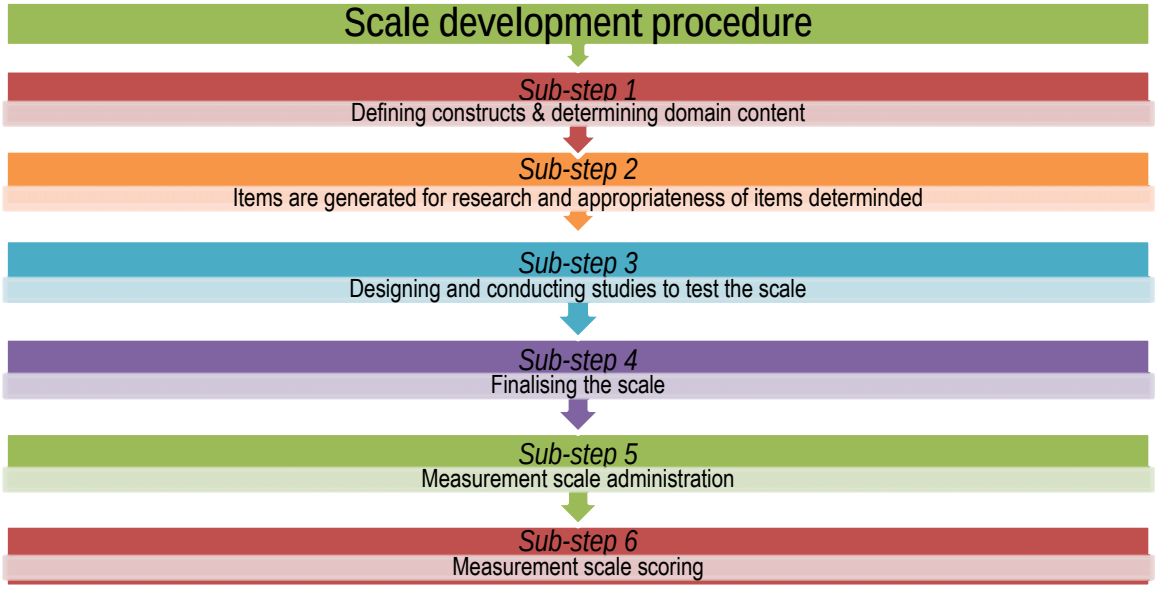


Figure 1.3: Steps in scale development procedure

Step 3: Formulation of research hypotheses

In order to address the empirical research questions, a number of research hypotheses were formulated. A research hypothesis states what one thinks is really going on (Heppner, Wampold, & Kivlighan, 2007). It is a bold statement of what one thinks the answer will be or a statement of the relationship between two variables; the research is intended to weigh the evidence for the hypothesis (Bellenger, Bernhardt, & Goldstucker, 2011). Hypothesis testing permits the researcher to validate theory through accumulation of data from a study and is a

method to extend knowledge. It provides direction to research and keeps the study restricted in scope, preventing it from coming too broad (Ary, Jacobs, Sorensen, & Razavieh, 2010).

The aims and hypotheses of this study are summarised in Table 1.1 below.

Table 1.1

Research Hypotheses

Research aim	**Research hypothesis**	**Statistical procedure**
Research aim 1: To operationalise the elements of the theoretical framework for positive coping behaviour empirically into a valid and reliable Positive Coping Behaviour Inventory. *Sub-aim 1.1*: To assess the psychometric properties (reliability and validity) of the newly developed Positive Coping Behaviour Inventory. Inventory is equivalent for age, gender and race groups.	H1a: The elements of the theoretical framework for positive coping behaviour can be operationalised into a valid and reliable Positive Coping Behaviour Inventory	Exploratory factor analysis RASCH modelling Scale intercorrelations (bivariate correlations)

Research aim	Research hypothesis	Statistical procedure
Sub-aim 1.2: To assess the nature of the interrelationships between the sub-scale dimensions of the Positive Coping Behaviour Inventory. *Sub-aim 1.3*: To assess whether the factorial structure of the Positive Coping Behaviour Inventory is equivalent for age, gender and race groups.		Multi-group confirmatory factor analyses
The biographical variables of age, gender and race will be treated as control variables. The following research aims are posed:		
Research aim 2: To explore whether age, gender and race significantly predict positive coping behaviour.	H2a Age, gender and race significantly predict coping behaviour	Hierarchical regression analysis
Research aim 3: To assess whether age, gender and race groups differ significantly regarding the sub-scale dimensions of the scale.	H3a: Individuals from various biographical groups (age, gender and race) differ significantly regarding the variables	Tests for significant mean differences (will be either parametric or non-parametric based on tests for normality) T-test/ Mann Whitney U (two groups) Anova/Kruskal Wallis (multiple groups)

Step 4: Data analysis

All data were imported on a SPSS file and analysed, using statistical methods, specifically utilising the statistical programmes SPSS (Statistical Package for Social Sciences) Version 23 for the Microsoft Windows platform (SPSS Inc., 2015) and SAS version 9.4 (SAS, 2013). Rasch modelling was conducted by using Winsteps (Version 3.70.0) (Linacre, 2010). The data analysis strategy and procedure for testing the research hypotheses are discussed in the empirical chapter (Chapter 4).

Step 5: Reporting and interpreting the results

In chapter 4 the results are presented in the form of tables, diagrams and/or graphs and a discussion of the findings are presented in a systematic framework, ensuring that the interpretation of the findings is conveyed in a clear and articulate manner.

Step 6: Integration of the research findings

In chapter 5 the findings relating to the literature review are integrated with the findings from the empirical research into the overall findings of the research.

Step 7: Formulation of conclusions, limitations and recommendations

The final step relates to conclusions based on the results and their integration with theory. In chapter 6 the limitations of the research are discussed and recommendations are made in terms of the empirical psychological coping profile for employee wellness practices and future research.

1.9 CHAPTER DIVISION

The chapters are presented in the following manner:

- Chapter 1: Scientific overview of the research
- Chapter 2: Meta-theoretical context of the study: Coping behaviour and employee wellness in the contemporary employment context
- Chapter 3: Positive coping behaviour
- Chapter 4: The empirical study
- Chapter 5: Research results
- Chapter 6: Conclusions, limitations and recommendations

1.10 CHAPTER ONE SUMMARY

The background to and motivation for the research, the aim of the study, the research model, the paradigm perspectives, the theoretical research, its design and methodology, the central hypothesis and the research method were all discussed in this chapter. The motivation for this study is that no known research into this topic has been conducted.

The research sets out to determine the theoretical elements of positive coping behaviour and operationalise these in a reliable and valid measurement scale, the PCBI. The research aim to be addressed in chapter 2 is to conceptualise positive coping behaviour in the context of employee wellness in the contemporary world of work.

CHAPTER 2: META-THEORETICAL CONTEXT OF THE STUDY: EMPLOYEE WELLNESS AND COPING BEHAVIOUR IN THE CONTEMPORARY EMPLOYMENT ENVIRONMENT

This chapter addresses the first literature research aim, namely to conceptualise positive coping behaviour in the context of employee wellness in the contemporary world of work. The research is intended to gain deeper insight in the phenomenon of stress and coping in the contemporary employment environment by focusing on positive psychological behavioural factors that have an impact on employee wellness in today's society.

2.1 EMPLOYEE WELLNESS IN THE CONTEMPORARY EMPLOYMENT ENVIRONMENT

Organisations are currently becoming more aware of issues relating to employee wellness and there is increased public interest in integrating wellness activities with employers' responsibilities (Cummings & Worley, 2014). This move towards healthy workplaces and empowered employees mirrors trends in increased interest in positive psychological behavioural states and organisational well-being (Zwetsloot, van Scheppingen, Dijkman, Heinrich, & den Besten, 2010).

2.1.1 Characteristics of the contemporary employment environment

For organisations to remain competitive in a tough international market they have to be creative and innovative in their strategic and functional operations (Drucker, 2011). One of the consequences of globalisation is that a country's economy is opened up to international competition (Ferrell & Hartline, 2012). Customer expectations and demands on manufacturing and service organisations rise constantly (Hoarty, 2011). In addition, organisations' workforces and the nature of work are also changing. Workforces are no longer homogeneous and are becoming increasingly diverse (Kulik, Ryan, Harper, & George, 2014). The nature of work is also changing. Work is becoming increasingly technology, knowledge- and information- driven and reliant on computer and information technology (Sengupta, Sengupta, & Vaishnavi, 2013). The profile of the workforce is changing due to more women entering the formal sector. The challenges facing dual-career couples in which both partners pursue professional careers are well known (Sweet & Moen, 2011). Young people are delaying marriage and a large proportion of marriages are ending in divorce, putting an extra burden on single working parents for both women and men (Ferrell & Hartline, 2012; Galinsky

& Matos, 2011). The future can no longer be predicted. South Africa's economic growth has declined, leading to low productivity, strikes and stay-aways, all of which have a potential detrimental influence on people's wellbeing (Theron, 2012). Organisations have to respond to these changes in a reactive or proactive way which may, among others, result in changing organisational objectives, policies and structures that could have potential negative or positive consequences for the wellbeing of groups, teams and individuals in the organisation (Chhotray & Sivertsson, 2013).

People live in a work-oriented era and work sometimes becomes a substitute for the fulfilment to be derived from family, friends, religion and the community (Castells, 2011). This substitution is risky, because the economy is unpredictable and organisations cannot be held accountable for taking responsibility for employee wellness. Moreover, work can have a negative impact on people's lives (Hodson & Sullivan, 2011) apart from the meaning that people may derive from working. Overwork and unemployment place enormous strain upon individuals and families. Work determines people's status and shapes their social interactions (Webster, 2014). A consequence of this negatively loaded meaning of work is that people put their happiness and wellbeing in the hands of the employment market and their employers (Sennett, 2011). Work stress is a reality for most people living and working in post-industrial societies/technology- and information-driven societies (Weis, 2013). Work stress manifests itself in real physical and psychological symptoms with serious consequences such as for example counterproductive behaviour, behavioural changes or ill health that can lead to early retirement on medical grounds (Giddens, 2013). As a product of the times contemporary society lives in (Banks & Milestone, 2011), work stress has been implicated as a causal agent in a variety of physical, mental and organisational outcomes (Hesmondhalgh & Baker, 2013; Wahrendorf, Sembajwe, Zins, Berkman, Goldberg, & Siegrist, 2012). Ill health affects not only the individual but also costs organisations billions annually in absenteeism, diminished productivity and health-related expenses (Peters & King, 2012). Work stress lowers expectations about human potential (Frey & Stutzer, 2010). The effect of work stress may potentially result in counterproductive behaviour including new forms of individual and collective resistance and opposition to problems at work which may call for the adoption of a more optimistic conception of human resilience (Davies, Matthews, Stammers, & Westerman, 2013).

Research literature highlights the following as some of the negative consequences of work stress: stress may lead to coronary disease and hypertension (Mauno, Ruokolainen, & Kinnunen, 2013), repressed anger, alcohol and drug abuse, and/or maladaptive response

syndromes that could manifest in stress-related illnesses (Karantzas, Mellor, McCabe, Davison, Beaton, & Mrkic, 2012). Certain jobs are more stressful than others because of the nature of the job and its features, such as making decisions, constant monitoring of machines and computers, repeated exchanges of information, unpleasant physical conditions and the unstructured nature of some jobs (Stawski, Almeida, Lachman, Tun, & Rosnick, 2010). Shift work and long hours are factors intrinsic to some jobs. Workers are unable to get into a fixed living routine, as it is constantly disrupted (Stawski et al., 2010). Role conflict could occur where conflicting demands of various roles are a cause of stress. Expectations and demands of the role are either difficult to meet or are mutually incompatible (Peters & King, 2012) and role ambiguity may result from the demands of the role, usually because of lack of a clear job description, lack of goals and lack of responsibilities (McLennon, Habermann, & Rice, 2011). Stress may also result from the burden of being responsible for those who are employed as subordinates. Managers are usually in positions that require them to take responsibility for their subordinates (Cheung & Wu, 2012) and a lack of organisational, managerial and social support in the workplace is likely to cause stress (Ng & Law, 2014). Stress results from working in poor conditions, such as extreme temperatures, loud noises, crowding and poor lighting. Most stress is caused when these conditions are uncontrollable, unexpected, unpredictable and excessive (Kim, Ingersoll-Dayton, & Kwak, 2013). Shortage of staff compounds stress levels in the workplace (Azar, Badr, Samaha, & Dee, 2015). In addition, people at work can be a major source of stress or support. This refers to relationships with managers, subordinates and colleagues (Rodwell & Martin, 2013). Lack of opportunities to participate in decision-making and exclusion from office communication and consultations may result in poor health, escapist drinking, depression, low self-esteem, absenteeism and the intention to leave (Watts, 2013). Work-family conflict exists when pressure from work and family roles are mutually incompatible due to organisational demands that cause stress (Mahony, 2014; Roche, 2014).

In summary, organisations have come to play an important role in employee wellness and enhancing employee's attitudes regarding coping proactively with the demands posed by the contemporary work environment. Organisations are facing numerous challenges and continuous changes in order to survive and to stay to stay viable as a business in the market. Employees are an organisation's biggest asset and organisations have to look after their employees, since they are the one asset organisations do without. Organisations have no choice but to adjust and adapt in order to keep their biggest asset. Similarly, work is a necessity for employees order to craft a living. Without work, no income will be generated and an individual may struggle to survive. The employee will do whatever it takes to keep his/her work and this has consequences, of which work stress is the main concern. Work

stress has an impact on employees, physically and emotionally. This tendency will force organisations and employees to jointly look at ways of creating a healthy workplace. Focusing on positive coping behaviour may potentially contribute to the endeavour of creating healthy workplaces within turbulent business contexts.

2.1.2 Wellness in the organisational context

Organisations are becoming more aware of issues relating to employee wellness (Babiak & Trendafilova, 2011). They are beginning to appreciate the intrinsic value of healthy, happy employees and are starting to view employee health as human capital (Maravelias, 2012). Management of employee wellness in South Africa through employee wellness programmes should involve employer, service provider and union perspectives in order to manage wellness effectively (Permall, 2011). Management structures include employment-related codes, policies and procedures, experience and a clear understanding of employment regulations, trust in these regulations and experience of the psychological contract (Ross, 2011). The experience of the psychological contract, especially experience of breach and violation of the contract, can influence the experience of job satisfaction and job insecurity, which can lead to a long-term reaction affecting employees' well–being, including their general health (Linde, 2015). Management structures refer to the way in which management makes legislation available to employees to access wellness programmes and the ways in which employees are encouraged to make use of wellness programmes (Mackay, 2013). The service provider's biggest role will be motivation of employees to attend wellness programmes. It appears that employees with high stress levels, those who might benefit most from participation in wellness programmes, may experience the greatest difficulty in participating actively in such programmes because of their lack of support, low confidence and numerous health problems (Clark, Warren, Hagen, Johnson, Jenkins, Werneburg, & Olsen, 2011). Wellness is a set of organised activities and systematic interventions, offered through worksites, managed care organisations and community agencies whose primary purpose is to promote positive coping behaviour and influence changes in health-oriented behaviour (Lee, Blake, & Lloyd 2010). The support employees receive from their organisations has great benefit, such as increased mental wellness, energy, resilience, life and job satisfaction, as well as reduced stress and depression (Schreuder & Coetzee, 2011). The benefits organisations derive from focusing on wellness are reduced absenteeism, increased employee performance and productivity and reduced health care costs (Sieberhagen, Pienaar, & Els, 2011). In this regard, understanding positive coping behaviour may contribute to the design of organisational wellness programmes.

The wellbeing of the workforce depends on support, resources and knowledge in their work and family environment that enable them to maintain a healthy balance (McCarthy, Darcy, & Grady, 2010). Progressive organisations are implementing work-life balance programmes aimed at creating a work-life friendly environment through training intervention site support, child support, flexible working hours and family-oriented work practices and policies (Rajadhyaksha, 2012). Some life events that cause considerable stress, for example the death of a life partner or the ending of an intimate relationship (Cooke & Saini, 2010) can also influence an employee's wellness negatively in terms of work performance and illness and should be taken into consideration when assessing an individual's wellness and assisting him/her to cope with stressors (Baral & Bhargava, 2011). Learning to control and balance stress levels is an important life skill for every employee (Lewis, & Humbert, 2010), since stress cannot be eliminated from one's life, but proactive or positive coping can assist in decreasing stress to more healthy levels, preventing harmful emotional and physical effects (Singh & Khanna, 2011). In this regard, understanding positive coping behaviour may contribute to the design of organisational wellness programmes.

Wellness programmes, which are intervention strategies intended to promote the well-being of employees, can be curative or preventative in nature (Thorpe & Yang, 2011). Being curative implies improving the quality and function of the lives of people (Rameswarapu, Valsangkar, Rizvi, & Kamineni, 2014). Something that is preventative helps keep people free of disease, for example a healthy diet and plenty of exercise (Wehby, Domingue, & Boardman, 2015). The purpose of introducing a wellness programme in an organisation is to create awareness of wellness issues, to facilitate personal change and health management and to promote a healthy and supportive workplace (Estabrook, Zapka, & Lemon, 2012). There are numerous types of employee wellness programmes. Essentially, all of them encourage individuals to take measures to prevent the onset or worsening of a disease or illness and to lead healthier lifestyles, as well as to eliminate stress and positively cope with it (Loewenstein, Asch, Friedman, Melichar, & Volpp, 2012). Organisational health promotion programmes may range from onsite fitness centres to simple health promotion newsletters. While some employers have instituted very expansive employee wellness programmes, others have achieved savings or increased productivity through a few relatively easy initiatives that promote healthier lifestyles (Van Dongen, Proper, Van Wier, Van der Beek, Bongers, Van Mechelen, & Van Tulder, 2011). Initiating wellness programmes is crucial. Having a plan, along with one or two employee wellness programmes can serve as a starting point for creating a more comprehensive programme in the future (Euphoria Wellness, 2011). In the early stages of a wellness programme, a company may opt to provide basic health promotion activities such as a walking club, distribution of health information or a health fair

(Orford, Velleman, Natera, Templeton, & Copello, 2013). More advanced wellness programmes include interventions such as flu injections, smoking cessation programmes and on-site seminars, employee assistance programmes (EAPs), on-site exercise programmes, on-site massage therapy, education and training on the prevention of occupational injuries and ergonomics (Dul, Bruder, Buckle, Carayon, Falzon, Marras, & van der Doelen, 2012). The main goal of EAP is to assist employees dealing with difficulties that affect their functioning at work and at home (Person, Colby, Bulova, & Eubanks, 2010). These programmes operate in a work organisation to identify troubled employees, motivate them to resolve their troubles and provide access to counselling or treatment for those who need these services (Guqaza, 2012).

It is important to note that wellness implies not only the absence of disease, but also concerns the whole spectrum of wellness-related issues, such as an ergonometric working environment, work climate and culture (Berry, Mirabito, & Baun, 2010). Ergonomics is a science concerned with the fit between people and their work. It puts people first, taking account of their capabilities and limitations. Ergonomics aims to make sure that tasks, equipment, information and the environment fit each worker (Nguyen, McFarland, Kleinsorge, Krüger, & Seliger, 2015). Employers and employees are increasingly paying a larger portion of the nation's healthcare bill. Work pressure is negatively related to job satisfaction and positively related to mental and physical ill-health (Wahlbeck, 2015). Organisations must employ preventative measures in an effort to contain the escalating costs of employee healthcare (Baicker et al., 2010). The work environment is an ideal setting for health promotion because most employees spend one third of their time at work (Anshel, Brinthaupt, & Kang, 2010). Worksite wellness programmes must be designed to engage those segments of the work force with the greatest health needs. Culturally sensitive and appropriate programmes must be developed to engage the economically challenged minority and other underserved populations (George, Samaratunge, & Kimberley, 2014). The wider adoption of wellness programmes could prove beneficial for budgets and productivity, as well as health outcomes and as part of a supporting organisational climate could prove beneficial (Greene, 2011). To increase participation in wellness programmes, it should provide benefits employees perceive as advantageous and ensure co-worker and supervisor support (Middlestadt, Sheats, Geshnizjani, Sullivan, & Arvin, 2011). The main limiting factor of wellness programmes is a low employee participation rate; more effective methods of recruiting workers and sustaining their enthusiasm for the wellness programme are therefore required. Possible benefits from the programme include an improvement in overall corporate image, the recruitment of premium employees, greater worker satisfaction with resultant gains in productivity, less absenteeism and employee turnover, lower healthcare costs and a

reduced incidence of industrial injuries, with a likelihood of lower future medical costs resulting from a healthier personal lifestyle (Hojjat, 2015). According to Benavides and David (2010), employee wellness mediates the relationship between the physical environment and employee commitment.

Understanding how individuals cope with stress through positive coping behaviour is the first stage in developing effective programmes for mitigating the risks associated with a particular work environment (Aitken, 2011). Most institutions are not functioning optimally (Bosworth, 2012). The low level of awareness and perception about employee health and wellness programmes in institutions is believed to be one of the factors that prevent programmes of this nature from contributing to work health, organisational climate and ergonomics in a manner that will translate into improved performance and the attainment of objectives (Makala, 2012). Viljoen (2013) investigated employee participation in an engineering support services company and found that employees and managers had positive opinions and perceptions about employee participation, leading to positive participation outcomes. Banyini (2012) found that most respondents had a high regard for employee health and wellness services as means of support to cope during difficult times in their careers. The study also revealed that more effort should be focused on implementing employee health and wellness programmes as a preventative approach. Smit (2011) found that employers have to pay more attention to the well-being of their employees in the workplace. Both employers and employees have to be made aware of how work stress should be handled in order to create a supportive organisational culture (Clark et al., 2011).

Kirsten (2010) conducted a study on the relationship between health and productivity at the workplace by providing a global perspective of the status of the field of workplace health promotion and health management. Improved employee health can only be achieved in a sustainable manner by integrating all health-related services within an enterprise and addressing psychosocial and organisational factors as well as individual health issues. Kirsten's (2010) study on the relationship between health and productivity at the workplace assessed the effectiveness of a worksite wellness programme. Clinically significant improvements occurred in those who were underweight, those with high systolic or diastolic blood pressure, high total cholesterol, high low-density lipoprotein, low high-density lipoprotein, high triglycerides and high glucose. A significant increase in weekly aerobic exercise resulted in feelings of calmness and peace, happiness, the ability to cope with stress and more physical energy (Merrill, Aldana, Garrett, & Ross, 2011).

Fewer than half of South Africa's top 100 organisations have employee wellness programmes, despite the important roles these programmes can play in promoting employee health and wellness and in assisting organisations and employees to adjust to rapidly changing contexts (Sieberhagen et al., 2011). Sieberhagen, Rothmann, and Pienaar (2009) looked at the role of legislation and management standards and found that Europe and the United States of America used to regard psychosocial stressors at work as unimportant. The trend in organisations was to treat psychosocial stressors as an individual problem, managed by enhancing only the coping skills of an individual employee. This resulted in lack of consideration of the effect of psychosocial stressors on employees (Smigelsky, Aten, Gerberich, Sanders, Post, Hook, & Monroe, 2013).

In summary, organisations are becoming aware of the benefits of wellness programmes in the workplace, but the emphasis is still on the health aspect rather than the mental and psycho-emotional aspects. Psychological stressors are seen as unimportant. Progressive organisations have gone a step further in implementing work-life balance programmes. On the other hand, employees must take the opportunities organisations are creating through wellness programmes. To handle psychological stressors, employees must learn to tap into their psychosocial resources to balance their stress level. This life skill can be learnt through interventions in positive coping behaviour. It is important for organisations to see wellness programmes as preventative in nature, with the purpose to facilitate personal change (mental and health). If preventative wellness programmes are in place, the employee can manage themselves when facing physical, mental and social challenges. Figure 2.1 illustrates the benefit of implementing positive coping behaviour as a preventative wellness programme.

Figure 2.1: The benefit of positive coping behaviour

2.2 COPING BEHAVIOUR

Traditionally, psychological research has focused on negative states, their determinants and consequences. Theoretical conceptions of coping focus on strategies used to diminish distress. This approach is derived from the perspective that coping is mainly reactive, a strategy used once stress has been experienced. In contrast, positive coping behaviour involves proactive goal setting and having efficacious beliefs and is associated with psychosocial resources for self-improvement. Figure 2.2 illustrates the difference between coping and positive coping behaviour.

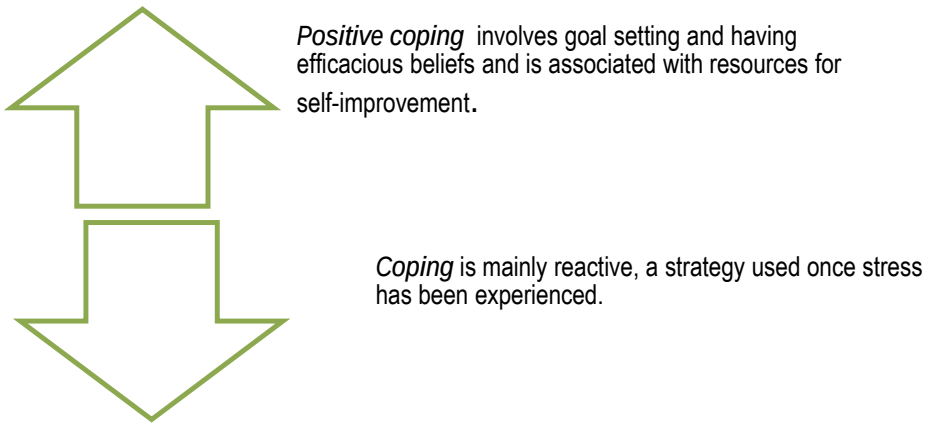


Figure 2.2: Difference between coping and positive coping behaviour

Coping is a process that occurs in reaction to events or situations in the environment and psychological reactions that different people have to the same event; some may interpret an event as stressful, whereas others simply take it in their stride (O'Brien, O'Keefe, Jayawickrama, & Jigyasu, 2015). Moreover, a particular person may react quite differently to the same stressors at different points in time (Shikha & Smita, 2013). Positive coping reflects efforts to build up general resources that facilitate proactivity in the setting of challenging goals that promote personal growth (Qiao, Li, & Hu, 2011). People see risks, demands and opportunities in the distant future, but they do not appraise these as potential threats, harm or loss. Rather, they perceive demanding situations as personal challenges (Horning, Davis, Stirrat, & Cornwell, 2011). Coping becomes goal management instead of risk management. Positive coping behaviour helps individuals initiate a constructive path of action and create opportunities for growth (Morse, Shaffer, Williamson, Dooley, & Schulz, 2012). The proactive individual strives for life improvement and builds up resources that ensure progress and quality of functioning. Proactively creating better living conditions and higher performance levels is experienced as an opportunity to render life meaningful or to find purpose in life (Katter & Greenglass, 2013). Willers (2010) found that it is not the amount of stress that primarily influences individuals, but the way in which they cope with it. Effective coping with the hardships and demands of caring may help to sustain a person and lessen the effect of stressors (Horstmann, Haak, Tomsone, Iwarsson, & Gräsbeck, 2012).

Healthy or effective ways of coping are essential to maintaining subjective well-being in a person dealing with stress (Thumala, 2014). Mabota (2013) found that counsellors have strengths to cope with the high level of stressors and challenges related to their work through positive ways of coping and high levels of personal accomplishment. Research has shown that when exposed to high job demands and long working hours, some people show no symptoms of disengagement. Instead, they seem to find pleasure in dealing with these stressors, presumably because they have effective coping strategies (Rothmann, Jorgensen, & Hill, 2011). Results indicated high resilience as well as coping levels in a study of unemployed women. Two of the resilience factors, trusting instincts and positiveness, were positively related to coping strategies such as distancing, problem-solving and positive reappraisal (Ortell–Pierce, 2011). The character of people will also determine the specific coping strategies to be used. Positive character components are essential, for example the need to be committed, confidence, being able to cope with the impact of success and failure, being open-minded, being willing to receive instruction, being able to communicate with other staff and other team members and having the ability to manage emotions, to rebound from failure and to develop interpersonal skills (Armstrong & Taylor, 2014).

In summary, there is a difference between coping and positive coping. The main characteristic of coping is that coping is reactive when stress is experienced. Positive coping features many characteristics such as a positive learning experience, goal setting, self-improvement, reducing the effect of stressors and pleasure in dealing with stressors. If individuals can learn the skills of positive coping in the workplace the burden on organisations will be significantly decreased. It will not be necessary to have wellness programmes because there would be a programme that develops positive coping behaviour. The effectiveness of formalised wellness programmes may be enhanced through interventions that develop positive coping behaviour.

2.2.1 Models of coping strategies

In recent years, researchers have attempted to understand the process of coping better by examining developmental differences and the efficacy of coping strategies in response to stress. As coping plays a significant role in the promotion of physical health and the prevention of psychopathology, including depression and anxiety, an understanding of its underlying mechanisms is essential (Turliuc, Soponaru, & Antonovici, 2013). Researchers have proposed various conceptualisations of coping; however, overall consensus regarding its dimensions is still lacking (Augoustinos, Walker, & Donaghue, 2014). Despite the enormous number of studies on stress and coping in the last two decades, there is still no unitary theoretical approach to coping. Firstly, coping is usually separated from coping resources (self-efficacy, optimism), which are very difficult to disentangle. Secondly, there is no unitary theoretical framework regarding coping, although there is a growing tendency to categorise specific coping dimensions into two main classes. Coping is seen as instrumental (problem-based) coping and palliative (emotion-based) coping (D'Arcy, Herath, & Shoss, 2014; Zeindler & Endler, 1996), or as engagement and disengagement coping strategies (Carver & Connor-Smith, 2010; Iverson, Litwack, Pineles, Suvak, Vaughn, & Resick, 2013). As a result of many attempts to conceptualise coping, various coping instruments have been developed to measure this psychological construct (Crașovan & Sava, 2013; Gavrilov-Jerković, Jovanović, Žuljević, & Brdarić, 2014).

2.2.1.1 Ways of coping questionnaire (Folkman & Lazarus, 1988).

The ways of coping questionnaire (WCQ) developed by Folkman and Lazarus (1988) is the most widely used measure of basic coping responses (Chang, 2011). The questionnaire, designed to measure how people handle problems in stressful situations, differentiates between two coping mechanisms (problem-focused coping and emotion-focused coping) (Janowski, Steuden, & Bogaczewicz, 2014; Nolen-Hoeksema & Aldao, 2011) and does not reflect the complexity and richness of coping processes (Senol-Durak, Durak, & Elagöz, 2011). A difficulty with the instrument has always been that the number of extracted factors changes from sample to sample or from stressor to stressor (Parker & Endler, 1992). However, this seems to be a general problem with most coping measures, reflecting the unresolved disposition versus situation issue (Bishop, Kobrick, Battler, & Binsted, 2010).

According to Sexton, Byrd and von Kluge (2010), the focus of the WCQ is only on certain coping strategies with no consideration of other stress effects, such as family and social relationships. Bucks, Cruise, Skinner, Loftus, Barker, and Thomas (2011) confirmed that the focus of the WCQ questionnaire is only on certain coping processes (problem-solving coping and escape-avoidance coping processes).

2.2.1.2 Strategic Approach to Coping Scale (SACS) (Hobfoll, Dunahoo, & Monnier, 1993)

The strategic approach to coping scale (SACS) was developed by Hobfoll, Dunahoo, & Monnier (1993) after several years of research. The SACS is based on the multiaxial model of coping (Dunahoo, Hobfoll, Monnier, Hulsizer, & Johnson, 1998) that takes both individualistic and communal aspects of coping into account and moves beyond the individualistic perspective, considering social aspects of coping as well. The model suggests that coping strategies differ on the level of activity, social activity and directness. It therefore includes (a) a prosocial-antisocial dimension, which depicts the degree to which individuals are active in terms of their social interactions, while seeking their goal (b) a passive-active dimension that depicts efforts to solve problems versus ways to avoid them (c) a direct-indirect dimension that depicts efforts to address the problem directly (Bolger & Eckenrode, 1991; Crăciun, Craiovan, & Crăciun, 2015). The SACS evaluates dispositional coping perceived as a general tendency to approach problems with a characteristic set of behaviours. The SACS can be used to capture a more complex and clearer picture of the behaviours that people choose to exercise in the service of coping, as socially embedded individuals and when facing stressful events (Allen & Leary, 2010).

Personal development programmes, psychological evaluations and psychotherapeutic interventions, targeting specific coping strategies used in stressful situations can benefit from the information provided by the SACS, which can display a more complex, yet specific picture of one's style of coping in social contexts (Hager & Runtz, 2012). Additional research is needed to clarify the relationship between specific coping strategies, personality traits, psychopathology, and emotional reactions to stress specifically, depression and anxiety (Crașovan & Sava, 2013; Pruessner, Iyer, Faridi, Joober, & Malla, 2011). The individualistic models, such as self-report instruments, are concerned with individual adjustment and goal achievement, not the social consequences of individual action (O'Boyle, Forsyth, Banks, & McDaniel, 2012).

2.2.1.3 Defensive Style Questionnaire (DSQ-60) (Thygesen, Drapeau, Trijsburg, Lecours & de Roten, 2008)

The defence style questionnaire (DSQ) (Thygesen, Drapeau, Trijsburg, Lecours & de Roten, 2008) has undergone numerous revisions in an effort to improve reliability and validity. More recently, another version, the DSQ-60, was designed to be congruent with the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV). The DSQ is without doubt the most widely used self-report instrument for defence measurement (Bond, 2004). Originally developed by Bond and colleagues (Bond, Perry, Gautier, Goldenberg, Oppenheimer & Simand, 1989) it was designed to operationalise and assess conscious derivatives of defences.

Social and personality psychology state that individuals use defences to protect self-esteem. Defence mechanisms are part of the personality and everyday experiences of coping and adaptation (Beaulieu-Pelletier, Bouchard, & Philippe, 2013). The styles that were supported by the data reflect particular behaviours used by employees to deal with stress, conflict and anxiety in their workplace. Further testing on the items should include comparisons between non-clinical and clinical samples and a focus on developing items for the styles rather than for individual defences (Ramkissoon, 2014).

2.2.1.4 The Coping Orientation for Problem Experiences Questionnaire (COPE) (Carver, Scheier, & Weintraub, 1989)

The coping orientation for problem experiences questionnaire (COPE) (Carver et al., 1989) is among the most often used coping scales (Piko, 2011) and was developed by important authors in the field of coping (Carver & Connor-Smith, 2010). The questionnaire integrates the pattern of stress (Lazarus & Folkman, 1987) however, the authors of the questionnaire

argued that the separation of the coping forms into two types (focused on emotion or focused on the problem) is too basic. Carver et al. (1989) have elaborated on a multidimensional inventory for the coping strategies (the COPE Inventory) that assesses ways in which people handle stress, from a dispositional perspective. Carver et al. (1989) have identified four factors: (1) coping focalised on the problem (including the following coping strategies: affective approach, planning and deletion of concurrent activities); (2) coping focalised on emotions (positive interpretation and growth, abstention, acceptance and religious approach); (3) coping focalised on search for social support (use of the social-instrumental support, the social-emotional support and focalising on expressing emotions) and (4) avoidance coping, for the problem or the associated emotions (denial, mental and behavioural deactivation).

The COPE scale is developed as dispositional measure of individual differences in coping that is different from previous instruments; it reflects a balanced view about the disposition versus situation issue (Schenk & Fremouw, 2012). The explanatory power of the different coping strategies in the development of burnout was studied. Burnout occurs when ineffective coping strategies are used (Montero-Marin, Prado-Abril, Demarzo, Gascon, & García-Campayo, 2014). The population consisted of all employees of the University of Zaragoza, Spain, comprising a multi-occupational group that held jobs of differing nature and complexity. These workers formed a population that was at risk of developing burnout, as they were professionals working face-to-face with other people. The findings showed that the effectiveness of interventions for burnout may be improved by using strategies for handling stress in the workplace (Montero-Marin et al., 2014).

2.2.1.5 Response to Stress Questionnaire (Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000)

The response to stress questionnaire developed by Connor-Smith et al. (2000) examines both volitional coping and involuntary responses to stress. The questionnaire measures three voluntary coping factors: (a) primary control engagement coping (coping directed at influencing the stressful situation, including problem-solving, emotional expression and emotional regulation), (b) secondary control engagement coping (coping directed at changing oneself to adapt to the situation, including acceptance, cognitive restructuring, distraction and positive thinking), and (c) disengagement coping (avoidance, denial and wishful thinking). The questionnaire also measures two involuntary response factors: (a) involuntary engagement (emotional arousal, physiological arousal, rumination, intrusive thoughts and impulsive action) and (b) involuntary disengagement (cognitive interference, escape,

emotional numbing and inaction) (Benson, Compas, Layne, Vandergrift, Pašalić, Katalinksi, & Pynoos, 2011).

Bartley and Roesch (2011) examined how specific coping strategies mediated the relationship between conscientiousness (C) and positive affect (PA) in a large, multi-ethnic sample (Bartley & Roesch, 2011). The aim of their study was to determine the prevalence of main substance use and behavioural addictions among students in higher education in France and to examine the relationship with perceived stress. The results revealed that perceived stress was associated not only with known risks, but also with new risks. The results could help to develop preventive interventions focussing on these risk behaviours and subsequently improving stress coping capacity in this high-risk population (Tavolacci, Ladner, Grigioni, Richard, Villet & Dechelotte, 2013). The focus and the gaps in the coping strategies models are summarised in Table 2.1

Table 2.1

Summary of the Coping Strategies Models

Ways of Coping Questionnaire (Folkman & Lazarus, 1988)	**Strategic Approach to Coping Scale (SACS) (Hobfoll, Dunahoo, & Monnier, 1993)**	**Defensive Style Questionnaire (DSQ-60) (Thygesen, Drapeau, Trijsburg, Lecours & de Roten, 2008)**	**The Coping Orientation for Problem Experiences Questionnaire (COPE) (Carver, Scheier & Weintraub, 1989)**	**Response to Stress Questionnaire (Connor-Smith, Compas, Wadsworth, Thomsen, Harding, & Saltzman, 2000).**
Focus only on two main functions; problem-solving and emotion regulation (Janowski et al., 2014).	The questionnaire considers social aspects of coping together with individualistic and communal aspects (Hobfoll et al., 1993).	Operationalise and assess conscious derivatives of defences (Bond, 2004).	Assesses coping from a dispositional perspective (Schenk & Fremouw, 2012). It reflects a balanced view of the disposition versus situation issue (Schenk & Fremouw, 2012).	Assesses both volitional coping and involuntary responses to stress (Benson et al., 2011). Shows new risks behaviours (Tavolacci et al., 2013).

Ways of Coping Questionnaire (Folkman & Lazarus, 1988)	Strategic Approach to Coping Scale (SACS) (Hobfoll, Dunahoo, & Monnier, 1993)	Defensive Style Questionnaire (DSQ-60) (Thygesen, Drapeau, Trijsburg, Lecours & de Roten, 2008)	The Coping Orientation for Problem Experiences Questionnaire (COPE) (Carver, Scheier & Weintraub, 1989)	Response to Stress Questionnaire (Connor-Smith, Compas, Wadsworth, Thomsen, Harding, & Saltzman, 2000).
The questionnaire does not reflect the coping processes (Senol-Durak et al., 2011). The questionnaire does have a problem with reflecting unresolved disposition versus situation issues (Bishop et al., 2010). There is no consideration of other stress effects (Sexton et al., 2010).	The coping strategies have different levels (Bolger & Eckenrode, 1991; Jabareen, 2013). It captures a more complex and clearer picture of the behaviours of people (Allen & Leary, 2010). Able to give a more complex, specific coping style in social contexts (Hager & Runtz, 2012). Concerned with individual adjustment and goal achievement (O'Boyle et al., 2012).	Defence mechanisms are everyday experiences of coping (Beaulieu-Pelletier et al., 2013). People use styles to deal with stress (Ramkissoon, 2014). The focus must be on the styles rather the defences (Ramkissoon, 2014).	There is no connection between the coping strategies and the behaviour outcomes (McCombie, Mulder, & Gearry, 2013). The different coping styles support the hypothesis they are tested for (Montero-Marin et al., 2014).	

Ways of Coping Questionnaire (Folkman & Lazarus, 1988)	Strategic Approach to Coping Scale (SACS) (Hobfoll, Dunahoo, & Monnier, 1993)	Defensive Style Questionnaire (DSQ-60) (Thygesen, Drapeau, Trijsburg, Lecours & de Roten, 2008)	The Coping Orientation for Problem Experiences Questionnaire (COPE) (Carver, Scheier & Weintraub, 1989)	Response to Stress Questionnaire (Connor-Smith, Compas, Wadsworth, Thomsen, Harding, & Saltzman, 2000).
		Limitations		
Does not reflect the complexity and richness of coping processes (Senol-Durak et al., 2011). Bucks et al. (2011) confirmed that the focus of the WCQ questionnaire is only on certain coping processes.	Does not clarify the relationship between specific coping strategies, personality traits, psychopathology, and emotional reactions to stress, specifically depression and anxiety (Crașovan & Sava, 2013; Pruessner et al., 2011).	Focus is on individual defences and not on coping styles (Ramkissoon, 2014).	The focus is on coping strategies (Montero-Marin et al., 2014).	The focus is on how specific coping strategies mediated the relationship between the specific constructs (Bartley & Roesch, 2011).

In summary, coping strategies can be grouped, according to their purpose, meaning or functional value. Some researchers have come up with two sides of dimensions: instrumental, attentive, vigilant, or confrontative coping on the one hand, in contrast to avoidant, palliative, and emotional coping on the other. There are various coping strategies models, with their focus on a specific strategy. Over the years there have been much new research and development of coping strategies, but the result has been greater depth of the strategy rather than widening the research to include various strategies. The focus is still on the strategy and clarification on why the individual uses the particular strategy or any interventions to cope more effectively. Furthermore, coping strategy models still focus on the negative, that is, what is wrong with the person and not on the positive or positive interventions. Coping emerges when an individual is faced with a stressful event. People differ in their reaction to a stressor. On the other hand, positive coping behaviour entails

building up resources, facilitating promotion to challenging goals and personal growth, seeing risks as opportunities, coping as goal management, a constructive path of action, creating opportunities for growth, life improvement and higher performance levels. Positive character components are seen to determine the coping behaviour.

2.2.2 Coping behaviour models

Coping is not only about the circumstances of individuals, but also about the resources that are available to them. According to Lazarus and Folkman (1984), coping serves two overriding functions: managing or altering the problem and regulating the emotional response to it. The style of coping in which one engages may be one such protective factor in that coping can serve as an internal source of emotional strength used to mediate the effects of perceived stress (Marty, Segal, & Coolidge, 2010). If a person who is emotionally stable and has no worry about outcomes can apply himself or herself to the task more efficiently while engaged in an important task, he or she will perhaps be less distractible and will therefore not commit major errors (Orgeta & Orrell, 2014). Such a person can maintain greater emotional equipoise in the face of success and failure and can solve problems in a more efficient way (Agrawal & Jaiswal, 2013). Coping is a stabilising factor, which can help individuals maintain psychosocial adaptation during stressful periods. Coping encompasses cognitive and behavioural efforts to reduce or eliminate stressful conditions and associated emotional distress (Van Zyl, 2010). Coping behaviour depends on the interplay between the situation (stressors) and the individual's personality (Pleskac & Busemeyer, 2010). Seven coping behaviour models were reviewed (self-regulatory behaviour, dual-process model of coping, Band and Weisz model of coping, the stress model, the transactional model of stress, Ajzen's theory of planned behaviour and the social–contextual model of coping) in which the focus was on certain coping strategies and certain coping processes; in the models of coping strategies the focus of coping behaviour models is on the behaviour of the person who causes the stressor.

2.2.2.1 Self-regulatory of Behaviour (Carver & Scheier, 1998)

In the 1980s a large number of self-regulation models appeared. In the 1990s the concept was broadened to include various aspects and applications of self-regulation constructs, including self-regulated learning, self-control and self-management (Boekaerts, Pintrich & Zeidner, 2005). The scope of self-regulation theory includes addictive behaviours, coping with health problems, social anxiety and depression (Park & Iacocca, 2014). To develop self-regulatory competence, the path is tedious, frustrating and limited in its effectiveness. Coining

different terms for the same behaviour is a way of avoiding the important issues. The self-regulatory model of coping (Carver, Scheier, Pervin, & John, 1999) considers stress, coping and self-regulation as relative topics. At their core, self-regulatory models of action and experience are organised around people's efforts to create and maintain desired conditions in their lives (Choi, Adams, & Kahana, 2013).

Medley, Powell, Worthington, Chohan, and Jones (2010) begin by describing a set of orienting assumptions and principles embedded in models of self-regulation, focusing on constructs found useful in the authors' own work. The self-regulatory model proposes that an individual's cognitive representations of the threat influence the selection and performance of strategies to cope with that threat. Such coping strategies influence outcomes (Medley et al., 2010). Individuals are trained through the use of self-regulatory skills to have the appropriate self-regulation but have difficulty with taking conscious self-regulatory measures when a situation poses new complications or uncertainties (Sevincer, Schlier, & Oettingen, 2015).

2.2.2.2 Dual-process Model of Coping (Stroebe & Schut, 2010)

The dual-process model of coping (Stroebe & Schut, 2010) was intended to describe coping better and predict good versus poor adaptation to stressful life events. It envisaged better understanding of individual differences in the ways in which people come to terms with bereavement. First, analyses of dual-process models that conceptualise coping as regulation under stress establish links to the development of emotional, attentional, and behavioural self-regulation and suggest constitutional underpinnings and social factors that shape coping development (Scheibe & Zacher, 2013). Second, analyses of the functions of higher-order coping families allow identification of corresponding lower-order ways of coping that, despite their differences, are developmentally graded members of the same family (Atkins, 2015). Brandtstadter and Rothermund (2002) stated that coping can be approached in terms of a dual process model that involves assimilative and accommodative coping. Assimilative coping refers to the absorption of new information in a meaningful way, whereas accommodative coping seeks adjustment in other identifications (MacNeela & Murphy, 2015). The dual model of assimilative and accommodative coping is currently one of the most influential theoretical approaches in adult development. The dual-process model appears to be particularly helpful for research by focusing on coping in a developmental context (Cappeliez & Robitaille, 2010). According to dual process theories, humans possess two modes of information processing. An associative mode involves quick, effortless processing that rests on well-learned associations. A reflective mode involves slow, effortful processing that rests on symbolic rule-based inferences. The most effective adaptation involves

oscillation between two coping processes (Evans & Stanovich, 2013). In a study a structural model shows how relations of predictors of adolescent substance use were tested, and to substance-related impaired-control and behaviour problems, are moderated by good self-control and poor regulation in behavioural and emotional domains (Wills, Pokhrel, Morehouse, & Fenster, 2011).

The dual process model focuses on regulation together with two types of coping and two specific coping strategies. Dual process models are person-specific, for example when a person shows impaired behaviour, a dual-process model can be used (Xun, 2011).

2.2.2.3 Band and Weisz Model of Coping (Band & Weisz, 1988)

Band and Weisz (1988) attempted to examine a more comprehensive model of coping by dividing coping into three domains: primary control (coping intended to influence objective events or conditions), secondary control (coping intended to maximise one's fit to objective events or conditions), and relinquished control (the absence of any coping attempts) (Yao, Xiao, Zhu, Zhang, Auerbach, McHwhinnie, Abela & Wang, 2010). Jensen, Ellestad and Dyb (2013) did a study on the ways in which children and adolescents cope with cancer-related stress. The study did not yield clear findings on the efficacy of different coping strategies, and was limited by its reliance on self-reports of both coping and distress. To address this gap, a control-based model of coping to examine self- and parent reports of child/adolescent coping and symptoms of anxiety and depression in a sample of children with cancer is needed (Jensen et al., 2013). Research has highlighted the significant impact various types of stress and coping strategies can have on individuals, but little is known about the daily experiences of stress and coping (Smith & Somhlaba, 2014). Reinoso, Pereda, Van den Dries, and Forero (2013) examined coping and psychological adjustment. Respondents were asked about the most stressful general problem they had experienced and the use of an effective coping tool for the various coping strategies when dealing with the problem. The respondents used many coping strategies and no differences emerged in terms of coping with general problems (Reinoso et al., 2013).

The aim with the Band and Weisz model of coping was to develop a more comprehensive model of coping, but studies did not yield clear findings. After all the decades of research on stress and coping, little is still known about the daily experiences of stress and coping. It is clear that there is a need for an effective multiple tool of coping.

2.2.2.4 The Stress Model (Lazarus & Folkman, 1984)

The stress process model (Lazarus & Folkman, 1984) is frequently applied to explain significant changes or events that serve as stressors and that influence individual and family functioning. According to this model, the influence of stressors (i.e., life events and chronic strains) is mediated by an individual's appraisal. Appraisals refer to the attitudes and perceptions one has of the situation, life event or chronic stressor (Lazarus & Folkman, 1984). Individuals employ coping strategies, another dimension of the stress process model, to manage stressful life events and chronic strains. Coping strategies are behaviours and cognitive adjustments that allow one to deal with or control stressful circumstances. To reduce the emotional response to the stressful event, individuals may use problem-based strategies, determining responses or taking action to alleviate the stressor (Henderson, Roberto, & Kamo, 2010). Findings of a study show that coping is strongly related to cognitive appraisal; the forms of coping used vary depending on what is at stake and the options for coping (Nielsen, Lund, & Holm, 2015). Coping and help-seeking behaviour in women were studied to identified universality and diversity in coping and help-seeking behaviour in women with pelvic floor dysfunction (Porrett, 2010). Personality and culture have a significant impact on coping behaviour and lack of knowledge is a barrier to help-seeking. Social taboos and the role of women in society influence the coping behaviour of women. Women develop masking and containment strategies and avoid aspects of social interaction (Porrett, 2010).

The aim of the stress model was to clarify why stressors have an influence on the individual. The individual employs a certain coping strategy to deal with the stressor.

2.2.2.5 The Transactional Model of Stress (Lazarus, 1966)

The transactional model of stress and coping (Lazarus, 1966) highlights the transaction between individuals' cognitive appraisals and reappraisals of a situation and their resultant cognitive, emotional or behavioural response (coping) and experience (Meurs & Perrewé, 2011). Stress or distress is said to occur when there is a perceived mismatch between the perceived or actual demands of the situation and the coping resources available to the individual to deal with the situation (Lazarus, 2000). Findings from Vela, Booth-Butterfield, Wanzer and Vallade (2013) provide support for the use of the transactional model of stress as a means of understanding the complex relationships among coping strategies. The result of one study showed that definitions and assessments of coping strategies differed, which hampered comparison and intervention studies were inconsistent (Traa, De Vries, Bodenmann, & Den Oudsten, 2015). The process of recovery from work-related stress,

consisting of complaint reduction and work-resumption, is not yet fully understood. Predictors comprise personal (demographics, coping, cognitions), work-related (job-characteristics, social support), and illness-related (complaint duration, absence duration) variables. Symptom reduction is influenced by individual and work-related characteristics. This holds promise for a multidisciplinary treatment approach for work-related stress (de Vente, Kamphuis, Blonk, & Emmelkamp, 2015).

The transactional model of stress and coping states that coping is a transaction between the individual's cognitive and emotions (Aldwin & Gilmer, 2013). The reason for a stressor is a mismatch between the cognitive and the emotional behaviour. This model's biggest challenge is then to understand and be able to point out the complex relationship between the cognitive and emotional behaviour of the individual during a stressful situation and does not always succeed in doing this (Longpré, Dubois, & Nguemeleu, 2014).

2.2.2.6 Ajzen's Theory of Planned Behaviour (Ajzen's, 1991)

Ajzen's (1991) theory of planned behaviour predicts a person's deliberate behaviour, on the assumption that behaviour is deliberative and planned. According to Ajzen (1991), intention is the cognitive representation of a person's readiness to perform a given behaviour, and it is considered the immediate antecedent of behaviour; therefore it makes intention the best predictor of behaviour. Intention follows from three predictors: (1) behavioural attitude, which is the individual's positive or negative feelings about behaving in a particular way; (2) subjective norm, which is described as an individual's perception of whether people important to the individual think that the behaviour should take place and (3) perceived behavioural control, which refers to people's perceptions of their ability to behave in a certain way. The theory suggests that the higher the levels of behavioural attitude and subjective norm, and the greater the perceived behavioural control, the higher will be the intention of the person to behave in a particular way (de Guzman, 2013). The theory of planned behaviour has shaped psychological theorising from the three-factor model of attitudes towards a theory of decision-making (Elliott & Ainsworth, 2012). Scientists use extended forms of the theory, add self-regulatory behaviour change strategies to their interventions and elaborate on the theory (Rhodes & Dickau, 2012). By doing so, they indicate that they do not believe that the theory of planned behaviour as it stands provides an acceptable explanation for human behaviour and that it needs to be changed or extended (Son, Jin & George, 2013). Abandoning outdated theories is important and the theory of planned behaviour is no longer a plausible theory of behaviour or behaviour change (Sniehotta, Presseau, & Araújo-Soares, 2014).

2.2.2.7 The Social–contextual Model of Coping (Berg, Meegan, & Deviney, 1998)

According to the social-contextual model (Berg, Meegan, & Deviney, 1998), individuals in connection with others anticipate and cope with everyday life problems (Stefanone, Lackaff, & Rosen, 2010). In this model, appraisal and stress are conceptualised at a variety of levels, ranging from solely individual appraisal of everyday problems to integrated and shared relational appraisal by a social unit. Coping efforts likewise range from solely individual efforts to highly collaborative efforts. Everyday problem-solving is used to illustrate how coping efforts are embedded in a rich social context. The context of appraisal is frequently involvement of the use of others in ways that extend beyond using individuals for support (Hoppmann & Blanchard-Fields, 2011). The social-contextual model of coping emphasises that dyadic coping may be different at various phases of the life span, changing at different stages of dealing with the stressor as well as unfolding daily as interaction with dyadic stressors. In addition, individuals engaged in dyadic coping are affected by broad sociocultural factors (culture and gender) as well as more proximal contextual factors. The model provides a framework for understanding how individuals cope with serious stressors (Surya, Benson, Balish, & Eys, 2015).

In the social-contextual model of coping appraisal and stress are conceptualised at a variety of levels. The aim is to illustrate how coping efforts are handled and that coping efforts differ throughout the life span and are affected by socio-cultural factors and proximal contextual factors. Hintz, Frazier and Meredith (2015) confirmed that one's ability to cope with distress and seek social support has been associated with drinking (Hintz et al., 2015). The results suggest that daily deviations in distress experienced in South Africa may influence alcohol consumption more than average levels of distress, especially among women with low coping control. Interventions for women with South African histories should help them build coping skills as well as adequate social support in order to reduce drinking (Stappenbeck, Hassija, Zimmerman, & Kaysen, 2015). A cancer diagnosis imposes significant emotional distress on a substantial proportion of patients and their partners, posing many challenges for both members of a couple. Facing a cancer diagnosis, couples may experience psychosocial distress, which might also affect their individual and dyadic functioning. Coping with cancer from a couple-based perspective as a dyadic stressor can profoundly influence psychosocial adjustment as well as individual and dyadic functioning of patients and spouses. According to Zimmermann (2015), dyadic coping allows better matching of needs, sharing of worries and mutual support, resulting in higher relationship satisfaction. Table 2.2 provides a summary of the models of coping behaviour.

Table 2.2

Summary of the Models of Coping Behaviour

Self-regulatory Model (Carver & Scheier, 1998).	**Dual-process model (Stroebe & Schut, 2010).**	**Band and Weisz Model (Band & Weisz, 1988).**	**The Stress Model (Lazarus & Folkman, 1984).**	**The Transactional Model (Lazarus, 1966).**	**Ajzen's Theory of Planned Behaviour (Ajzen, 1991).**	**The Social–contextual Model (Berg, Meegan, & Deviney, 1998).**
The self-regulatory model of coping (Carver et al., 1999) considers stress, coping and self-regulation relative topics. At their core, self-regulatory models of action and experience are organised around people's efforts to create and	The dual-process model appears to be particularly helpful for research by focusing on coping in a developmental context (Cappeliez & Robitaille, 2010). According to dual process theories, humans employ two modes of information processing, an associative mode and a reflective	Band and Weisz (1988) attempted to examine a more comprehensive model of coping by dividing coping into three domains: primary control, secondary control and relinquished control (Yao et al., 2010).	The stress process model (Lazarus & Folkman, 1984) is frequently applied to explain significant changes or events that serve as stressors and that influence functioning and are mediated by an individual's appraisal.	The transactional model of stress and coping highlights the transaction between individuals' cognitive appraisals and reappraisals of a situation and their resultant cognitive, emotional or behavioural response (coping) and experience (Meurs & Perrewé, 2011).	Planned behaviour predicts a person's deliberate behaviour, on the assumption that behaviour is deliberate and planned (Ajzen, 1991).	In this model, appraisal and stress are conceptualised at a variety of levels, individual appraisal, and appraisal by a social unit. Coping efforts range from individual efforts to collaborative efforts. Everyday problem-solving is used to illustrate how coping efforts are embedded in a social context

Self-regulatory Model (Carver & Scheier, 1998).	Dual-process Model (Stroebe & Schut, 2010).	Band and Weisz Model (Band & Weisz, 1988).	The Stress Model (Lazarus & Folkman, 1984).	The Transactional Model (Lazarus, 1966).	Ajzen's Theory of Planned Behaviour (Ajzen, 1991).	The Social–Contextual Model (Berg, Meegan, & Deviney, 1998).
Maintain desired conditions in their lives (Choi et al., 2013)	Mode (Evans & Stanovich, 2013)					(Hoppmann & Blanchard-Fields, 2011)

In summary, different models of coping behaviour are available. A specific model has a specific function, for example the self-regulatory model of coping. When it is identified that the intervention needed for the individual is self-regulatory, the self-regulatory model of coping will be applicable and will give the best results. The type of behaviour will give an indication of which coping behaviour model will fit the intervention. The benefit of these models is that a specific coping behaviour model can be selected. The models focus only on one or two aspects of coping and go deeper into the specific aspect, for example, the dual-process model appears to be particularly helpful for research by focusing on coping in a developmental context.

2.2.3 Positive psychology focus on coping behaviour

The focus of psychology was traditionally on the negative physical and mental health consequences of major life events (Aldwin & Gilmer, 2013). The stress theory (Hobfoll, Freedy, Schaufeli, Maslach, & Marek, 1993) was expanded to incorporate factors that moderate or buffer the effects of stress on physical and mental health. People found this focus on factors that moderate the effects of stress on physical and mental health, following the emphasis on coping with life circumstances, problematic (Laidmäe, Tuisk, & Tammer-Jäätes, 2014). An effort is made to understand coping by identify the coping mechanisms people use in attempting to deal with problems and to assess the efficacy of these (Badry & Felske, 2013). Coping strategies and support strategies (social support) are then derived from a more general theory of stress-buffering processes (Vink, Tummers, Bekkers, &

Musheno, 2015). In the new millennium coping research has spawned healthy debate and criticism and offered insight into the question of why some individuals fare better than others do when encountering stress in their lives (Folkman & Moskowitz, 2004). The latest research shows the emphasis is still on coping strategies and styles (Sirois, Molnar, & Hirsch, 2015). Coping should not automatically be seen as maladaptive in a study where success or failure of urban societies in building resilience is researched. Transformation does not necessarily depend on the effectiveness of individual coping strategies, but on the flexibility and inclusiveness of coping systems (combined set of strategies). It is crucial to support individuals to increase the flexibility of their coping strategies in today's context (Wamsler & Brink, 2014). Work stress, stressors and coping strategies were measured and showed new relationships between stressors, stress, and coping (Ramos & Jordão, 2015). For example, the impact of the experience of abuse and coping styles on suicidal ideation in Korean elders was studied. Findings show that an active coping style is necessary to reduce suicidal ideation (Jeong & Kim, 2015). The classical coping models still focus on the strategies individuals employ in reaction to a stressful event (Jordan, Vogt, & DeShon, 2015). No effective prevention takes place because of the focus on the illness and weakness of individuals (Chassin, 2013).

The question to be asked is how problems such as depression can be prevented. Prevention results largely from building a science focused on promoting the competence of individuals (Wallerstein, Minkler, Carter-Edwards, Avila, & Sanchez, 2015). The solution is to nurture what is best in individuals and training should focus on prevention and health promotion. Positive psychology posits that there is a set of human strengths that forms the most likely buffer against mental illness: optimism, happiness and resilience. These strengths will make people physically and mentally healthier and make normal people stronger and more productive, as well as helping them to reach their potential. There is a need to develop and explore fully the science and practice of positive psychology (Lopez, Pedrotti, & Snyder, 2014).

Positive psychology focuses on the resources people use to respond proactively and positively to daily stressors (Sims, Hogan, & Carstensen, 2015). Positive psychology's domain includes the hedonic definition of happiness, good moods and pleasurable experiences and personal growth, meaningful occupation and connection with others as important psychosocial resources in coping with stress (Proyer, Gander, Wellenzohn, & Ruch, 2014). All of these traits relate to positive emotions and thought. The focus of positive coping behaviour is better adjustment to stressful life events through the use of human strengths (positive emotion and cognition). Positive coping behaviour as a strengths-based

approach to coping mediates the negative consequences of traumatic experiences in relation to individuals' reactions to stressors (Webster, Bohlmeijer, & Westerhof, 2014). Positive emotions broaden people's thought and action repertoires, which in turn serve to build their enduring personal resources, ranging from physical and intellectual resources to social and psychological resources that have an impact on individuals' coping methods and processes (Wong & Wallhagen, 2014). Positive thinking entails holding positive expectancies for the future. That is, the actions that people take are thought to be influenced by their expectations about the likely consequences of those actions (Katter & Greenglass, 2013). People who see desired outcomes as attainable continue to strive for those outcomes, even when progress is slow or difficult. Positive emotions are active ingredients in the aftermath of crises to buffer people against cognitions such as negativity (Shao, Lin, Shen, & Li, 2014).

The value of positive psychology is to complement and extend problem-focused psychology (Losada, Márquez-González, Pachana, Wetherell, Fernández-Fernández, Nogales-González, & Ruiz-Díaz, 2014). Positive emotions and cognitions contribute to problem-focused coping that results in psychological and physical well-being via more effective (Lopez et al., 2014). The adaptive functions of positive affect during chronic stress have a special class of meaning-based coping processes that support positive affect during chronic stress (D'Hudson & Saling, 2010). Positive emotions broaden the scope of attention and cognition and initiate upward spirals toward increasing emotional well-being. Positive psychology is concerned with the pleasant life, the engaged life and the meaningful life. These three orientations to happiness are associated with wellbeing and life satisfaction.

Positive emotions lead to better adjustment in the broad domain of work, relationships and health (Zarit, Whetzel, Kim, Femia, Almeida, Rovine, & Klein, 2014). Positive emotions also facilitate creative, tolerant thinking and productivity (Carr, 2011). The aim of positive emotions is to build qualities that help individuals not just to endure and survive but also to flourish. Flourishing is to live within an optimal range of human functioning, one that connotes goodness, generativity, growth, and resilience (Schneider, 2011). Table 2.3 presents a comparison between coping strategies models, coping behaviour models and positive psychology on coping behaviour.

Table 2.3

Comparison between Coping Strategies Models, Coping Behaviour Models and Positive Psychology on Coping Behaviour

Coping strategies models	**Coping behaviour models**	**Positive psychology on coping behaviour**
The focus is mainly on '**HOW**' the individual copes in stressful situations, with problem-focused coping and emotion-focused coping as the most well-known coping strategies.	The focus here is '**WHAT'** the individual focuses on in a stress situation, for example to create an outcome or win control in the stress situation.	The focus here is on a long-term meaningful '**PURPOSE**', which is a holistic view of the individual's wellbeing, that is, cognitive, emotional, motivational and social, in the stress situation and coping process.

Posadzki, Stockl, Musonda, and Tsouroufli (2010) conducted a study on the relationships between positive psychological variables such as health behaviours, sense of coherence, level of optimism and self-efficacy among college students. The results indicate that the stronger the sense of coherence, level of optimism and self-efficacy, the healthier health behaviours are. The schematic appraisals model of suicide (Owen, Gooding, Dempsey, & Jones, 2015) suggests that positive self-appraisals may be important for buffering suicidal thoughts and behaviours, potentially providing a key source of resilience. Johnson, Gooding, Wood, and Tarrier (2010) aimed to explore whether positive self-appraisals buffered individuals from suicidality in the face of stressful life events. Research showed that positive self-appraisals moderated the association between stressful life events and suicidality. For those reporting moderate or high levels of positive self-appraisals, a raised incidence of stressful life events did not lead to increases in suicidality (Johnson et al., 2010). A study was done on the association between positive psychological well-being and cardiovascular disease. Findings suggested that positive psychological well-being protects against cardiovascular disease consistently (Steptoe, Demakakos, de Oliveira, & Wardle, 2012). Specifically, optimism is most robustly associated with a reduced risk of cardiovascular events (Boehm & Kubzansky, 2012). Serenity has been defined as a positive emotion that reflects feelings of inner peace and confidence. The development of serenity constitutes a valuable resource that enables the person to cope with life stressors and to establish positive relationships with others. Research showed that serenity is positively related to prosocial behaviours and negatively related to physical and verbal aggression. These results indicate that people who describe themselves as more serene are also prone to give help and comfort

to others. Moreover, serene people appear to be less aggressive towards others (Cuello & Oros, 2014).

Generally, coping and coping strategies give only a certain strategy in which the individual copes in moments of stress (Wamsler & Brink, 2014). No effective, positive learning takes place to enable the individual to cope effectively and the person does not know either how to rectify his/her ineffective coping patterns. The focus is on the symptoms and not on the problem. Positive coping's aim is to build resources to attain the fulfilment of goals and to foresee that personal growth takes place (Bjarnadottir & Vik, 2015). Some benefits of positive coping behaviour are greater psychological well-being, better adjustment in the broad domain of work, relationships and health, creative tolerant thinking and productivity, individual flourishing, better adjustment to stressful life events and human strengths, serving to buffer individuals from negative consequences of traumatic experiences and healthier health behaviours (Olff, Frijling, Kubzansky, Bradley, Ellenbogen, Cardoso, & van Zuiden, 2013).

The difference between coping and positive coping is that in coping there is a stressful event. The individual sees the stressful event as a threat. The individual uses resources to approach the event, which is called primary appraisal. If it is irrelevant, the individual uses a second appraisal. If the second appraisal does not work, the individual has to face the stressful event again. Then stress and coping becoming a threat to the individual. In positive coping the individual sees the stressful event as a challenge and uses positive emotions and appraisals to deal with it (Hershfield, Scheibe, Sims, & Carstensen, 2013).

In summary, the available coping models and inventories only focus in reacting to a stressful event. No positive learning appears to takes place. For instance, if the individual does not have the specific strategy described in the model, he or she is stranded. Positive coping focuses on positive behaviour in general and not on only one or two positive behaviours. The benefits of positive coping are far more than those of coping. The individual has positive expectancies for the future, which have built-in implications for behaviour. The desired outcomes are seen as attainable, which encourages striving for those outcomes, even when progress is slow or difficult in difficult times (Suprun & Stewart, 2015). A gap in literature on the issue of positive coping consists in that nowhere can a complete questionnaire be found dealing with the constructs of positive coping behaviour. The importance of developing a questionnaire that assesses positive coping behaviour (such as the PCBI) is to guide the individual to learn skills and engage in behaviour that promote positive coping. Positive coping will not only be helpful for the individual, but also improve the holistic situation (family,

community, workplace) if the individual learns how to cope positively and effectively in the contemporary work environment.

Schwarzer and Schwarzer (1996) stated that a guideline for future research would be to establish a multilevel assessment rationale according to the researcher's specific coping theory. A hierarchy of coping instruments must therefore include some parts that are administered at multiple points in time. It is of less importance to what degree rational or empirical construction techniques are being used, compared to the necessity that rational and empirical perspectives have to operate reciprocally in a spiral-shaped process. Coping research has to escape from narrow-minded empiricism (Goldstein, 2015). Research on coping can only make a significant leap forward when multilevel instruments that match the complexity of coping are embedded in a multi-wave design, analysed by causal modelling approaches. Including positive emotions in future studies will help address an imbalance between research and clinical practice due to decades of nearly exclusive concern with negative emotions (Folkman, 2008). The effect of stressful or pleasant events and of coping measures on stress depends on the personality of the person under consideration. Positive emotions and cognitions have a restorative function towards physiological, psychological, and social coping resources and the coping processes which generate adaptive goal processes, reordering priorities, and infusing ordinary events with positive meaning (Whitebird, Kreitzer, Crain, Lewis, Hanson, & Enstad, 2013). Research evidence indicates that positive emotions and cognitions have important functions in the stress process and are related to coping processes that are distinct from those that regulate distress (Dunkel Schetter, 2011). Traditionally resilience has been viewed as an important way of coping (Lindstrom, Cann, Calhoun, & Tedeschi, 2013). The aim of positive coping is to outline an integrative model of coping, resilience, and development to offer theoretical access to successful health and wellbeing throughout the lifespan (Gloria, Faulk, & Steinhardt, 2013).

2.3 VARIABLES INFLUENCING COPING BEHAVIOUR

The influence of variables such as age, gender, race and organisational context on coping behaviour is explored in this section.

2.3.1 Age

There are different ways of coping with transitions and changes in life. A follow-up study over seven years assessing coping mechanisms as the reaction to one stressful event found differences in coping mechanisms between age cohorts (Horstmann, Haak, Tomsone, Iwarsson, & Gräsbeck, 2012). A comparative study was done on the coping responses of older and younger respondents. It was found that older respondents consistently used more passive, intrapersonal, emotion-focused coping responses, whereas younger respondents were more likely to use active, interpersonal and problem-focused coping. However, older adults, in coping with health problems, tended to use confrontational coping more than any other response (Agrawal & Jaiswal, 2013). In a study using the stress and coping model to explore how older adults prepared for and coped with the aftermath of Hurricane Katrina, positive thinking, modified thinking, staying busy and spirituality were mentioned by the participants (Henderson et al., 2010). One important aspect in retaining older workers is to understand possible differences better in respect of how older workers, when compared to younger workers, deal with work stressors. Older workers who reported having enough time to complete their work were actually less likely to report stress, even with high deadline demands (Shultz, Wang, Crimmins, & Fisher, 2010).

Patterns of coping were found to become more differentiated with age (Nicolai, Moshagen, & Demmel, 2012). Changes in neurophysiological, cognitive, emotional, attentional and/or social resources and processes across the life span could account for differences in abilities and ways of coping (Windsor, Gerstorf, Pearson, Ryan, & Anstey, 2014). Effective dyadic coping does not develop until late adolescence (Runco, 2014). Older adults are thought to experience more stress and to be more vulnerable to its adverse effects, but they report less stress. Older adults learn to appraise and cope with stress differently and that protects them, despite increased physiological vulnerability (Kiecolt-Glaser, Gouin, Weng, Malarkey, Beversdorf, & Glaser, 2011). Older adults have a more balanced perspective on their stress and are less likely to appraise stress as problematic. They are likely to avoid being upset by minor problems (Amanda, 2014). Different coping mechanisms are used between age cohorts mainly because their needs differ in different life stages. A study examined coping categories and specific coping behaviours used by adolescents. Results showed that specific behaviours within the broad coping categories of emotion-focused coping (self-blame) and avoidant coping (behavioural disengagement) account for depression and suicidal ideation. Specific problem-focused coping strategies did not independently predict lower levels of depression or suicidal ideation (Horwitz, Hill, & King, 2011).

2.3.2 Gender

There is evidence of differences in reactions to and coping with stress between males and females. Women tend to experience higher levels of chronic stress than men. They also tend to have more health problems and lower levels of self-esteem and appear less satisfied with life (Russo, Murrough, Han, Charney, & Nestler, 2012). While the results show little support for gender differences in coping behaviours, stress has a significant influence on the way men and women change preferences (Ong, Phillips, & Chai, 2013). A 20-year study revealed that participants declined in the use of approach coping and most avoidance coping strategies (Bradbury & Lavner, 2012). Females were associated with more threat appraisal, stressor severity, social resources and depressive symptoms, and fewer financial resources were associated with higher initial levels of coping responses. Having more social resources and fewer financial resources at baseline in late middle age predicted faster decline over time in approach coping. Approach coping means engaging with pain and its causes (Brennan, Holland, Schutte, & Moos, 2012). Research indicates a significantly higher probability of perceiving work stress for women among those in white-collar jobs, those in the public sector, those with longer years of service and those who worked more hours per week (Roper, 2014).

A cross-sectional correlation study was done on caregivers of patients suffering from Alzheimer's type dementia. The results showed that significant gender differences existed for seeking social support, in which the mean value for women was higher than that for men. Other coping strategies are used at the same frequency by males and females, in other words, there are no significant gender differences for the use of positive approaches, avoidance/denial and confronting strategies (Papastavrou, Tsangari, Karayiannis, Papacostas, Efstathiou, & Sourtzi, 2011). The influence of college students' coping styles on perceived self-efficacy was examined. The results showed that gender played a moderating role between coping style and perceived self-efficacy in managing inferiority (Shi & Zhao, 2014). Among the strongest and most consistent patterns of mental health problems are the differences between men and women. Men and women experience different types of problems. Men are more often dependent on substances, suffer from physical problems and experience trouble with work and family (Nuttbrock, Hwahng, Bockting, Rosenblum, Mason, Macri, & Becker, 2010).

In general, a difference in gender coping was noted, but the difference was small to moderate. It seems, however, that the difference could be ascribed to the fact that stressful situations are experienced differently because of the person's circumstances.

2.3.3 Race

LaVeist, Thorpe, Pierre, Mance, and Williams (2014) conducted a study on coping with depression among black and white individuals. When accounting for the coping style the black–white difference in depression widened. A high prevalence of vigilant coping in blacks was reported. Vigilance is characterised by an approach to and intensified processing of threat-relevant information. Its general purpose is to gain control over the main threat-related aspects of a situation, thereby protecting the individual from the perception of threat, which would result from confrontation with unexpected dangers (LaVeist et al., 2014). Perceived stress and academic performance for African-American students at a predominantly white college and university and a historically black college and university were investigated. Students did not differ in overall levels of perceived stress or in most coping efforts assessed (Greer & Brown, 2011). Racial differences were noticeable between non-Hispanic white American and African-American coping strategies. African-Americans engaged in more positive coping strategies (Sun, Kosberg, Leeper, Kaufman, & Burgio, 2010).

A study was done on successful aging with a diverse sample of respondents. Adaptation and coping strategies were common across race groups but coping strategies for successful aging differed among different groups (Romo, Wallhagen, Yourman, Yeung, Eng, Micco, Pérez-Stable, & Smith, 2013). Relative to whites, blacks showed a higher burden of most physical health conditions but, unexpectedly, a lower burden of depression. The Baltimore Epidemiologic Catchment Area Study studied the interaction between stress and poor health behaviours (smoking, alcohol use, poor diet and obesity) and risk of depression 12 years after the first research for 341 blacks and 601 whites. At baseline blacks engaged in more poor health behaviours and had a lower prevalence of depression compared with whites. The interaction between health behaviours and stress was not significant for whites; for blacks the interaction term was significant and negative. For blacks the association between median stress and depression was stronger for those who engaged in poor health behaviours (Mezuk, Rafferty, Kershaw, Hudson, Abdou, Lee, & Jackson, 2010).

2.3.4 Organisational context

Since the last decade there has been a dramatic increase in interest in the fields of corporate social responsibility. If people want to live healthy, fulfilling lives, new patterns of thinking must be found (Pascucci, Chu, & Leasure, 2012). The critical situation, however, concerns organisations, which are the most important aspect of modern economic life, and their

success in the successful transformation of resources. Employees are regarded as a resource to be exploited. Health and safety are ignored. Training costs are kept to the minimum necessary to operate the business and expenditure on personal and professional development is avoided. Organisations do not take responsibility for the health and welfare of their employees (Benn, Dunphy, & Griffiths, 2014).

Working life is increasingly turbulent and unstable (Hytönen, Palonen, Lehtinen, & Hakkarainen, 2014). Traditional fields disappear as new ones emerge. In traditional fields, organisational development often means rapid changes in knowledge, skills and working attitudes required from workers. Preparing new generations for a future in their working lives and supporting older workers in the necessary updating of their knowledge and skills during their work careers are added challenges (Lehtinen, Hakkarainen, & Palonen, 2014). When people start experiencing severe stress levels and their coping efforts and strategies are ineffective, they are most likely to fall ill and may end up being absent from work owing to ill-health (Kilfedder & Litchfield, 2014). A complex and changing environment, for example the hospitality industry, presents a never-ending array of stimuli, pressures and demands, which can become sources of stress for supervisors. Findings show that hotel supervisors experience a lower level of burnout if they apply more direct action strategies in coping with the pressures of their job (‘Sunny’Hu & Cheng, 2010). The findings of a study exploring the impact of support on emotional exhaustion of call centre workers show that a supportive co-worker culture concerning absence and team leader permissiveness about absence can lessen the effects of job demands on emotional exhaustion and improve worker well-being (Deery, Iverson, & Walsh, 2010). These studies all suggest that organisations have a huge responsibility for assisting and supporting employees in coping with work-life stressors by means of wellness programmes.

The exploration of organisational stressors perceived by United States professional soccer players and the coping strategies they employed to manage these stressors were studied (Kristiansen, Murphy, & Roberts, 2012). Results of data analysis revealed that contracts, league and team structure, coach-athlete interaction, salaries and travel demands were the most commonly cited areas of stress. Participants used avoidance, problem-focused and social support coping strategies to manage these organisational stressors (Kristiansen et al., 2012). The aim of another study was to examine the moderating effect of coping strategies on the relationship between work-related dimensions (work routinisation, role clarity, relationships with others and promotional opportunity) and job stress (Watson, Goh, & Sawang, 2015). It was found that individual positive coping and workplace initiatives moderate the relationship between relationships with others and job stress (Wickramasinghe,

2010). A questionnaire was administered to 171 final-year nursing students. Questions were asked that measured sources of stress when rated as likely to contribute to distress (a hassle) and rated as likely to help one achieve something. Support, control, self-efficacy and coping style were also measured, along with their potential moderating and mediating effect on burn-out. The sources of stress likely to lead to distress were more often predictors of well-being than sources of stress likely to lead to positive, eustress states. Placement experience was an important source of stress likely to lead to eustress. Self-efficacy, dispositional control and support were other important predictors. Avoidance coping was the strongest predictor of burn-out and, even if used only occasionally, it can have an adverse effect on burn-out. Initiatives to promote support and self-efficacy are likely to have more immediate benefits in enhancing student well-being (Gibbons, 2010). Akintayo (2010) studied the impact of work-family role conflict on organisational commitment of industrial workers in Nigeria. Significant differences exist between the organisational commitment of male and female respondents. Male respondents exhibit higher organisational commitment than females. The finding indicates the effects of female respondents` home responsibilities on their duties at work.

In summary, differences occurred in coping strategies in respect of the biographical group variables studied (age, gender, race and organisational context). It is important to note that there are differences between the variables, for example age. There is a difference between the coping strategies employed in different age groups, which must be recognised and handled. Although organisations are the most important aspect in the economy, it is the employees who must do all the hard work and take the stress and burden upon themselves; this aspect is often overlooked in wellness programmes. Therefore employees take the ill-health route to cope with stress and demands. Organisations have to take full responsibility and take the lead in establishing effective wellness programmes, focusing on mental wellness programmes that focus on positive psychological coping for diverse groups of employees.

2.4 IMPLICATIONS FOR WELLNESS PRACTICES

Employees work in organisations of varying sizes in various sectors. Organisations influence employee behaviours, resources and wellness, therefore organisations have to undertake interventions to enhance individual and family wellness (Dale & Burrell, 2014). The current trend is that organisations invest in programmes that help employees create fuller work and family lives and experience a higher level of wellness. The focus of wellness programmes has shifted from disease prevention to employee wellness (Morris & Morris, 2014). For decades organisations saw issues of employee health as being the employee's responsibility, but corporate wellness programmes have been introduced globally, with emerging interest being shown in South Africa (Bor, Herbst, Newell, & Bärnighausen, 2013). Health includes physical, mental and social wellbeing (Burke & Richardson, 2014). The need is to employ a broader repertoire of wellness promotion practices to move beyond a neutral state and achieve high well-being through positive psychological coping behaviour (Shanafelt, Oreskovich, Dyrbye, Satele, Hanks, Sloan, & Balch, 2012). The organisation with a foundation for wellness may be better able to assist employees to cope with life stressors; continually striving for wellness influences lives positively, especially in times of stress, as it allows for more effective coping (Burck, Bruneau, Baker, & Ellison, 2014). Organisations need to be proactive in promoting emotional and physical health to sustain job satisfaction (Glass, Ogle, Webb, Rice, & Yeboah, 2014) and holistic and optimal wellness over the life span (Kennedy, 2014).

In the past the focus on wellness practices was on health care and the aim of the practices was to manage crises, but currently more and more companies worldwide focus on positive behaviour in wellness practices, because positive psychology promotes happiness and fulfilment (Layous & Lyubomirsky, 2012). Positive psychology is defined as the discipline that studies mental health in seeking to learn how normal life can be more fulfilling and to identify the practices that organisations can use to foster greater happiness. The aim of wellness programs is to promote optimal employee functioning. Wellness is the balance and the more engagement in wellness practices, the better (Bill, Smith, & Gregory, 2014). Workplace wellness also makes good business sense, since it has been established that investing in employee health can reduce absenteeism, improve job satisfaction and productivity and enhance corporate image (Asemah, Okpanachi, & Edegoh, 2013). Organisations often place workplace wellness low in their priorities (Gungaphul, Kassean, & Ramnarain, 2012).

Employee wellness programmes have often been viewed as a nice extra, not a strategic imperative (Should & Violence, 2013). Companies in a variety of industries have included all six pillars in their employee wellness programmes and have reaped big rewards in the form of lower health care costs, greater productivity and higher morale (Berry et al., 2010). The six pillars are: (1) multilevel leadership - creating a culture of health takes passionate, persistent, and persuasive leadership at all levels, from middle managers to the people who have wellness in their job descriptions; (2) alignment - a wellness programme should be a natural extension of a firm's identity and aspirations; (3) scope, relevance, and quality wellness programmes must be comprehensive, engaging, and just plain excellent, otherwise, employees won't participate; (4) accessibility - the aim is to make low- or no-cost services a priority. True on-site integration is essential because convenience matters; (5) partnerships active, ongoing collaboration with internal and external partners, including vendors can provide a programme with some of its essential components and many of its desirable enhancements; and (6) communicating wellness is not just a mission, it's a message. How you deliver it can make all the difference. Sensitivity, creativity, and media diversity are the cornerstones (Berry et al., 2010).

Organisational wellness programmes are on- or off-site services sponsored by organisations that attempt to promote good health or to identify and correct potential health-related problems (Gregoire & Theis, 2015). A meta-analysis was done that examined the effects of participation in an organisational wellness programme on absenteeism and job satisfaction. The results revealed that participation in an organisational wellness programme was associated with decreased absenteeism and increased job satisfaction (Thompson, Parrot, & Nussbaum, 2011).

The dynamics of the organisation influence the employee's behaviour. There has been a shift towards employee wellness, striving for high well-being. Organisations have to be proactive in terms of wellness programmes and must lay the foundation (Lane, 2013). Wellness is the answer, with the focus on positive behaviour. Companies that understand the power of positivity can gain a competitive advantage by intentionally creating environments where employees experience more positive emotions (Bowling, 2014). Managers can influence workplace emotions through the policies and practices they implement. They can also model and encourage positive thinking and behaviour (Viner, Ozer, Denny, Marmot, Resnick, Fatusi, & Currie, 2012) by adopting wellness programmes to prevent health problems. People's health is an important factor in their well-being. Many human resources departments have adopted wellness programmes that focus on helping employees prevent health

problems (Sawyer, Afifi, Bearinger, Blakemore, Dick, Ezeh, & Patton, 2012). These programmes typically educate employees about health risks such as smoking, high blood pressure and stress and offer screening to help employees identify potential risks. They also encourage employees to adopt healthy lifestyles by providing healthy food choices in their cafeterias, providing fitness facilities at work or discounts for local gymnasium memberships, offering yoga classes or hosting seminars on subjects such as stress management (Cabrera, 2012).

2.5 EVALUATION AND SYNTHESIS

The literature review provided evidence that organisations are becoming more aware of the importance of employee wellness, but still have a long way to go. Organisations must change their focus to positive psychological behavioural states and organisational well-being. Organisations face many challenges, such as international competition, the continuously changing nature of work, diverse workforces and economic instability. Organisations more than ever have to be innovative and proactive not only to survive but to be able to excel. On the other hand, the employee lives in a work-oriented era. More than ever work is having a negative impact on employees' lives through overwork, unemployment and work stress. Work stress has the biggest effect on employees in various ways and employees who lack resources find it difficult to cope. This tendency will force organisations and employees to look at ways of creating a healthy workplace jointly.

More than ever, the emphasis is on wellness programmes for organisations to implement and for the employee to attend. The benefits of wellness programmes are increased mental wellness, energy, resilience, life and job satisfaction, as well as reduced stress and depression, reduced absenteeism, increased employee performance and productivity. There are numerous types of employee wellness programmes ranging from fitness, health promotion and employee assistance programmes to an ergonomic working environment. Worksite wellness programmes must be designed to engage those segments of the workforce with the greatest health needs. There is a low level of awareness and perception about employee health and wellness programmes in organisations. More effort should be focused on implementing employee health and wellness programmes as a preventative approach.

Positive coping reflects efforts to build up general resources that facilitate proactivity in setting challenging goals that promote personal growth, creating better living conditions and higher performance levels. Effective coping with the hardships and demands of life may help to

sustain a person and lessen the effect of a stressor. There is a difference between coping and positive coping. If individuals can learn the skills of positive coping in the workplace, the burden on organisations will be significantly decreased. Classical coping models and inventories only focus on reaction to a stressful event, whereas positive coping focuses on positive behaviour in general. The gap in the literature on the issue of positive coping is that nowhere can a complete questionnaire be found dealing with the constructs of positive coping behaviour.

The research literature shows that differences occur in coping strategies related to variables such as age, gender and race. Findings have shown that the kind of coping strategies have an influence on how employees react to the pressures of the job, which is an important aspect in the organisational context. The type of organisation in which the employee works has an influence on the employee and the focus of wellness programmes has shifted to employee wellness. Organisations need to be proactive in promoting emotional and physical health to sustain job satisfaction through the promotion of holistic and optimal wellness.

2.6 CHAPTER SUMMARY

Chapter 2 addressed the first literature research aim, namely to conceptualise positive coping behaviour in the context of employee wellness in the contemporary world of work. The conceptual foundation of employee wellness was discussed, followed by an exploration of coping behaviour. Variables influencing coping behaviour were also discussed in this chapter. The implications for wellness practices were addressed.

Chapter 3 addresses the second and third research aims, namely to conceptualise the psychosocial dimensions that constitute positive coping behaviour and the relevant constructs and to evaluate the theoretical implications of positive coping behaviour for employee wellness critically.

CHAPTER 3: POSITIVE COPING BEHAVIOUR

This chapter addresses the second and third literature research aims, which is to (1) conceptualise the psychosocial dimensions that constitute positive coping behaviour and the relevant constructs, and to (2) critically evaluate the theoretical implications of positive coping behaviour for employee wellness. Firstly; the conceptual foundations of positive coping behaviour will be discussed, followed by the construction of the positive psychology behaviour inventory. Finally, the implications for wellness practices will be highlighted.

3.1 CONCEPTUALISATION OF POSITIVE COPING BEHAVIOUR

Positive behaviour is connected to positive coping because positive behaviour stems from the ability to find positive meaning (Ghaye, 2010). Positive behaviour entails reactions to certain events that are personally meaningful (Kashdan, Weeks, & Savostyanova, 2011). Positive behaviour is the ability to behave positively in spite of what is happening (Rahimi & Karkami, 2015). Uys (2013) has found that positive behaviour can improve the way in which people cope. Positive emotions broaden a person's initial thought-action inventory by increasing thoughts and possible actions that come to mind when faced with an adverse situation (Lášticová & Findor, 2016). Life is filled with experiences that challenge people's repertoire of thinking, feeling and behaving (Furnes & Dysvik, 2012). People are expected to learn and grow from events that initiate their coping responses, the implication being that coping is part of the very essence of the human change and adaptation process (Schank & Abelson, 2013). Thus, positive coping is not only basic for survival, but also relates to the quality and ensuing constructive meaning of individual lives. What distinguishes the resilient person from the person who seldom copes effectively (Bonanno, Westphal, & Mancini, 2011)? The answer appears to lie in individuals' positive behavioural capacities, for example flourishing and resilience. Individuals differ in how well they perceive, express, understand and manage emotional phenomena (Stephens, Heaphy, Carmeli, Spreitzer, & Dutton, 2013) and as such, they differ in terms of the positive behavioural capacities they display when dealing with challenging and stressful life events (Collins, 2015).

An individual's capacity to cope with a challenge relies on behavioural resources as well as on the context in which stressors occur (Donnelly, 2002; Ferreira, 2006; Ungar, 2013). All people succeed or fail at some time. People differ not only regarding the life events they experience, but also in their vulnerability to them. A person's vulnerability to stress is influenced by his or her personality, coping skills and social support (Sarason & Sarason, 2000). Stress is largely deemed negative; striking individual differences are almost

universally observed. In the context of equivalent stressors, some individuals experience poorer outcomes, some remain relatively unaffected and others appear to experience better outcomes. To understand what causes these differences, one has to understand that different people experience the stress process differently and differ in emotions and behaviour (Jensen & Pedersen, 2016). There are different ways of coping, indicating that coping behaviour is part of the personality (Horstmann et al., 2012).

Generally, coping behaviour refers to people's perceptions of both the stressfulness of their lives and their ability to deal with the stressful situation successfully (Trouillet, Doan-Van-Hay, Launay, & Martin, 2011). Coping behaviours are defined as an individual's response to a change in the environment that may be positive or negative (Folkman & Lazarus, 1980; Morton, Fontaine, Hudak, & Gallo, 2005). Marmar, McCaslin, Metzler, Best, Weiss, and Fagan (2006), Monk (2004) and Storm and Rothmann (2003) identify coping behaviours as variables that act as important buffers against negative consequences. The psychological make-up of individuals plays a central role in their coping efforts (Chew, Shariff-Ghazali, & Fernandez, 2014). According to Suls, David and Harvey (1999), coping behaviour is influenced by coping resources, including internal control beliefs, self-esteem, social support and self-efficacy (Terry, 1991).

Positive coping behaviour entails the use of a range of psychosocial personal resources or capacities in dealing meaningfully with stressful events and situations. Life is filled with experiences that challenge people's repertoire of thinking, feeling and behaving (Furnes & Dysvik, 2012). Positive coping behaviour reduces the effect of stress on the individual and the individual's perception of the burden (Au, Shardlow, Teng, Tsien, & Chan, 2013; Lin, Probst, & Hsu, 2010). Individuals who have a well-developed positive behavioural capacity repertoire tend to have more positive life attitudes, better coping mechanisms, less perceived stress and a better quality of life and they experience benefits as a result of exposure to traumatic events (Natti & Dana, 2015). Some people are able to cope effectively and can mobilise their inner strength despite the intensity of the stressor. However, many other individuals need to learn about new resources and need to acquire effective coping skills to manage the intense stressor effectively (Yeager & Roberts, 2015).

In summary, positive coping behaviour enables a person to find positive meaning and improves the way in which the person copes, in spite of what is happening. Some individuals experience coping as negative and stressful; the reasons for coping differences lie within individuals' behavioural capacities. The type of behavioural capacities a person has will influence how he/she will cope. In the end coping must be meaningful and constructive.

This research focuses on the design and development of the positive coping behaviour Inventory (PCBI) from a positive psychological approach. Positive coping behaviour is approached from a multidimensional and psychosocial perspective. The following psychosocial dimensions of positive coping behaviour will be explored in the present research: cognitive, affective/emotional, conative/motivational and interpersonal. The next section provides conceptual descriptions of the constructs underlying these psychosocial dimensions of positive coping behaviour.

3.2 DIMENSIONS OF POSITIVE COPING BEHAVIOUR: CONCEPTUAL DESCRIPTIONS

Positive coping behaviour is approached from a multidimensional and psychosocial perspective. The psychosocial dimensions of positive coping behaviour relate to positive behavioural capacities embedded in individuals' (1) *cognitive* (cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing); (2) *affective/emotional* (positive affect, emotional granularity and happiness); (3) *conative/motivational* (self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability); and (4) *interpersonal* (extroversion, social support and agreeableness) capacities. Scholars agree that coping resources consist of a complex and dynamic set of cognitive, affective, and behavioural responses that are aimed at regulating people's emotions, solving or improving the practical problems they face, and maintaining the psychological resistance and strength needed to remain productive for a prolonged period (Papastavrou et al., 2011).

3.2.1 Cognitive coping behaviour

Cognitive coping behaviour relates to individuals' problem-solving and mental orientations to stress experiences. Behavioural problem-solving refers to what one does in order to alter the immediate stressor (Ong et al., 2013). Positive behavioural capacities such as cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing relate to problem-solving capacities and mental orientations that serve as supportive personal resources in positive coping.

3.2.1.1 Cognitive attributes

Cognitive attributes refer to the mental resources needed to carry out effortful mental tasks and everyday activities involving decision-making, problem-solving, or dealing with unfamiliar problems (Trouillet et al., 2011). The relative impact of the main positive emotion regulation strategies on well-being was studied (Quoidbach, Berry, Hansenne, & Mikolajczak, 2010). Cognitive well-being (i.e. life satisfaction) was positively predicted by capitalising, which showed that telling others about positive events enhances life satisfaction. Capitalising on positive emotion regulation strategies may promote cognitive well-being by fostering positive social interaction. Positive relationships are an important determinant of life satisfaction. Sharing positive experiences may allow individuals to perceive themselves positively in the eyes of others, hence boosting self-esteem and facilitating positive appraisals of one's life. Findings showed that social sharing of positive events increases positive emotion (Quoidbach et al., 2010).

3.2.1.2 Wisdom

Meeks and Jeste (2009) identified six subcomponents of wisdom that were included in several of the published definitions: prosocial attitudes/behaviours, social decision-making/pragmatic knowledge of life, emotional homeostasis, reflection/self-understanding, value relativism/tolerance, and acknowledgment of and dealing effectively with uncertainty/ambiguity. Ardelt and Edwards (2015) have shown that wisdom, measured as an integration of cognitive, reflective and compassionate dimensions, is positively related to subjective well-being in old age. Wisdom was positively related to subjective well-being in the later years, even after controlling for physical health, socio-economic status, financial situation, social involvement, age, gender, race and marital status. The association between wisdom and well-being was significantly stronger in nursing homes and hospices than the community. The relation between wisdom and well-being was mediated by purpose in life and via a sense of mastery (Ardelt & Edwards, 2015).

3.2.1.3 Self-esteem

Self-esteem is described as the extent to which people consciously and explicitly consider themselves valuable and worthy (Tafarodi & Ho, 2006). Social support influences self-esteem through the effects of social support used and self-esteem in turn buffers individuals against the risk of suicide ideation. Self-esteem, one's overall appraisal of one's value in relation to others, has strong support as a buffer to suicide (Kleiman & Riskind, 2012).

3.2.1.4 Optimism

Dobson and Dozois (2008) view optimism as the stable tendency to believe that good rather than bad things will happen. When a goal is of sufficient value, the individual will expect to attain that goal. Head and neck cancer is often diagnosed at a late stage and consequently radical treatment is necessary. The use of positive coping styles was related to low anxiety levels and high levels of optimism were related to low levels of depression (Horney, Smith, McGurk, Weinman, Herold, Altman, & Llewellyn, 2011).

3.2.1.5 Humour

Humour is defined as a tendency for particular cognitive responses to provoke laughter and provide amusement. Humour further includes a cheerful view of adversity that allows one to cope and sustain higher levels of happiness and the ability to make others smile and laugh (Peterson & Seligman, 2004). Being humorous offers vast interpersonal benefits. Humour facilitates conflict resolution by making it easier to accept criticism and confront unpleasant situations. A good sense of humour is considered a highly desirable trait. People with a sense of humour are ascribed a wide range of positive characteristics, including intelligence, friendliness, imagination, charm, and emotional stability. People attend to, remember, and are entertained by humorous stimuli. People are inclined to attend social events that feature humorous invitations (McGraw, Warren, & Kan, 2015).

3.2.1.6 Sense of coherence

Antonovsky (1979) defines a sense of coherence as the global orientation that expresses the extent to which one has a pervasive, enduring, though dynamic feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected. Sense of coherence has been associated with various measures of lifestyle choices. It was hypothesised that patients with a weak sense of coherence make less prudent food choices and their level of physical activity is lower. A higher sense of coherence score predicted more prudent food choices in women and higher physical activity in men (Ahola, Mikkilä, Saraheimo, Wadén, MäkimaTtila, Forsblom, & Groop, 2012).

3.2.1.7 Locus of control

Locus of control is the extent to which individuals believe that they have control over their own destiny (Thomas, Eby, & Sorensen, 2006). An external locus of control indicates that a person believes that he does not have control over circumstances (Davis, 2013). Internal locus of control involves a belief in one's ability to influence life outcomes (Rotter, 1971). Health control beliefs were postulated to be associated with health behaviour. Helmer, Krämer, and Mikolajczyk (2012) re-examined these associations in a sample of university students in Germany. Students engaged more strongly in unhealthy behaviour if they believed that luck determines health. In contrast, believing in having control over one's own health was associated with more healthy behaviour (Helmer et al., 2012).

3.2.1.8 Openness to experience

Openness encompasses various features, including imagination, unconventionality, creativeness, intellectuality and broad interests (Caspi, Roberts, & Shiner, 2005). Openness entails aesthetic sensitivity, a preference for variety and intellectual curiosity, being imaginative and curious (Van Deurzen & Adams, 2016) and attentiveness to inner experience (Hollis-Walker & Colosimo, 2011). Living with an incurable illness such as HIV/AIDS is a stressful experience. However, many HIV-positive individuals are able to maintain their emotional well-being through the strategies they employ. Women adopted several strategies to deal with their HIV status, including taking care of themselves, accepting their own faith, disclosing their HIV status to family members and joining AIDS support groups. These strategies can be situated within the living positively discourse, which has helped to create a sense of optimism to combat the HIV epidemic among women. Acceptance of their HIV status plays an essential role in the meaning-making process because it assistsA women in sustaining the equilibrium of their emotional well-being (Liamputtong, Haritavorn, & Kiatying-Angsulee, 2012).

3.2.1.9 Positive reframing

Positive reframing is a process by which negative events or circumstances are seen in a positive light (Lambert, Graham, Fincham, & Stillman, 2009). Hsieh and Eggers (2010) studied the exploration of coping strategies used by lodging managers who maintain a successful balance between their work and personal lives. Lodging managers' coping strategies revealed that the interviewees deployed mixed strategies to cope with role conflicts. The lodging managers seemed to use more coping strategies that require the redefinition of structural roles. By redefining their personal roles, these lodging managers

were able to maintain an effective balance between their work and non-work domains. In terms of reactive role behaviour, most of the managers understood that conflicts between work and personal lives are unavoidable. They planned, scheduled and organised to increase efficiency in performing their roles (Hsieh & Eggers, 2010).

In summary, in this research the question to be answered is how an employee can cope effectively in a complex working environment. Coping effectively with all demands is a big challenge. As an effect of coping, one reacts physically, psychologically and behaviourally, which affects both physical and mental well-being. Positive emotions encompass cognitive and behavioural efforts to reduce or eliminate stressful conditions. Research evidence showed that positive cognitive coping behavioural constructs have the ability to answer the research question on mental and cognitive aspects.

3.2.2 Affective (emotional) coping behaviour

Affective coping behaviour relates to individuals' general mood or state and emotional responses to stress. Coping resources consist of a complex and dynamic set of cognitive, affective, and behavioural responses that are aimed at regulating people's emotions, solving or improving the practical problems they face, and maintaining the psychological resistance and strength needed to remain productive for a prolonged period (Papastavrou et al., 2011). For many decades, the stress process was described primarily in terms of negative emotions (Heo, 2014). However, robust evidence that positive emotions co-occurred with negative emotions during intensely stressful situations suggested the need to consider the possible roles of positive emotions in the stress process (Serena, 2013). Evidence has accumulated regarding the co-occurrence of positive and negative emotions during stressful periods (Moksnes, Espnes, & Lillefjell, 2012). Positive emotions were associated with adaptive coping, which was then associated with engagement (Herman, 2013). Coping resources or capacities and positive emotions predict desirable life outcomes in many domains (Avey, Luthans, Smith, & Palmer, 2010). In studies, positive emotions predicted increases in both resilience and life satisfaction. The effect of positive emotions on the outcome of the coping process in stressful contexts is an exciting new direction in research on the coping process (Folkman & Moskowitz, 2004).

Research indicates positive affect, emotional granularity and happiness as supportive emotional (affective) resources that facilitate positive coping.

3.2.2.1 Positive affect

Affect is a person's immediate, physiological response to a stimulus and it is typically based on an underlying sense of arousal. Affect involves appraisal of an event, its valence and the experience of automatic arousal (Snyder et al., 2011). Positive affect could be explained by the fact that sharing a positive event with others requires retelling the event, which creates an opportunity to re-experience it. Social emotions such as compassion are crucial for successful social interactions, as well as for the maintenance of mental and physical health, especially when confronted with distressing life events. Whereas participants reacted with negative affect before training, compassion training increased positive affective experiences, even in response to witnessing others in distress. On a neural level, it was observed that, compared with a memory control group, compassion training elicited activity in a neural network including the medial orbitofrontal cortex, putamen, pallidum and ventral tegmental area — brain regions previously associated with positive affect and affiliation. The deliberate cultivation of compassion offers a new coping strategy that fosters positive affect even when confronted with the distress of others (Klimecki, Leiberg, Lamm, & Singer, 2012). Engagement refers to a positive, affective state of mind that is characterised by high levels of energy, enthusiasm and immersion in activities so that time flies by. Engagement is fostered by resources (high autonomy) and challenging demands (high levels of responsibility and has positive consequences for workers (Sulea, Van Beek, Sarbescu, Virga, & Schaufeli, 2015).

3.2.2.2 Emotional granularity

Positive emotional granularity is the tendency to represent experiences of positive emotion with precision and specificity (Tugade, Fredrickson, & Barrett, 2004). Frederickson (2002) defines positive emotions as consciously accessible, long-lasting feelings, which are often free-floating or objectless and are present within emotions, but also exist within physical sensations, moods and attitudes. Emotional granularity and emotion differentiation both refer to the specificity of representations and experiences of emotion, the ability to make fine-grained, nuanced distinctions between similar emotions. Research on emotional granularity and emotion differentiation has been associated with psychosocial adjustment. Studies have demonstrated that schizophrenia, borderline personality disorder, major depression, autism and alcohol problems are associated with lower levels of emotional granularity and emotion differentiation. This evidence strongly showed that emotional granularity and emotion differentiation may represent emotion regulation resources that buffer against the deleterious consequences of negative emotions (Smidt & Suvak, 2015).

3.2.2.3 Happiness

Happiness can be conceptualised as a bipolar dimension where high scores correspond to high scores in life satisfaction and positive affect (Joseph & Wood, 2010). Eysenck and Kelly (1983) defined happiness as stable extroversion and noted that it seemed to be related to easy sociability and a predisposition to natural, pleasant interactions with other people. A study explored the role of emotional experiences in the happiness of chronic pain patients. The results indicated that one's emotional experience has an influence on happiness in chronic pain patients, both directly and indirectly through the pathway of positive disease interpretation (Dezutter, Luyckx, Schaap-Jonker, Büssing, Corveleyn, & Hutsebaut, 2010).

In summary, research evidence on affective coping behaviour confirms that it is crucial in the individuals' general mood and emotional responses to stress. Research further has shown that positive emotions are associated with effective coping. Coping resources or capacities and positive emotions do predict desirable life outcomes in many domains. Positive emotions serve as a buffer against stress.

3.2.3 Conative (motivational) coping behaviour

Conative coping behaviour relates to the motivational aspect of individuals' responses to stress. Motivation is indicated by the intensity (or energy), direction and persistence of a goal – directed behaviour. Motivation does not simply kick-start a mental act, but frames the mind-set, and can significantly influence the allocation of attentional resources, expenditure of effort, emotional reactions to difficulties and persistence in the face of setbacks (Dai & Sternberg, 2008).

Research indicates self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability as supportive motivational (conative) resources that facilitate positive coping.

3.2.3.1 Self- efficacy

Self-efficacy is defined as one's beliefs in personal capabilities to organise and execute the courses of action required to produce a given outcome and plays a central role in explaining human motivation and behaviour (Kim, Newton, Sachs, Glutting, & Glanz, 2012). Ill-health resulting from chronic stress is influenced by personality traits leading to different ways of appraising and coping with life's daily hassles. The NEO Five-Factor Inventory (NEO-FFI),

Cohen's Perceived Stress Scale and the General Self-Efficacy Scale were used to distinguish between the five factor personality traits and perceived stress. Self-efficacy was shown to change the impact and interpretation of the personality dimensions on perceived stress. These results indicate that self-efficacy is an important factor to consider in the link between personality and perceived stress (Ebstrup, Eplov, Pisinger, & Jørgensen, 2011).

3.2.3.2 Resilience

Resilience is the power or ability to return to the original form, position, after being bent, compressed, or stretched (Elliot, Kaliski, Burrus, & Roberts, 2013). Psychological resilience is defined as an individual's ability to properly adapt to stress and adversity (Windle, 2011). The context of a natural disaster and the potential effects of resilience on the relationship between coping and trauma spectrum symptoms, using structural equation modelling were studied. Resilience is increasingly recognised as a relevant factor in shaping psychological response to natural disasters. The study showed a direct path of positive and emotional coping styles on resilience. Resilience directly affects post-traumatic stress disorder (PTSD) symptoms, partially mediating the impact of coping styles. Resilience operates as a protective factor from stress symptom development. Problem-focused coping intervenes; resilience allows to buffer the stressors or even guides toward a more successful outcome (Stratta, Capanna, Dell'Osso, Carmassi, Patriarca, Di Emidio, & Rossi, 2015).

3.2.3.3 Flourishing

Flourishing relates to complete mental health, i.e. flourishing, is a state of mental health in which people are free of mental illness and have high levels of emotional, psychological and social well-being (Keyes, 2007). Positive emotions broaden thought-action repertoires and increase access to a much wider range of psychological resources. Constructive and positive cognition and behaviour are more likely to arise from the experience of positive emotional states (Tarrier, 2010). The aim of the longitudinal study on positive emotions, personal resources and study engagement, with a four-week interval, among 391 Dutch university students was to test a gain cycle of positive emotions, personal resources and study engagement. The results showed that positive emotions predict students' future personal resources and study engagement and that there is a longitudinal relationship between personal resources and study engagement. Positive emotions, personal resources and study engagement are reciprocally related (Ouweneel, Le Blanc, & Schaufeli, 2011).

3.2.3.4 Intention for positive health

Intention for positive health is seen as the individual's striving toward having a general sense of happiness and satisfaction with his/her life and environment, which encompasses all aspects of life, including physical and mental health and well-being, as well as the ability to positively react to factors in the physical and social environments (Asamani, Cobbold, & Dai-Kosi, 2015). Psychological wellness is defined as a process of optimal functioning and creative adaptation that involves the total person (physical, mental, emotional, social and spiritual dimensions) in striving for an ever-increasing quality of life (Hoeger & Hoeger, 2014). Intention for physical wellness, as a motivational aspect of coping, is regarded as encompassing knowledge on good nutrition, physical activity and general lifestyle; building endurance, flexibility, physical strength and cardiovascular health; and bodily awareness, understanding bodily changes and physical needs throughout the life-cycle (Brand & Gauche, 2010). Mental wellness refers to a state of emotional and psychological well-being in which individuals use their cognitive and emotional capabilities, function positively in society and readily meet the ordinary demands of everyday life (Brand & Gauche, 2010).

3.2.3.5 Proactive coping

Proactive coping is an attempt to build up general resources that facilitate moving towards challenging goals, personal growth and engagement (Houdmont & Leka, 2010). The present study explores emotional intelligence and proactive coping as possible protective factors for group of professional firefighters. Results indicate that for firefighters, proactive coping negatively predicted several other mental health symptoms (obsessive-compulsive behaviour, depression, anxiety) (Wagner & Martin, 2012).

3.2.3.6 Conscientiousness

Conscientiousness refers to the extent to which a person is self-disciplined, dependable, persistent, organised (McCrae & John, 1992), hard-working, and motivated in the pursuit of accomplishing goals (Hughes, Ginnett, & Curphy, 2009; Zhao & Seibert, 2006). It is also called conscience, prudence, conformity or dependability, and some authors associate it with being careful, organised, goal-oriented, taking commitments seriously, being thorough, responsible, and preferring structure (Barrick & Mount, 1991; Ciavarella, Buchholtz, Riordan, Gatewood, & Stokes, 2004). Conscientiousness indicates an individual who is organised, persistent, hard-working and motivated in the pursuit of goals (Zhao & Seibert, 2006). The relations between personality traits and social problem-solving ability were studied. Results showed conscientiousness was the most consistent predictor. Conscientiousness, openness,

and positive affectivity predicted high problem-solving ability (D'Zurilla, Maydeu-Olivares, & Gallardo-Pujol, 2011). Relationship, vitality and conscientiousness are three fundamental virtues that have recently been identified as making important individual differences to health, well-being, and positive development. The relationship between the three constructs and post-traumatic growth were explored. Conscientiousness was shown as an intrapersonal virtue that describes people who persist in achieving goals and exhibit self-control (Duan & Guo, 2015).

3.2.3.7 Adaptability

Adaptability represents the capacity to adjust responses to changing external drivers and internal processes and thereby allows for development through adaptation in the current situation (Folke, Carpenter, Walker, Scheffer, Chapin, & Rockström, 2010). Research has shown that adaptability requires individuals to stay calm, motivated and persistent when dealing with change (Jundt, Shoss, & Huang, 2015). According to career construction theory (Savickas, 2013), continuous adaptation to the work environment is crucial to achieve work and career success. In a study the importance of career adaptability for job performance ratings was examined. Career adaptability positively predicted job performance ratings. Job complexity did not moderate the effect of career adaptability on job performance ratings, suggesting that career adaptability predicts job performance ratings in high-, medium-, and low-complexity jobs (Ohme & Zacher, 2015).

In summary, the constructs relate to positive emotions that support goal-directed behaviour which function as motivational energy to proactively deal with stressful events. Employees need to maintain positive feelings about themselves and their jobs in order to face the demands of the current fast-paced daily challenges. Positive psychology focuses on the characteristics of the positive, on what make employees and organisations flourish. Individuals who experience positive emotions and behave positively demonstrate greater perception and will adapt more effectively to stressors.

3.2.4 Interpersonal (social) coping behaviour

Interpersonal coping behaviour relates to people's social responses in dealing with stressful events and describes the manner in which an individual experiences and evaluates his/her own circumstances (Horstmann et al., 2012). Research indicates extroversion, social support and agreeableness as supportive interpersonal (social) resources that facilitate positive coping.

3.2.4.1 Extroversion

Extroversion refers to sociability and activity, and a predisposition to experience positive emotions (Lucas & Fujita, 2000). Extroverts are people who derive and direct their psychic energy (libido) from and towards the outside or objective world. In other words, external factors (objects) are the predominant motivating force for judgments, perceptions, feelings and actions (Bono & Judge, 2004; McNiel, Lowman, & Fleeson, 2010). Research was done to examine the dominant stress coping style in nursing students, their relationships with stressful life events and personality traits, and changes in students during their academic training. Coping, stress and personality changed positively during the training programme. The use of problem-focused strategies increased and participants became more extroverted, agreeable and conscientious (Fornés-Vives, Garcia-Banda, Frias-Navarro, & Rosales-Viladrich, 2015).

3.2.4.2 Social support

Social support is reaching out to other people and receiving some form of assistance from them (Blaney, Fernandez, Ethier, Wilson, Walter, & Koenig, 2004). Compton (2005) stated that social support may include emotional support such as caring and empathy, getting positive feedback about one's behaviour, receiving helpful information, being willing to give others time or other tangible forms of assistance. Stress, developmental changes and social adjustment problems can be significant in rural individuals. Depressive symptoms were negatively correlated with peer social support, family social support, self-esteem and optimism (Weber, Puskar, & Ren, 2010). This study examined how religious experience, spiritual practice and social support relate to depression and life satisfaction among 200 Korean immigrant older adults. Lower depression scores were predicted by higher levels of religious and spiritual coping, greater social support, higher income, good physical health and lower daily spiritual experiences after controlling for demographic variables (Roh, 2010). Stress is ubiquitous in the nursing profession and is also prevalent in Asian countries. Nurses' emotional coping can be enhanced by strengthening sources of social support, particularly from family (Lim, Bogossian, & Ahern, 2010).

3.2.4.3 Agreeableness

Agreeableness is described as being appreciative, forgiving, generous, kind, sympathetic, trusting, compliant and tender-minded (Mohammadi, Vinciarelli, & Mortillaro, 2010). Agreeableness fosters supportive relationships with peers that may stimulate personal growth and help to cope with demands, thus promoting wellbeing via developing interpersonal resources. Agreeableness was found to be negatively associated with burnout (Sulea et al., 2015). The purpose of the study was to examine direct and indirect relationships among personality, self-esteem and social problem-solving, as well as the mediating role of self-esteem in the link between personality and social problem-solving among Turkish youth. Findings illustrated that extraversion, openness, conscientiousness, agreeableness and self-esteem were significantly and positively correlated with social problem-solving (Koruklu, 2015).

In summary, definitions of interpersonal (social) attributes indicate the social capacities an individual needs to have in order to cope effectively. Coping does not occur in a vacuum, but in the social context in which the individual is situated. One aspect of measuring coping behaviour is to understand the individual's social well-being. Coping is contextual; the particular person-and-situation variables shape coping efforts. Individuals have a repertoire of coping capacities available to assist in the coping process. The research evidence shows that interpersonal social attributes support the individual to cope effectively.

In conclusion, positive coping behaviour is seen as having more than one dimension. The focus is on four dimensions of behavioural attributes that help individuals to cope effectively. The selection of positive capacities in the coping process leads to the person flourishing in spite of poor circumstances.

- Cognitive coping behaviour is the mental well-being of the person and research evidence has shown that cognitive coping capacities can support a person's mental well-being during stressful situations.

- Affective coping behaviour entails the person's mood in the coping process. Affective coping capacities are situated in positive emotions and positive emotions serve as a buffer against stress.
- Conative motivational coping behaviour motivates the person in his/her reaction to the stressful situation. When a person experiences positive emotions he/she behaves positively in spite of the circumstances.

- Interpersonal social coping behaviour is a person's reaction to a stressful situation. Research evidence has shown that interpersonal social behaviour capacities enable a person to react positively to stress.

3.3 THEORETICAL MODEL: POSITIVE COPING BEHAVIOUR

This section describes the theoretical principles underpinning the various constructs relating to the cognitive, affective, conative and interpersonal behavioural dimensions of positive coping behaviour as relevant to the present research. The conceptual descriptions and theoretical principles were instrumental in generating items for the positive coping behavioural inventory (PCBI).

Figure 3.1 presents an overview of the psychosocial dimensions of positive coping behaviour.

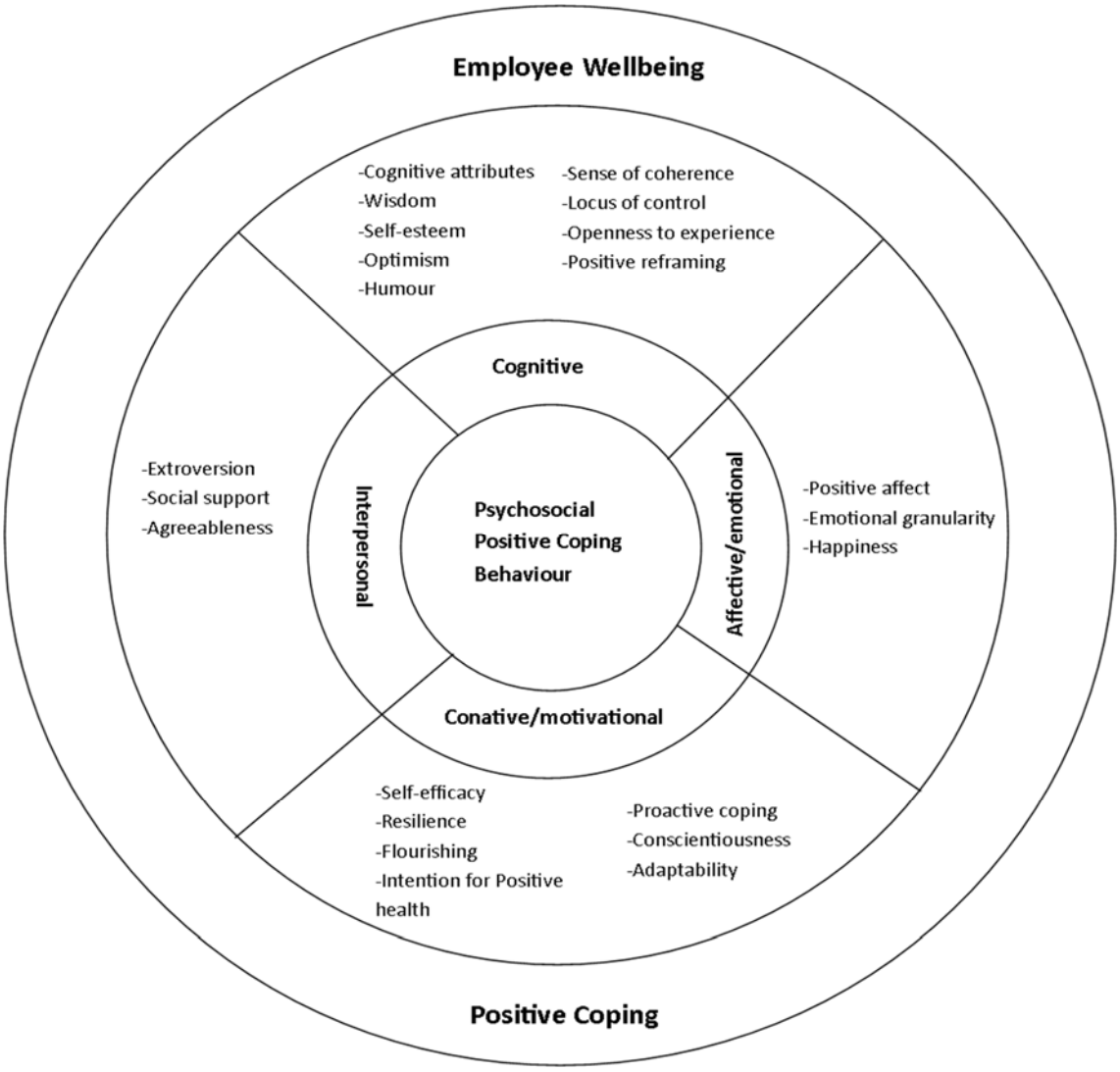


Figure 3.1: The psychosocial dimensions of positive coping behaviour.

3.3.1 Cognitive coping behaviour

Problem-solving is a commonly used method of coping, and it may be viewed as both a cognitive and behavioural method of dealing with a situation. As a cognitive process, problem-solving can involve evaluating and thinking through the problem, and subsequent decision-making (Ong et al., 2013). Positive cognitive coping behaviour occurs when individuals have a higher ability to reassess changed situations positively (Horstmann et al., 2012). The cognitive coping behaviours include cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing.

3.3.1.1 Cognitive attributes

Cognitive appraisal is a process through which the person evaluates whether a particular encounter with the environment is relevant to his or her well-being (Dobson, 2010). Cognition as an aspect of cognitive appraisal involves the processes through which information from the senses is transformed, reduced, stored, elaborated upon, retrieved from memory and used (Willingham, 2007). Cognitive functioning includes the speed of processing, reasoning, and memory (Edwards, Ross, Ackerman, Small, Ball, Bradley, & Dodson, 2008). Piaget's Theory (1976) of the cognitive (Weintraub, Dikmen, Heaton, Tulsky, Zelazo, Bauer, & Fox, 2013) has the impact that cognitive processes in an individual can change. Cognition entails the mental process performed to obtain knowledge. That knowledge is stored as knowing, thinking, remembering, perceiving and problem-solving (Jehan & Butt, 2015).

Cognitive attributes are instrumental in determining what meaning is attached to specific situations, how enduring, motivating and emotionally significant these situations will be, as well as how the information that the specific situation sends out will be interpreted and organised in the future (Bandura, 1999). Coping is considered as a sequence of steps involving both behavioural and cognitive efforts to manage stress. Individual differences in knowledge, experience, skills, cognitive style or mental outlook will determine the way in which they will cope (Jooste, 2012). The coping process starts with the appraisal of the situation and the associated demands being placed on the individual. If individuals evaluate the personal significance of the situation and decide that their goals are at stake, an internal emotional response is activated, causing perceptions of threat or harm (London, 2014). Lazarus and Folkman (1984) refer to this as primary appraisal. Secondary appraisal, on the contrary, is the cognitive underpinning of coping that focuses on how individuals' stressful environment can be controlled.

Coping efforts are assumed to rely on two aspects of information processing, namely attentional resources and selectivity of attention; therefore, they would solicit the aforementioned types of cognitive resources (Krueger, 2011). Two main cognitive resources for coping are working memory efficiency (i.e., the ability to keep active and retrieve information in the long-term memory) and mental flexibility (i.e., the ability to switch from one set of active information to another). These two cognitive resources allow people to select the set of cognitions and behaviours needed to cope successfully with stressors (Charlton, Landau, Schiavone, Barrick, Clark, & Markus, 2008). Coping strategies are associated with a better outcome but often require a higher level of cognitive functioning. There is a

relationship between cognitive functioning and choice of coping strategies (Hurt, Landau, Burn, Hindle, Samuel, Wilson, & Brown, 2012).

Coping seems to have two functions, the first being to solve or change the problem that is creating the stress and thus change the situation. The second function is to regulate the associated emotional arousal or tension. Coping may have a cognitive aspect or involve expressing emotions (emotional coping), sharing thoughts and feelings with others (social coping), responding according to the new situation (behavioural coping) and re-establishing a sense of meaning related to life and death (existential coping) (Winje, 1998). Studies have also referred to cognitive restructuring as a coping cognitive state (Collins, 2007), which involves re-interpreting stressful situations more positively, and Collins sees it as a type of emotion-focused coping aimed at managing emotions of distress, rather than dealing with the stressor itself. Cognitive restructuring changes the meaning of an event or changes perceptions of personal adequacy to handle a situation (Ragsdale, Beehr, Grebner, & Han, 2011).

In summary, cognition is the first process of coping through which the cognitive functions decide what to do with the information. The cognitive attributes have an influence on how the message will be processed to behavioural aspects. The following behavioural capacities support the cognitive attributes to lead to effective cognitive coping behaviour: wisdom, self-esteem, optimism humour, a sense of coherence, locus of control, openness to experience and positive reframing.

3.3.1.2 Wisdom

Wisdom has received increasing attention in empirical research in recent years, especially in gerontology and psychology, but consistent definitions of wisdom remain elusive. There is no single consensus definition of wisdom (Jeste, Ardelt, Blazer, Kraemer, Vaillant, & Meeks, 2010). In the present study, wisdom involves forming a judgement when there are competing interests that lack a clear resolution (Sternberg, 1998). Wisdom and courage are two of the four cardinal virtues. These virtues are cognitive and motivational dispositions themselves that designate not only adaptive fitness for individuals' achievements, but also the idea of convergence of individual goal achievements with becoming and being a good person (Paul & Baltes, 2003). According to Sternberg (1998), wisdom involves forming a judgement when there are competing interests that lack a clear resolution. Baltes and Staudinger (2000) define wisdom as the ways and means of planning, managing and understanding a good life. Erikson (1959) views wisdom as part of optimal development. Wisdom reflects maturity in

which concerns for the collective good transcend personal interests. Smith, Staudinger, and Baltes (1994) state that the modern characterisations of the wise person suggest that the ordinary person can acquire expertise in life matters.

The Berlin Model of Wisdom (Baltes & Staudinger, 2000) states that how individuals see wisdom will depend upon which wavelengths the human eyes pick up and what people are attuned to, which may be religious texts, research studies, Shakespeare or actual people who seem wise. Different people will see different parts of the spectrum, while other parts of it will remain opaque or invisible to them. Wisdom is a uniquely human but rare personal quality, which can be learned and measured, and increases with age through advanced cognitive and emotional development that is experience-driven. Wisdom is a real-life process implying that in an everyday, difficult situation a person effects unusual integration, embodies his or her ideas in action and brings forth good results. Wisdom is having sufficient awareness to know not only the 'what' of a thing but also the 'when' and the 'how'. It is a lifelong practice (Bassett, 2015).

Ardelt (1997) has found that wise people achieved greater life satisfaction than unwise people. Sternberg (1998) proposes that wisdom problems require a person to resolve conflicts. Peterson and Seligman (2004) list the top five aspects of wisdom as curiosity, love of learning, open-mindedness, creativity and perspective. Clayton and Birren (1980) describe wisdom as a combination of cognitive, reflective and affective personality qualities. Ardelt (2004) views wisdom as a three-dimensional personality characteristic, cognitive, reflective and affective. The cognitive dimension refers to an understanding of life and a desire to know the truth, i.e., to comprehend the significance and deeper meaning of phenomena and events, particularly with regard to intrapersonal and interpersonal matters. It includes knowledge and acceptance of the positive and negative aspects of human nature, of the inherent limits of knowledge, and of life's unpredictability and uncertainties. The reflective dimension denotes a perception of phenomena and events from multiple perspectives. It requires self-examination, self-awareness and self-insight. The affective dimension is related to sympathetic and compassionate love for others. Other positive personality characteristics that wise individuals presumably possess, such as a mature and integrated personality, psychological health, autonomy, and good judgment skills and humour, are most likely correlates or consequences of wisdom (Ardelt, 2011).

Personal qualities such as compassion, open-mindedness and humbleness may be part of the description of a wise person in Eastern cultures, while intelligence, problem-solving and planning may be more strongly emphasised in Western cultures (Yang, 2008). Peterson and

Seligman (2004) did the Values in Action (VIA) classification of wisdom. Wisdom: creativity, originality, adaptiveness and ingenuity; curiosity: interest, novelty, exploration and openness to experience; judgement: critical thinking, thinking things through and open-mindedness; love of learning: mastering new skills and topics, systematically adding to knowledge; perspective: wisdom, providing wise counsel and taking the big picture into consideration.

In summary, wisdom's main purpose is deciding what to do with information when it is received. The cognitive attributes are the middleman who transforms the information into wisdom. The better a person's wisdom capacities, the more effective are the coping strategies. A wise person will have the following capacities: psychological health, humour and openness to experience.

3.3.1.3 Self-esteem

Individuals seek human needs, such as learning, mutually supportive relationships, autonomy and safety, as well as the contingencies on which they base their self-esteem (Crocker & Nuer, 2004). Self-esteem is construed to have two interrelated aspects: it entails a sense of personal efficacy and a sense of personal worth. It is the integrated sum of self-confidence and self-respect. It is the conviction that one is competent to live and worthy of living (Lalkhen, 2000).

Social Identity Theory (Cast & Burke, 2002) indicates that individuals participate in multiple social roles. According to sociological theories of the self, the social roles individuals participate in are fundamental to their self-concepts and have important implications for emotional and psychological well-being. For example, one's role as a mother, lawyer, volunteer and student are important aspects of one's overall self-view. These role-based groups are viewed as essential in identity development and role performance (Walker, 2015).

Personal characteristics such as unique attributes, abilities, traits and values, and also group memberships such as gender, religious affiliations, sexual orientation, race and political affiliations, shape individuals' self-esteem (Garcia & Sanchez, 2009). Branden (1999) found the essential requirements for healthy self-esteem to be:

- Living consciously. To live consciously means to be focused on what one is doing; to pay attention to information and feedback about needs and goals (even if these are uncomfortable or threatening) and to be aware both of the world external to the self and of the inner self.

- Self-acceptance. An individual who practises self-acceptance internalises and experiences whatever individuals honestly think, feel or do, even if they do not always like it, without denial or rejection. Branden (1999) also mentions facing mistakes and learning from them, and refusing to be in an adversarial or rejecting relationship to oneself.
- Self-responsibility: This entails establishing a sense of control over life by accepting responsibilities for choices and actions at all levels - including the achievement of goals, happiness and values.
- Self-assertiveness: This refers to willingness to be who one is and allow others to see it by appropriately expressing thoughts, values and feelings and to stand up for these.
- Living purposefully. To live purposefully is to take accountability for setting goals, to work towards achieving them, to stay dedicated and strive for the achievement of the goals.
- Personal integrity. This implies alignment of one's behaviour with one's principles, convictions, values and beliefs, and acting in correspondence with what one believes is right, in other words to walk the talk.

Individuals with high levels of self-esteem enjoy accurate descriptions of themselves and are more assured about their self-views. Individuals with high self-esteem are more confident, perform well, are well-adjusted and enjoy psychological well-being. Self-esteem is an important and significant element of personality, cognition and behaviour (Rossouw, 2010). Self-esteem influences how individuals handle negative feedback (Dijksterhuis, 2004), interpersonal stressors (Hetts & Pelham, 2001) and unpleasant thoughts or emotions (McGregor & Marigold, 2003). Personal resources, such as self-esteem, optimism and perceived control, support the processing of threatening experiences (Schroevers, Helgeson, Sanderman, & Ranchor, 2010). It is believed that higher levels of self-esteem may be associated with variables such as internal control, autonomy and high ego function (Roland & Foxx, 2003). A person with high self-esteem is fundamentally satisfied with the type of person he is and high self-esteem implies a realistic evaluation of characteristics and competencies, coupled with an attitude of self-acceptance and self-respect (Hook, Watts, & Cockcroft, 2002). People with high self-esteem tend to rely more on problem-focused strategies. They are more confident and can overcome their problems and show more clearly defined self-concepts and greater optimism about meeting goals (Gafoor, 2011).

In summary, self-esteem influences how a person handles feedback, stressors, thoughts or emotions. If a person has positive self-esteem the person will cope effectively. Behavioural capacities that support self-esteem are efficacy and optimism.

3.3.1.4 Optimism

Optimism has been described as the dispositional tendency of individuals to maintain generalised positive expectations, even when faced with setbacks or problems in their life (Scheier, Carver, & Bridges, 2001). Optimism is the propensity to foster positive expectations across time and circumstances (Green, Medlin, & Whitten, 2004).

Attribution theory (Seligman, 2011) states that the attribution process is something, for example positive emotions (optimism), that people are likely to engage in during a day. The formation of casual attributions is vital for adapting to changing environments and overcoming the challenges people are confronted with in their daily lives. When desirable outcomes are experienced the attributions help people to understand what caused those events so that they can experience them again. When unpleasant outcomes are experienced, attributions help to identify and avoid the behaviours and other factors that caused them to occur (Silver, 2015).

When coping with stressors, optimists appear to take a problem-solving approach that enhances their ability to deal with stressful events and is more planful (Seligman, 2011). Optimism leads to a more positive appraisal of the existing social network or to the active pursuit of new social relationships to cope with adversities (Carver, Scheier, & Segerstrom, 2010). Furthermore, optimists use the approach-oriented coping strategies of positive reframing and seeing the best in situations. When faced with truly uncontrollable circumstances, optimists tend to accept their plight. An optimist knows when to give up and when to persevere. Optimists fare better than pessimists in the following situations: starting college, performing in work situations, enduring in tasks, caring for others, coping with cancer and AIDS and coping in general (Snyder et al., 2011). Pessimists can been seen as sceptical, doubting the possibility of a solution, tending to believe that bad things will happen to them and believing that they do not have control over what happens to them (Glaeser & Sunstein, 2013).

Optimists underscore the positive facets of situations, behaviours and events in the present, and expect the best possible outcomes in the future (Ahmed, 2015). The Optimistic individuals are motivated to work harder, have high morale and exhibit more goal-directed

behaviour. Optimists furthermore have the ability to persist under severe conditions, regard disappointments as temporary and valuable life experiences, and have a general inclination to be cheerful and mentally and physically energised (Luthans, 2003). Individuals who exhibit high levels of optimism will anticipate positive outcomes even when confronted with adversity (Vohs & Baumeister, 2011).

Realistic optimism does not take an extreme approach in externalising and eradicating personal accountability for poor decisions. Flexible optimism allows for the utilisation of various explanatory styles, both optimistic and pessimistic, so that it is possible to adapt to the situation at hand (Luthans & Youssef, 2004). A study was done to explore relationships between optimism and ways of coping among residents in the United States. Realistic optimists used a coping approach and drew strength from faith (Branco & Crane, 2014). Optimism is important in coping with difficult life events. Brissette, Scheier, and Carver (2002) link optimism to better responses to various difficulties. Optimism appears to play a protective role, assisting people in coping with extraordinarily trying incidents. Optimism appears to be uniquely related to positive affect. This means that optimists are generally happier than pessimists in terms of life satisfaction. Optimism is a powerful tool that individuals can use to stay healthy, happy and alive (Moloi, 2011).

According to Crisp and Turner (2009), optimism introduces one to the belief, or at least the hope, that through the responsible use of knowledge and reason, mankind can improve existing conditions. The optimist asks how things can be improved or made better and how one can be allowed to take control of one's social and material destiny. Having the energy and optimism required to initiate and persist in coping efforts, along with an outgoing nature, should facilitate primary control engagement strategies such as problem-solving and seeking support and secondary control engagement strategies such as cognitive restructuring and distraction (Connor-Smith & Flachsbart, 2007).

Optimism is an individual difference variable that reflects the extent to which people hold generalised favourable expectations for their future. Higher levels of optimism have been related prospectively to better subjective well-being in times of adversity or difficulty. Consistent with such findings, optimism has been linked to higher levels of engagement coping (Rich, Lepine, & Crawford, 2010). Although there are instances in which optimism fails to convey an advantage, and instances in which it may convey a disadvantage, those instances are relatively rare. In sum, the behavioural patterns of optimists appear to provide models of living for others to learn from (Carver et al., 2010). Dispositional optimism can prevent illness, foster recovery and assist adaptation through the daily consequences and

constituents of optimism. The authors draw on the methods and empirical findings of their research programme into the effects of optimism on physical symptoms, coping and emotional states in patients with chronic illness, such as rheumatoid arthritis, asthma and fibromyalgia. Their results suggest that pessimism is mainly a predictor of daily sadness and optimism a predictor of daily happiness. The mood-regulatory function of optimism was evidenced as well in patients' day-to-day judgments of the efficacy of their strategies for coping with pain: optimists, like pessimists, did not find these strategies successful in alleviating their pain, but did find them helpful in improving their mood (Affeck, Tennen, Apter, & Chang, 2001).

The relationship between dispositional optimism and better adjustment to diverse stressors may be attributable to optimism's effects on coping strategies. People who are optimistic and have positive expectations for the future reported less distress across a broad range of situations (Sirois & Hirsch, 2013) and coped more effectively with stress (Taylor, 2003).

In summary, optimistic persons behave more effectively, are more resourceful, cope better with stressful events, see the best in situations and display goal-directed behaviour.

3.3.1.5 Humour

Humour is defined as a psychological response characterised by the positive emotion of amusement, the appraisal that something is funny, and the tendency to laugh (McGraw, et al., 2015). Martin (2010) divided humour into three components - wit, mirth and laughter. Wit is the cognitive experience, mirth the emotional experience, and laughter the physiological experience. Humour is seen as an intervention that promotes health and wellness by stimulating a playful discovery, expression, or appreciation of the absurdity or incongruity of life’s situation (The Association for Applied and Therapeutic Humour, 2005). Humour’s current meanings include playful enjoyment or creation of incongruities, a cheerful view on adversity that allows one to cope and sustain higher levels of happiness and the ability to make others smile and laugh. Peterson and Seligman (2004) demonstrate that humour can be used as a coping mechanism. It is difficult to define humour empirically because of its dependence on and variance with the societal and cultural milieu. However, humour has been shown to increase baseline happiness levels and resilience (Peterson & Seligman, 2004).

According to the broaden-and-build theory of positive emotions (Garland, Fredrickson, Kring, Johnson, Meyer, & Penn, 2010) a number of cognitive enhancements are associated with the experience of positive emotions, including cognitive flexibility, creative and detailed

problem-solving, better working memory and increased prosocial behaviours, such as compassion and generosity, increased social inclusion and the ability to focus effectively on negative information. The experience of positive emotions can become self-sustaining positive feedback because of these cognitive enhancements, while building a sense of mastery. Memory of this sense of mastery builds a sense of personal effectiveness and positive self-esteem, which buffers the person from future stress. Rewards that raise positive emotions can be praise, appreciation, love, gratitude, affiliative gentle touch or humour. When personal or working circumstances are overwhelming, the person withdraws from the positive reserves to have access to positive emotions, such as humour (Dobbin, 2014).

A sense of humour involves the ability to discover and appreciate amusing or comic situations. Importantly, humour gives rise to positive emotions (Morreall, 2009). Humour can also bring relief from painful emotions by allowing individuals to gain perspective. Humour allows an individual to reinterpret a painful situation and see it as less important and even perhaps as a smiling or laughing matter. Several studies have shown that positive emotions can restore autonomic calmness after negative affect (Fredrickson, Tugade, Waugh, & Larkin, 2003). According to Grimett (2011), humour and laughter can be effective self-care tools to cope with stress and possibly even cure stress. Laughter reduces at least four neuroendocrine hormones associated with stress response. These include epinephrine, cortisol, dopac and growth hormone (Seale, Rivas, & Kelly, 2013). Humour allows a person to forget about pain. The use of humour consistently results in improvements in pain thresholds. Humour also leads to the release of endorphins in the brain, which helps to control pain (Tse, Lo, Cheng, Chan, Chan, & Chung, 2010). Suraj-Narayan (2008) conducted laughter yoga on stroke patients between the ages of 40 and 90 years, in the Verulam Frail Care Community, Durban, KwaZulu-Natal, South Africa. Some of the stroke patients initially viewed laughter therapy with scepticism, but following the intervention showed a reduction in post-stroke depression, a reduction in anxiety, a reduction in stroke-related pain and enhanced mobility. They also experienced improved communication and relations between patients and significant others. Humour has been shown to relieve stress and is beneficial to both cognitive and physiological health (Adamle & Turkoski, 2006), gives rise to positive emotions (Strűmpfer, 2003), creates a better perspective for people in challenging situations and creates the opportunity to review painful situations as bearable events (Lefcourt, 2005).

One of the few studies examining the issue of humour in the terminally ill indicated that humour would be useful at this time in their illness. Every participant described humour in terms of its importance as a mechanism for social bonding. More than half felt that humour enabled them to alter their perceptions of situations that would otherwise be overwhelming.

Finally, most of participants described humour as empowering “hope,” which was important in enabling them to face the realities of everyday existence. The occasional use of humour has also recently been found to be among the ten highest-rated “hope-giving” behaviours demonstrated by oncologists, number 4 as ranked by 126 patients with metastatic cancer (Joshua, Cotroneo, & Clarke, 2005).

In summary, humour is a cheerful view of adversity. Humour increases the baseline of happiness levels and can bring instant relief in a painful situation and see it as less important.

3.3.1.6 Sense of coherence

Sense of coherence has the capacity to use the available resources efficiently (Andrén & Elmståhl, 2008). Sense of coherence appears to be more of an underlying worldview that allows one to develop more active and adaptive coping styles when dealing with stress (Bowman, 1996). Sense of coherence is often described as a personality characteristic consisting of aspects such as comprehensibility (cognitive), manageability (instrumental), and meaningfulness (Antonovsky, 1993). Sense of coherence is best described as a continuous process, as opposed to a stable characteristic through which individuals cope better with stressors (Hanaken, Feldt, & Leskinen, 2007). Individuals with high levels of a sense of coherence are able to cope successfully with stressful situations by choosing adaptive and successful coping strategies (Eriksson & Lindstrom, 2007).

The salutogenic theory of Antonovsky (1996) views sense of coherence as a global orientation based on a person’s pervasive feeling of confidence that the stimuli causing stress are structured, predictable and explicable, that resources are available to meet the effects of the stimuli, and the demands and challenges are ameliorable to the person’s effort. Sense of coherence is a factor comparable to several general resistance resources, a phenomenon combating or buffering against a variety of stressors. The effects of positive resources have a positive impact on a person’s well-being and interactions with others (Braun-Lewensohn & Sagy, 2011).

Sense of coherence is not a specific coping style, method or technique, but rather a general approach to life that enables the individual to cope with challenges. Sense of coherence is in essence a life philosophy or an attitude that perceives life and problems or challenges in a positive light. It is furthermore an attitude or belief in the individual’s own ability to overcome most problems by means of understanding the problems and mobilising the correct coping strategies. Sense of coherence is in essence a life philosophy or an attitude that perceives

life and problems or challenges in a positive light. An individual who enters adulthood with a strong sense of coherence will continue to search out life experiences that will reinforce and even enhance his/her sense of coherence. Even extremely traumatic experiences will be overcome with the sense of coherence still intact (O'Neil, 2006). A sense of coherence contributes substantially to people's ability to cope (Van Breda, 2001). It is linked to a variety of coping mechanisms and/or characteristics of a person that can facilitate effective tension management, and can thus be associated with the construct resilience (Kinman, 2008).

Sense of coherence has been identified as a useful individual resource that equips an individual with the capacity to use available resources efficiently (Lindström & Eriksson, 2005). Persons with a strong sense of coherence can draw upon a spectrum of resources that might outweigh the deficits that are accompanied by chronic conditions, such as pain. Sense of coherence is a variable that contributes to self-esteem, social support and cultural stability. Wiesmann, Dezutter, and Hannich (2014) found that a strong sense of coherence and its pooling of psychological resources help to alleviate experiences of pain associated with chronic morbidity.

In summary, a sense of coherence is a general approach to life. When a person adopts a positive approach to life it will have an influence on how the person will cope.

3.3.1.7 Locus of control

People who believe that they have a high degree of personal control over events are viewed as having an internal locus of control (May & Warren, 2002). It refers to an individual's perception about the main causes of events in his/her life (Aremu, Pakes, & Johnston, 2009). Locus of control refers to that to which one ascribes responsibility or blame for what is happening in one's life. It thus has to do with the degree to which individuals believe that they themselves influence what happens to them. Some people believe they are masters of their own fate and bear personal responsibility for what happens (Ross & Mirowsky, 2013).

Social learning theory (Bandura, 1971) shows that individuals with an internal locus of control tend to make internal attributions in order to explain the results of their actions. These individuals are healthier and show higher levels of well-being in high-control and high-demand work situations. Core self-evaluations, defined as a combination of self-esteem, self-efficacy, locus of control and emotional stability traits, are considered resilient traits in the stress process. Positive core self-evaluations are related to lower perceived stress, the belief that one can control stress, the use of more constructive coping strategies such as problem-

focused coping and less negative outcomes such as low strain (Györkös, Becker, Massoudi, de Bruin, & Rossier, 2012).

Locus of control is an aspect of personality that deals with individuals' generalised expectancies that they can or cannot control events in their lives (Mischel, 2013). Locus of control refers to the circumstances to which individuals attribute their success and failures (Bodill & Roberts, 2013). Individuals with an internal locus of control are better able to adjust. These individuals are able to accept their circumstances and work to find a way forward. They can increase their sense of control over their environment and reinforce their belief that control is still a possibility during times of difficulties (Moloi, 2011). The dominant type of locus of control of an individual can be used to explain the perceptions and motivation of a person's actions. Individuals with an internal locus of control believe that they are the masters of their destiny and are therefore often confident, alert and active in attempting to control their external environments. Moreover, they tend to see a strong connection between their actions and the consequences of those actions (Thomas et al., 2006). Le Roux (2014) views the inner locus of control of a person as a power of choice that carries with it both the freedom and the right to choose, and the burden of responsibility for one's choice. The inner control of a person develops from a conscious and active decision to accept responsibility for one's choices and to control one's feelings (Sharplin, O'Neill, & Chapman, 2011). Individuals with an internal locus of control can manage stressful situations effectively by using problem-solving strategies (Grimes, Millea, & Woodruff, 2004). Internal locus of control would be positively related to achievement (Richards & Nelson, 2012).

Individuals who are internally oriented are more persistent in their efforts to solve complex problems (Beukman, 2005). Locus of control influences the individual's motivation for a task and therefore it can be deduced that locus of control influences motivation indirectly (Ayupp & Kong, 2010). Oieru and Popa (2015) mention that individuals with an internal locus of control:

- Have a higher self-concept
- Are better adjusted, more independent, more achieving
- Are more realistic in their aspirations, more open to new learning, more creative, more flexible and more self-reliant
- Show more initiative and effort in controlling the environment
- Are less anxious and show more interest in intellectual and achievement matters.

Changing individuals' behaviour to become more internally oriented will help them realise the dependency between their own behaviour and relevant aspects of their environment, thus increasing the efficiency and effectiveness of their behaviour.

In summary, locus of control is a person's perception of the events in life. If the person's perceptions are positive and allow control over the situation, the person will cope effectively.

3.3.1.8 Openness to experience

Openness to experience is concerned with how an individual approaches problems, learns new information and reacts to new experiences. It indicates that a person is intellectually curious and imaginative. Such people are big-picture thinkers, cultured, original, broad-minded, artistically sensitive, and they tend to take a more strategic approach to solving problems, seeking new experiences and exploring novel ideas (Hughes et al., 2009).

The five-factor model of personality (McCrae & Costa, 1985) is most commonly labelled extraversion, neuroticism, agreeableness, conscientiousness and openness to experience. These broad dimensions are key determinants of behaviour and the aggregation of information resulting from a person's placement in these dimensions gives a reasonably good snapshot of what that person is like. Each broad trait is composed of multiple facets, which provide a more nuanced picture. Both human nature and individual differences are important in thinking about the nature of coping. Whatever view of human nature is adopted channels interpretation of people's reactions to stress. It is useful to have a sense of some of the ways in which people differ and expectations of how those differences may play a role in coping (Carver & Connor-Smith, 2010).

Openness to experience groups together different types of behaviours that are aimed at a search for and love of new experiences. These behaviours can be described by the six facets that make up the openness domain, namely fantasy, aesthetics, feelings, action, ideas and values (Smith, 2013). Fantasy embodies an ability and propensity to be creative, have desire and be inventive. Aesthetics refers to a need for refined, outer impressions and visual pleasure. Feelings refer to being able to connect with one's views and opinions and being insightful (Blum, 2011). Actions refer to behaviours and expression of thought and personality. Ideas are best described as intellect and insight. Values refer to one's principles, ethics and living standards. The facets are manifested in a wide variety of interests and account for eagerness to seek out new, unusual experiences without anxiety and often with great pleasure. Openness also indicates an active imagination, aesthetic sensitivity,

attentiveness to inner feelings, a preference for variety, intellectual curiosity and independence of judgment. Individuals scoring higher on this scale tend to be unconventional and willing to question authority; they like to entertain new ideas and experience emotions keenly. Lower-scoring individuals are likely to be conservative and conventional in their outlook, behaviours and social norms (Chen, Yang, Chen, Tseng, & Lee, 2013). Helson, Agronick, and Roberts (1995) describe creative people as being independent of judgment, assertive, as well as having consistent high levels of energy in their work. Other personality traits of creative individuals are intellectual autonomy, ambition, openness and effectiveness, interpersonal sensitivity and objectivity and a sense of well-being. Creatively productive people have high energy levels and an internal locus of control. Variables associated with creative behaviour can be divided into personality, depth of feelings, enthusiasm, perseverance, self-confidence and a wide range of interests (Naude, 2006). People displaying high levels of openness to experience are inclined to be curious, imaginative, empathetic, creative, original, artistic, aesthetically responsive and flexible (Hudek-Knezevic, Krapic, & Kardum, 2006).

In summary, openness to experience is the way in which the person approaches the problem. A person who is open to experiences is not afraid to handle any kind of challenge or problem.

3.3.1.9 Positive reframing

Positive coping is coping with stressful situations, which allows for learning and the building up of resources that can act as a buffer against future stressors (Bain, 2009). Positive reframing is sometimes referred to as positive reinterpretation (Carver et al., 1989) positive growth, positive cognitive restructuring (Skinner, Edge, Altman, & Sherwood, 2003) and positive reappraisal (Lazarus & Folkman, 1984). Positive reframing is an active coping strategy that entails purposefully reappraising a stressful situation in a more positive light and finding meaning in what is being experienced (Folkman & Moskowitz, 2000). Positive reframing is similar to meaning-focussed coping (Kotze, 2011). Individuals find positive meaning by reconsidering activities and events that have positive value. Cognitive restructuring (positive re-appraisal) occurs where a person accepts the basic reality while viewing it from the most favourable angle (Fredrickson, 2005). Coping mechanisms that people employ help explain their success in maintaining a positive outlook, achieving satisfaction in life and adapting to the challenges of life (Gill & Morgan, 2011).

In the social cognitive theory (Bandura, 1999) social learning is explicitly based on the idea that processes are more important than states. It is related to the concept of bounded

rationality, which states that human beings have a limited information-processing capability, in contrast to substantive rationality favoured in neoclassical economics. Behaviour is rational when it is the outcome of appropriate deliberation and therefore rationality depends on the quality of the process that it generates. When dealing with complex issues and high uncertainty, the search for optimal solutions (substantive rationality) is less useful than emphasis on the quality of the decision process (procedural rationality), which includes that learning among counterparts will become an essential part of the outcome. The learning process takes place in social settings and is socially conditioned. The four aspects of learning are: practising holistic or integrative thinking, which implies learning about complexity and uncertainties, learning how to deal with conflict-ridden situations, acquiring the capacity to realise more and better joint interactions at different levels, through new communities of practice, and learning about the steps that can be taken for institutional change and joint action (Hoffman, Lent, & Raque-Bogdan, 2013).

In summary, positive reframing is the resource builder for future stressors. It is a positive coping mechanism to maintain a positive outlook in facing the challenges of life. Table 3.1 provides an outline of the key description and coping strengths of the cognitive attributes of positive coping.

Table 3.1

Summary of the Core Cognitive Attributes of Positive Coping

Cognitive attribute	**Key description**	**Coping strengths**	**Examples of PCBI items**
Cognitive attributes	Cognitive attributes refer to the mental resources needed to carry out effortful mental tasks and everyday activities involving decision-making, problem-solving or dealing with unfamiliar problems (Trouillet et al., 2011).	Positive reframing is an active coping strategy (Folkman & Moskowitz, 2000). Building up of resources that can act as a buffer against future stressors (Bain, 2009).	I can manage unfamiliar problems effectively.
Wisdom	Wisdom involves forming a judgement when there are competing interests	Forming a judgement about the situation and resolving conflicts	I usually weigh the pros and cons of a decision in order to

	that lack a clear resolution (Sternberg, 1998).	(Sternberg, 1998). Open-mindedness, creativity, exploration and good judgement skills (Seligman, 2004).	find the best possible solution to a problem that affects my wellbeing

Cognitive attribute	Key description	Coping strengths	Examples of PCBI items
Self-esteem	Self-esteem is construed to have two interrelated aspects: it entails a sense of personal efficacy and a sense of personal worth. It is the integrated sum of self-confidence and self-respect. It is the conviction that one is competent to live and worthy of living (Lalkhen, 2000).	Confident and can overcome their problems (Gafoor, 2011). Sense of control over life and living purposefully (Branden, 1999). Handling of negative feedback (Dijksterhuis, 2004), interpersonal stressors (Hetts & Pelham, 2001), unpleasant thoughts or emotions (McGregor & Marigold, 2003). Self-esteem has an influence where people consider themselves valuable and worthy (Tafarodi & Ho, 2006).	I feel valuable and worthy most of the time.
Optimism	Optimism has been defined as the dispositional tendency of individuals to maintain generalised positive expectations, even when faced with setbacks or	Positive expectations in spite of the circumstances (Scheier et al., 2001) and more resourceful (Seligman, 2011). Displays perseverance (Snyder et al., 2011) and	Even in uncertain times, I usually expect the best.

	problems in their life (Scheier et al., 2001).	expects the best possible outcomes (Steyn, 2011).	

Cognitive attribute	Key description	Coping strengths	Examples of PCBI items
Humour	Humour refers to a cheerful view of adversity that allows one to cope and sustain higher levels of happiness and the ability to make others smile and laugh (Peterson & Seligman, 2004).	Humour is an intervention through difficulties (The Association for Applied and Therapeutic Humour, 2005). Humour serves as a coping mechanism (Peterson & Seligman, 2004) and restores calmness (Fredrickson et al., 2003). Humour enables a person to face the realities of life (Joshua et al., 2005).	Humour helps me to bring relief from painful situations.
Sense of coherence	Antonovsky (1979) defines a sense of coherence as the global orientation that expresses the extent to which one has a pervasive, enduring, though dynamic feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as	Sense of coherence is a general approach to life (O'Neil, 2006), seeing challenges in a positive light (Lindström & Eriksson, 2005), mobilising the correct coping strategies (Van Breda, 2001) and having a spectrum of resources (Kinman, 2008).	I usually see life as predictable and manageable.

	well as can reasonably be expected.		

Cognitive attribute	Key description	Coping strengths	Examples of PCBI items
Locus of control	Locus of control is the extent to which individuals believe that they have control over their own destiny (Thomas et al., 2006).	Individuals with an internal locus of control have a high degree of personal control (May & Warren, 2002) and are persistent in solving complex problems (Beukman, 2005).	I feel that one has control over one's destiny.
Openness to experience	Openness to experience is concerned with how an individual approaches problems, learns new information and reacts to new experiences. It indicates that a person is intellectually curious and imaginative (Kashdan et al., 2011).	People with high openness to experience are curious, imaginative, big-picture thinkers (Hughes et al., 2009) and flexible (Hudek-Knezevic et al., 2006).	I like to experience new things.
Positive reframing	Positive reframing is a process by which negative events or circumstances are seen in a positive light (Lambert et al., 2009).	The building up of resources that can act as a buffer against future stressors (Bain, 2009). Viewing reality at the most favourable angle (Fredrickson, 2005) and maintaining a positive outlook (Gill & Morgan, 2011).	I find positive meaning in most difficult situations.

In summary, the cognitive coping behaviour constructs describe the period before dealing with the stress situation in order to approach the situation more effectively. This emphasises

that whatever the individual is dealing with may be difficult, but that the person can deal with the situation through the support and assistance of the positive behaviour constructs and look back on it afterwards as a learning experience.

3.3.2 Affective (emotional) coping behaviour

Positive emotions broaden behavioural repertoires, and in so doing, build resources that support coping. Experiences of emotions accrue into emotional systems that engender lasting affective dispositions (Garland et al., 2010). The focus of affect is on the emotions an individual experiences in the now, the present moment, and the individual's awareness of why the specific emotions are experienced (Finn, 2012). Affective emotion-focused coping strategies are more likely to use techniques to alleviate stress, for example humour (Lauren Roche, Croot, MacCann, Cramer, & Diehl-Schmid, 2015). Emotion determines how an encounter is appraised and the outcome will determine the individual's emotional state both in the ongoing interaction and in future interactions (Frydenberg, 2014). Affective coping behaviour includes positive affect, emotional granularity and happiness.

3.3.2.1 Positive affect

The hallmark of well-being is positive affect, which includes joviality, self-assurance and attentiveness (Snyder et al., 2011) and feelings of love, happiness and hopefulness (Sheldon et al., 2011).

The term positive affect is often subsumed within positivity of emotion (Garland et al., 2010). Reports of affectivity are closely linked to attachment (Consedine, Fiori, & Magai, 2012). Larsen and Prizmic (2008) argue that the balance of positive and negative affect is a key factor in subjective well-being and in defining whether a person flourishes. Self-esteem and optimism are significantly associated with increased life satisfaction and positive affect. Women who participate in social activities, activities outside the home and mass communication have an increased probability of experiencing greater life satisfaction. Older adults who more frequently participate in social activities and use mass communication more often experience higher levels of life satisfaction and positive affect. People who participate more frequently in social activities, activities outside the home and mass communication, as well as in solitary games or board games with other people, experience higher positive affect (Gonzalez-Herero & Garcia-Martin, 2012).

Fredrickson's broaden-and-build model of positive emotions (Bakker & Bal, 2010) is applicable to the concept of activation. People who experience more positive emotions are more open to new information and experiences and are more likely to adopt new norms, such as the importance of being pro-active about one's own health. Those experiencing more positive emotions are more likely to solve problems successfully when encountering new problems, and to have the social support of people around them to help them cope. In gaining confidence and experiencing success, the resulting positive emotions can be an upward spiral that is self-reinforcing. The accumulation of these positive experiences, in turn, increases the chances for experiencing further success and ultimately leads to effective self-management (Kok, Coffey, Cohn, Catalino, Vacharkulksemsuk, Algoe, & Fredrickson, 2013).

Positive affect can co-occur with distress during a given period. Positive affect allows for the possibility that emotions commonly referred to as positively valenced are often experienced as negative or distressing (Folkman & Moskowitz, 2000). It was found that only positive affect mediated the relationship between proactive coping and depression. Positive psychology shows how positive constructs contribute to improved psychological functioning (Greenglass & Fiksenbaum, 2009). Happy individuals are successful across multiple life domains, including marriage, friendship, income, work performance and health. The happiness-success makes people happy because positive affect engenders success. Positive affect is the hallmark of well-being and may be the cause of many of the desirable characteristics, resources and successes correlated with happiness (Lyubomirsky, King, & Diener, 2005). Isen (2004) indicates that positive affect enhances generosity, social responsibility and helpfulness.

3.3.2.2 Emotional granularity

Positive emotions play a crucial role in enhancing coping resources in the face of negative events (Tugade et al., 2004). Emotions are short-term, object-specific changes that tune body and mind to respond quickly and efficiently. Each emotion leads to a specific pattern of activity in the autonomic nervous system, a process whereby it prepares the body to perform appropriate actions to satisfy the concept of action readiness (Chassy & Gobet, 2011).

Fredrickson's broaden and build model of positive emotions (Bakker & Bal, 2010) suggests that positive emotions can widen the range of potential coping strategies that come to mind and consequently enhance one's resilience against stress. Positive emotions have the ability to widen the range of potential coping strategies that come to mind during times of stress, enhancing one's resilience against present and future adversity. According to Fredrickson

(2002), the experience of positive emotions unlocks human cognition and encourages individuals to think more freely, thoughtfully and creatively. This expands one's outlook and capacity to see the world from a broader perspective. As a result, those who experience positive emotions more frequently are better able to recognise a wider range of possible coping strategies when faced with adversity; thus, they are able to tackle stress more effectively and achieve higher levels of resilience (Shiota, Neufeld, Danvers, Osborne, Sng, & Yee, 2014).

According to Clore (2011), emotion can be a potent motivator; as motivator emotions give decision-makers the opportunity to re-evaluate their way of thinking and therefore think critically. Positive emotions play an integral role in coping. Khosla (2006) states that positive affect increases a range of positive behaviours while enhancing resources (better health, better social networks), including intellectual and psychological well-being (Mabota, 2013). Positive emotions facilitate approach behaviour and prompt individuals to engage with their environments (Bakker & Leiter, 2010; Kazdin, 2013). Positive emotions guide people's mindset, enabling them to think creatively and flexibly (Ashkanasy, Wilderom, & Peterson, 2011). Finding positive meaning in adverse circumstances is an example of positive emotions undoing negative emotions, which helps build resilience to future adversities (Fredrickson, 2002). Studies have shown that positive emotions play a role in the development of long-term resources such as psychological resilience and flourishing (Fredrickson et al., 2003). Positive emotion is also related to locus of control. People who believe that they have a high degree of personal control over events are viewed as having an internal locus of control. Positive emotions also have the potential to broaden people's habitual modes of thinking and build their physical, intellectual and social resources (Moloi, 2011).

3.3.2.3 Happiness

In positive psychology, even in the unlikely event that scientists were to agree on its meaning, such understanding could hardly compete with the multiple meanings of the word 'happy' in common usage (Sheldon et al., 2011). According to Hasen (2009), happiness is feeling good for the right reasons that matter. Rego, Ribeiro, Cunha and Jesuino (2011) argue that studying happiness is important for the following reasons: happiness is valuable to society (Diener, 2000); happiness is associated with elevated performance and improved organisational functioning (Fredrickson, 2002) and happiness is a fundamental component of the good life and the betterment of society (Diener, 2000). Happiness rests on the individuals' capacity to distinguish between good and bad stimuli that exist in an environment and trigger behavioural responses (Laynard, 2005). Happiness is a positive emotional state

that is subjectively defined by each person (Snyder et al., 2011). Happiness is an umbrella term for all that is good and the term often used is well-being or quality of life (George, 2010). Happy people are more active, efficient, and productive at their jobs (Taris & Schreurs, 2009), earn a better income, are optimistic and more positive toward other people (Seligman, 2002); they enjoy better physical and mental health and cope better with stress (Vaillant, 2008).

Fredrickson's broaden-and-build model of positive emotions (Bakker & Bal, 2010) broadens people's momentary thought–action repertoires and builds their personal resources. Personal resources concern individuals' sense of their ability to control their environment successfully. Resources range from physical (physical skills) and social resources (friendships) to cognitive (intellectual complexity) and psychological resources (self-efficacy, optimism and happiness). Positive emotions broaden by prompting momentary exploratory behaviours (flexibility, creativity), which result in learning opportunities. Such opportunities build accurate maps of what is demanding or threatening in the environment, which helps individuals to manage challenges successfully (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2012).

Lucas and Diener (2009) commented on research on happiness that the most important factor in determining a person's happiness appears to be the personality with which he or she was born. People who are happy live healthier, longer lives and recover better from illnesses (Lyubomirsky et al., 2005). Happiness has been found to relate to many positive outcomes, including health, friendship, income, work performance and marriage (Lyubomirsky et al., 2005). Happiness is positively associated with successful outcomes across work, health and love life domains. Happiness is also associated with desirable behaviours, propensities and attributes such as sociability, likeability, pro-social behaviour, positive perceptions of self and others, coping and creativity (Henricksen & Stephens, 2010). Happiness can be beneficial in numerous ways, which has positive implications for society as well as at an individual level, suggesting that promoting happiness is a wise investment in social and public health (Sheldon & Lyubomirsky, 2007). Happy individuals are more active, approach-oriented, energetic, interested in their work, sympathetic to their colleagues and persistent in the face of difficulties (Fisher, 2010) and they are more resilient (Ten Brummelhuis & Bakker, 2012). Snyder et al. (2011) state that happiness is human flourishing associated with living a life of virtue and the lifelong pursuit of meaningful, developmental goals. Lucas and Fujita (2000) have shown that extraversion, openness, conscientiousness and agreeableness are closely related to happiness.

Table 3.2 provides an outline of the key description and coping strengths of the core affective attributes of positive coping.

Table 3.2

Summary of the Core Affective Attributes of Positive Coping

Cognitive attribute	Key description	Coping strengths	Examples of PCBI items
Positive affect	Positive affect refers to feelings that reflect a level of pleasurable engagement with the environment, such as happiness, joy, excitement, enthusiasm and contentment (Cohen & Pressman, 2006).	Serves as a coping mediator (Folkman & Moskowitz, 2000).	I feel happy, joyful and excited most of the time.
Emotional granularity	Positive emotional granularity is the tendency to represent experiences of positive emotion with precision and specificity (Tugade et al., 2004).	Positive emotions play a crucial role in enhancing coping resources in the face of negative events (Tugade et al., 2004), serving as a potent motivator (Khosla, 2006) in the development of long-term resources (Cohn & Fredrickson, 2010).	I usually feel positive and hopeful, no matter what the situation and circumstances are.
Happiness	Happiness as stable extroversion and noted that it seemed to be related to easy sociability and a predisposition to active, neutral, pleasant oriented, interactions with other people (Eysenck, 1983).	Happy people cope better with stress (Vaillant, 2008). Happy individuals are more active, approach-oriented, energetic, interested in their work, sympathetic to their colleagues and persistent in the face of difficulties (Fisher, 2010) and are more resilient (Ten Brummelhuis & Bakker, 2012).	Most people would escribe me as a happy person.

In summary, the affective coping behaviour constructs describe the positive feelings an individual feels in a stress situation. The purpose of positive emotions in coping is to serve as a support buffer, which will help the individual to cope more effectively.

3.3.3 Conative (motivational) coping behaviour

Motivation occupies a paradoxical place in behaviour and provides a powerful initial spur to the process, for example, hope in the stress situation. Motivational information offers important benefits such as explaining the situation and illuminating mechanisms of action (Schwieder, 2010). Conative coping behaviours include self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability.

3.3.3.1 Self- efficacy

Self-efficacy is the belief that one can perform a specific task or activity has been shown to influence behaviour (Gallagher, Mhaolain, Crosby, Ryan, Lacey, Coen, Walsh, Coakley, Walsh, Cunningham, & Lawlor, 2012). Self-efficacy is the perceived ability to manage the demands of a specific situation successfully, with self-efficacy determining how people feel, think and motivate themselves (Bandura, 1997). Individuals with high self-efficacy are described as being more motivated to act on their environment in ways that promote positive well-being (Bandura, 1997). Self-efficacy is attributed to a feeling of value, self-esteem, sufficiency and efficacy in handling the events of life (Dogan, Totan, & Sapmaz, 2013). Self-efficacy appears to serve as a protective factor, increasing coping ability and perseverance in the face of challenge. Self-efficacy refers to one's beliefs about one's capability and the drive to apply oneself in a situation (Olson, 2011).

According to Bandura's social learning theory (Hollis-Sawyer & Cuevas, 2013) people commit to goals that are feasible and desirable. Whether or not a goal is desirable depends on its short- and long-term consequences; whether or not a goal is feasible relies on judgments about future events and behaviours. These judgments may refer to being able to perform goal-directed behaviours (self-efficacy expectations) to outcomes of goal-directed behaviours (outcome expectations) and to specific outcomes (general). Desirability and feasibility not only affect the strength of commitment to a goal, but also the strength of subsequent striving for it (Oettingen, Mayer, & Brinkmann, 2015).

Self-efficacy influences the development of affective filters that influence whether life events are cognitively construed, represented, and retrieved in an affectively benign or distressing

manner (Bandura, 1997; Semiatin & O'Connor, 2012). Individuals with higher self-efficacy are more likely to identify positive aspects of even negative situations (Farran, Loukissa, Perraud, & Paun, 2004). People with higher self-efficacy are better at applying coping skills to manage their negative emotions (Romero-Moreno, Losada, Mausbach, Marquez-Gonzalez, Patterson, & Lopez, 2011). Self-efficacy beliefs have been found to relate positively to life satisfaction (Jopp & Rott, 2006). People who can successfully meet the challenges in the learning process can build up their positive self-esteem and self-efficacy (Leung & Liu, 2011). Self-efficacy perceptions ask "can" questions (e.g., Can I do …..? Can I make …?) (Hughes, Galbraith, & White, 2011). Self-efficacy measures typically involve task- or problem-specific judgments (Yi, Juyeon, Minhye, & Mimi, 2014). Self-efficacy predicts an increase in problem-focused coping (Luszczynska, Scholz, & Schwarzer, 2005; Trouillet, Gana, Lourel, & Fort, 2009).

Self-efficacy acts as one of the most powerful predictors of future success (Usher & Pajares, 2008), as it not only plays a part in the goals a person sets and the activities in which the person becomes involved, but also influences the coping strategies the person will adopt under difficult circumstances (McConville & Lane, 2006). Efficacy beliefs mediate behaviour and competence through four primary processes, namely cognitive processes, motivational processes, affective processes and selection processes (Dornyei & Ushioda, 2013).

Self-efficacy is what people believe they can do with the skills they have under certain conditions. Situation-specific self-efficacy thoughts are proposed to be the last and most crucial cognitive step before a person launches goal-directed actions. Self-efficacy is a learned human pattern of thinking rather than a genetically endowed one. Self-efficacy can be traced to the underlying biological variables that facilitate coping (Maddux, 2009). An example of self-efficacy dialogue is: When I make plans, I am certain I can make them work (Sherer, Maddux, Mercandante, Prentice-Dun, Jacobs, & Rogers, 1982). Maddux (2009) has suggested that self-efficacy can influence positive physical health in two ways: firstly self-efficacy promotes health-related behaviour and maintains changes. Secondly, self-efficacy has an impact on various biological processes that relate to better physical health. Self-efficacy was not found to be affected by age, and it positively predicted the use of problem-focused coping, that is, efforts to reduce stress actively by collecting information, evaluating available means and determining ways to solve problems (Trouillet et al., 2009). Individuals with high self-efficacy tended to remain in better control when faced with a stressful situation (Lyons & Schneider, 2009).

3.3.3.2 Resilience

Strűmpfer (2003) describes resilience as derived from the verb “resile”, which means that when a thing is compressed, stretched or bent, it tends to spring back elastically, to recoil and resume its former size and shape. In the case of humans, it firstly refers to recuperation but could also include the constructive and growth-enhancing consequences of challenges or adversity (Walsh, 2013). Resilience is the ability of a person in otherwise normal circumstances who is exposed to an isolated and potentially highly disruptive event, such as the death of a close relation or a violent life-threatening situation, to maintain relatively stable and to maintain health levels of psychosocial and physical functioning, as well as the capacity for generative experiences and positive emotions (Johnston, Porteous, Crilly, Burton, Elliott, Iversen, & Black, 2015). Resilience is the ability to detach actively from unhealthy attachments and seek out nurturing relationships, the desire to nurture others and the ability to find situations that reinforce a sense of competence (Bain, 2009). Resilience is about the experience of adversity functioning better than expected (Masten, 2009) and the ability to withstand severe contextual stressors and risks in order to develop. It is mainly the balance between the stressors and risks and the protective factors that might be operating. Although exposed to stressful circumstances, resilient people manage to maintain well-being. Resilience can be strengthened by experiences of adversity (Oshri, Lucier-Greer, O'Neal, Arnold, Mancini, & Ford, 2015).

In the resiliency model (McCubbin & McCubbin, 1996) psychological resilience has been conceptualised as a personality trait and as a process that changes over time. Resilience is referred to it as a dynamic process encompassing positive adaptation in the context of significant adversity. The conceptualisation of resilience recognises that the effects of the protective and promotive factors will vary contextually (from situation to situation) and temporally (throughout a situation and across an individual’s lifespan). If an individual reacts positively to adversity at one point in his or her life, it does not mean that the person will react in the same way to stressors at other times. An important aspect of resilience is the process of agitation, whereby individuals use a range of coping strategies to deal with a combination of unpleasant emotions and mental struggles. Individuals have reported that positive adaptation occurred gradually, often requiring numerous shifts of thought. These findings support the notion that resilience is a capacity that develops over time in the context of person-environment interactions (Fletcher & Sarkar, 2015).

Resilience is considered a protective mechanism that operates in the face of negative stressors (Bonanno, 2004). Resilience reduces mortality rates (Wright & Masten, 2015) and

counters the negative effects of ill health (Arditti, 2015). It predicts mental health (Makoelle & Malindi, 2015) emotional health and well-being and social contact with family and friends, and optimism predicts resilience (Netuveli & Blane, 2008). Masten (2001) views resilience as a class of phenomenon characterised by good outcomes in spite of serious threats to adaptation or development. Walsh (2006) describes resilience as enabling people to heal painful wounds, take charge of their lives and continue to live fully and love well. Schok, Kleberb, and Lensvelt-Mulders (2010) view resilience as a high degree of self-esteem, optimism and perceived control.

Personal characteristics such as positive emotions and resilience have also been shown to ease the coping process after conjugal loss (Ong, Fuller-Rowell, & Bonanno, 2010). The individual's performance improves to the same level of functioning at which it was before the adverse event. The individual therefore copes effectively with the demands or stressors of the event and is not impaired in any manner (O'Neil, 2006). People with high resilience have a comparatively good result despite their experiences of suffering. People with higher resilience recover faster from negative emotional arousal (Tugade et al., 2004); positive emotions help resilient persons to deal better with daily stressors (Ong, Bergeman, Bisconti, & Wallace, 2006). Resilience represents one of the positive individual traits that contribute to active, healthy aging (Zacher, 2015).

Resilience represents an individual trait that sustains positive outcomes to a degree that is similar to, or even exceeds, that of periods when vulnerability did not occur (Martins, dos Santos, Hilgert, de Marchi, Hugo, & Padilha, 2011). The resilient person demonstrates strength, endurance, persistence and coping in stressful situations. Such persons are able to draw positive factors from the social environment and they do not give up, are optimistic and have a strong sense of purpose and future (Smokowski, Reynolds, & Bezruczko, 2000). The following characteristics and factors have been included as being present in resilient persons: a proactive nature, internal locus of control and independence, ability to construe their experiences positively and constructively, sense of coherence, positive self-concept, problem-solving abilities and perceived efficacy (Mampane, 2005). Resilient individuals have the potential not only to return to previous levels of functioning after experiencing adversity, but manifest gains in self-esteem, self-efficacy, autonomy and a change in life perspective that serve to make them stronger than they were before. Such gains in adaptive behaviour have been termed thriving or flourishing (Richardson, 2002).

3.3.3.3 Flourishing

The flourishing of a human life does not mean flourishing of one aspect of the life; it is the flourishing of all aspects of a life, including family, social, political, ethical, economic, emotional, intellectual and spiritual aspects (Oguamanam, 2005).

Keyes's model of complete mental health and of flourishing (Keyes, 2007) supposes that the specific notion of flourishing is essential when well-being is defined as positive functioning. The term flourishing signifies the state during which people are feeling well and functioning well in psychological as well as social terms, when they have achieved an optimal way of living as good and resilient individuals and are transcending themselves towards self-realisation. People in a state of flourishing are more creative, healthy and prosocial (Yngve & Edwall, 2015).

Flourishing entails the deliberate drive to achieve optimal well-being and the building of strengths, guided by the ideal of flourishing, concentrating on what works, what is right, and what is improving (Sheldon & King, 2001). According to Keyes (2007), normal functioning is best represented as a continuum, with flourishing mental health at one end and languishing mental health at the other, in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community. Flourishing individuals have enthusiasm for life and are actively and productively engaged with others and in social institutions. Flourishing is a state of wholeness where people can deal with stressors in an effective way and maintain wholeness when interacting with their environment in a positive way (Keyes, 2002).

Thriving is an aspect of flourishing, and is more than mere coping with stressors. It entails the mobilisation of all individual and social resources (coping strategies) not only to survive a threat, but to overcome the stressor or challenge more forcefully than before (O'Neil, 2006). The level of functioning exceeds the normal level. Whereas coping attempts to return the individual to the equilibrium or balance that existed before adversity, thriving is the acquisition of new skills and knowledge (about the self, new coping techniques), of new confidence and mastery and new interpersonal skills. Thriving is best understood by focusing on the processes through which people recover from adversity or thrive (Van Breda, 2001). According to Van Breda (2001), thriving requires challenges or adversity and also an individual with certain qualities who will be able to use the challenge or adversity to increase cognitive, emotional, personality and social resources such as accurate threat appraisal and perceived personal risk, self-efficacy, social support systems, problem-solving skills, self-

motivation and the ability to integrate the meaning attached to adversity and stressors, and social processes and rituals that facilitate life transitions.

Longitudinal studies have shown that positive emotions play a role in the development of long-term resources such as psychological resilience and flourishing (Fredrickson et al., 2003). According to Fredrickson and Branigan (2005), positive emotions promote human flourishing. Happy people are more active, efficient and productive at their jobs (Hills & Argyle, 2001), earn a better income and are optimistic and more positive toward other people (Seligman, 2002); they enjoy better physical and mental health and cope better with stress (Taylor & Stanton, 2007). The experience of frequent positive emotions serves to broaden humans' thoughts and behaviours, resulting in accrual of resources, including coping resources, which catalyse upward spirals toward future well-being (Reschly & Hluebner, 2008). Positive emotions have a broadening effect, expanding cognitive capacity, increasing potential coping strategies that come to mind and enhancing decision-making, reaction, and adaptation to adversity. Coping profiles of the groups differed significantly, with flourishing individuals favouring adaptive coping strategies more than those who were languishing or depressed. Conversely, depressed individuals reported greater use of maladaptive coping strategies than those who were languishing or flourishing (Faulk, Gloria & Steinhardt, 2013).

3.3.3.4 Intention for positive health

Psychological well-being is a complex construct that has been conceptualised and operationalised in various ways; it encompasses a positive state of flourishing (Keyes & Ryff, 2003). Positive emotions and thoughts, strengths and the satisfaction of basic psychological needs for belonging, competence, and autonomy have been seen as the cornerstones of psychological health (Kashdan & Rottenberg, 2010). Subjective well-being is seen as a positive orientation toward life, and is expressed in measures such as positive affect, morale, feelings of happiness and life satisfaction (Cornwell, Schumm, Laumann, & Graber, 2009). Certain interpersonal and intrapersonal variables, such as self-efficacy, dispositional optimism and social support, have been found to mitigate the negative effects of stress on psychological well-being (Moeini, Shafii, Hidarnia, Babaii, Birashk, & Allahverdipour, 2008; Skok, Harvey, & Reddihough, 2006; Williams, Wissing, Rothmann, & Temane, 2010). Wellness encompasses the active, lifelong process of educating ourselves and making choices that will lead to optimal health and a more successful and balanced existence (Gavin & Mcbrearty, 2013).

The bio-psychosocial model (Kagee & Freeman, 2008) states that both mental and physical health are influenced by a combination of biological, psychological and social factors. Thoughts, feelings and behaviour have a major impact on physical health. Physical health has an important influence on mental health and well-being. Behaviour may affect physiology, while physiological functioning may in turn affect health behaviour (Aldwin & Gilmer, 2013).

Brand and Gauche (2010) did research that allowed call centre employees to share personal work environment experiences relating to their wellness. The results suggest that the physical environment has the greatest influence on employees' physical wellness in a call centre environment. Participants indicated that the nature of the work influenced their physical wellness. The corporate environment, specifically the impact of management, was the theme that had the biggest impact on mental wellness. The nature of the work was identified as the factor with the second highest impact on mental wellness. A supportive leadership environment, on the other hand, can have a positive effect on employee well-being (Sliter, Chen, Withrow, & Sliter, 2013).

Healy and McKay (2000) found that positive coping (e.g., problem-solving action) was positively associated with well-being, whereas avoidance coping could result in higher levels of psychological distress. Kraaij, Van der Veek, Garnefski, Schroevers, Witlox, and Maes (2008) and Trevino, Pargament, Cotton, Leonard, Hahn, Caprini-Faigin, and Tsevat (2007) found that active coping strategies are associated with positive psychosocial and health outcomes in people living with HIV.

3.3.3.5 Proactive coping

Proactive coping does not take place spontaneously; it is a process of coping that needs conscious employment and careful, deliberate planning (Codaty, 2011). People who cope proactively strive for increasing resources, trying to maximise gains and then building up resistance factors to protect them against future crises (Snyder, Barry, & Valentino, 2015). Proactive people see demands and opportunities in the future but they do not appraise these negatively (Chang & Chan, 2015). Proactive coping correlates positively and moderately to strongly with the problem-orientated coping strategies that the COPE measures (McMahon, Corcoran, McAuliffe, Keeley, Perry, & Arensman, 2015). Proactive coping has at its core the improvement of an individual's quality of life (Greenglass, 2002). It is defined as an effort to build up general resources that facilitate promotion of challenging goals and personal growth (Schwarzer, 2001). Proactive coping is achieved through the acquisition of resources and skills that will prepare the person to tackle stressors when they arise (Erkan, 2012). Proactive

coping differs from other forms of coping in that it incorporates and utilises all resources: it focuses on visions of success and uses positive emotional strategies (Frydenberg, 2014).

According to Fredrickson's broaden-and-build model of positive emotions (Bakker & Bal, 2010), positive emotions build personal resources, such as proactive coping, which in turn lead to a state of well-being. The theory consists of two main hypotheses, the broaden hypothesis and the build hypothesis. That is, positive emotions immediately broaden people's attention and thinking, enabling them to draw on a wider range of ideas. In turn, these broadened outlooks help individuals to discover and build personal resources (Xanthopoulou et al., 2012).

The proactive individual strives for improvement in his or her life and environment instead of mainly reacting to a past or anticipated adversity (Greenleaf, 2011). Proactive coping is autonomous and self-determined goal-setting and realisation of goals. It deals with self-regulatory goal attainment processes and explains to people how to commit themselves to personal quality management (Human-Vogel, 2013). Ouwehand, de Ridder, and Bensing (2007) argue that that proactive coping aimed at preventing potential threats to goals may also be a valuable strategy. They propose that proactive coping may be important for successful ageing. Proactive coping involves goal-setting and having efficacious beliefs, and is associated with resources for self-improvement, including social support. Greenglass and Fiksenbaum (2009) showed that proactive coping was a partial mediator of social support on positive affect and was associated with better psychological functioning. Proactive copers have a vision through which self-initiated constructive actions create opportunities for growth and improvement in their quality of life (Schwarzer, 2001). Proactive coping is all about positive appraisals involving challenges and goal achievement and strategies that accumulate resources and acquire skills that forearm and prepare (Aspinwall & Taylor, 1997), that emphasise goal management rather than risk management (Greenglass, 2002) and that result in performance levels that are personally meaningful and provide purpose (Schwarzer, 2004). Proactive copers are motivated by the belief that change carries the potential for individual improvement (Greenglass, 2002).

Proactive coping means being prepared at any time for a challenge by accumulating and preventing the depletion of available resources; in fact, someone who copes proactively prepares for challenges even if there is none. Interpersonal strength and relational skills are conceptualised as positive coping strengths (Greenglass et al., 1999) and help recognise potential stressors (Aspinwall & Taylor, 1997). Proactive individuals realise that they are responsible for their own lives, that their life course is determined by themselves and not by

external factors and that they are responsible for making things happen in their lives. Proactive individuals strive for improvement in their lives and environment. They can see that there are risks, demands and opportunities in the future but they appraise these as challenges (Phanichrat & Townshend, 2010).

3.3.3.6 Conscientiousness

Conscientiousness has been shown to be positively related to the use of causation and effectuation decision logic, depending on the level of uncertainty in the environment (Bean, 2010). Highly conscientious individuals have a tendency to be goal-orientated and highly self-motivated (Truxillo, Bauer, Campion, & Paronto, 2006). They also tend to be characterised as thoughtful, planful, organised and thorough and as experiencing higher levels of cognitive liveliness (Armon & Shirom, 2011). A meta-analysis by Steel et al. (2008) showed that conscientiousness is moderately associated with positive affect. It has been proposed to have instrumental effects on subjective well-being by facilitating more positive experiences in achievement situations (Steel, Schmidt, & Shultz, 2008). Witt, Burke, Barrick, and Mount (2002) found that highly conscientious workers are predisposed to be organised, exacting, disciplined, diligent, dependable, methodical and purposeful. They are more likely to take the initiative in solving problems and remain committed.

In the five-factor model of personality (McCrae & Costa, 1985) conscientiousness is reflected in dependability, dutifulness and self-discipline, a tendency to follow rules and value order. Conscientiousness drives individuals to be organisation people (committed to their organisation) and therefore willing to engage with others (Chiaburu, Oh, Berry, Li, & Gardner, 2011).

3.3.3.7 Adaptability

Adaptation, as an aspect of adaptability, is the process of adjusting to fit a situation or environment. Changes that require adaptation can occur either within the individual and/or in his/her situation or environment. Some people may adapt to changes, whereas others require all the coping skills and social support they can muster (Langer, 2012). People tend to adopt individual forms of coping to deal with stressful situations (Trouillet et al., 2011).

In the transactional model (Lazarus & Folkman, 1984; Meyer & Moore, 2003) coping relates to the behavioural and cognitive efforts employed to manage environmental and internal demands. Coping with stressful situations that exceed one's abilities is one of the greatest

challenges of life. Coping is considered to be of critical importance in determining whether a stressful event results in adaptive or maladaptive outcomes (Dardas & Ahmad, 2015).

Preliminary evidence based on Lazarus and Folkman's (1984) model of stress and coping shows that coping is a key factor in adaptation. The way in which people adjust to the challenges, constraints and losses facing them at different periods of their lives is important. People's method of adaptation enables them to adjust positively to situations (Bailly, Le Joulain, Herve, & Alaphilippe, 2012). All people seek to behave adaptively within their context and besides that, different people develop their own unique response tendencies, cognitive orientations, emotional preparedness, and structures and values (Buckley-Willemse, 2012). In order to cope with stressors, people will need to recognise their own thoughts and structure their beliefs. This will bring about an increase in the accuracy and flexibility of their thoughts. They can then manage the emotional and behavioural consequences more effectively (Reivich, Seligman, & McBride, 2011).

People's ability to adapt in situations in which they find themselves can be seen in the type of coping style they adopt (Cappeliez & Robitaille, 2010). Assimilative coping refers to mobilising personal resources in order to pursue personal goals despite limitations and obstacles. It may include, for instance, the acquisition of specific new skills, the modification of life habits or reliance on compensatory means to overcome losses and limitations. Assimilation helps people to deal with potential or actual problems or losses by promoting compensatory coping efforts (Rothermund & Brandtstadter, 2003). Accommodative coping refers to flexibly adjusting goals to constraints and impairments. This may take the form of re-appraising the nature of the loss or limitation, re-evaluating the importance and meaning of particular goals and directing resources to alternative attainable goals. Accommodation involves revising values and priorities, constructing new meaning from the situation and potentially transforming personal identity (Frazier, Newman, & Jaccard, 2007). Table 3.3 provides an outline of the key description and coping strengths of the core conative attributes of positive coping.

Table 3.3

Summary of the Core Conative Attributes of Positive Coping

Cognitive attribute	Key description	Coping strengths	Example of PCBI items
Self-efficacy	Self-efficacy is defined as one's beliefs in personal capabilities to organise and execute the courses of action required to produce a given outcome and plays a central role in explaining human motivation and behaviour (Kim et al., 2012).	Self-efficacy appears to serve as a protective factor (Olson, 2011), influencing behaviour (Gallagher et al., 2012), managing demands successfully, sufficiently and efficiently (Dogan et al., 2013), serving as mediator of behaviour through the coping process (Dornyei & Ushioda, 2013) and having better control in a stressful situation (Lyons & Schneider, 2009).	I feel confident in handling my negative emotions.
Resilience	Resilience is the power or ability to return to the original form or position, after being bent, compressed or stretched (Elliot et al., 2013). Psychological resilience is defined as an individual's ability to adapt properly to stress and adversity (Windle, 2011).	Resilience enables a person to function better than expected (Masten, 2009) and serves as a protective mechanism (Bonanno, 2004).	I feel that I learn from difficult situations.

Cognitive attribute	Key description	Coping strengths	Example of PCBI items
Flourishing	Flourishing, is a state of mental health in which people are free of mental illness and have high levels of emotional, psychological and social well-being (Keyes, 2007).	Flourishing entails the deliberate drive to achieve optimal well-being and the building of strengths, guided by the ideal of flourishing, concentrating on what works, what is right, and what is improving (Sheldon & King, 2001).	I usually make choices that honour my body and wellbeing.
Intention for positive health	Positive health is seen as the individual's striving toward having a general sense of happiness and satisfaction with his/her life and environment, which encompasses all aspects of life, including physical and mental health and well-being, as well as the ability to react to factors in the physical and social environments (Asamani et al., 2015).	Psychological well-being encompasses a positive state of flourishing (Keyes & Ryff, 2003). Physical wellness, as a motivational aspect of coping and understanding bodily changes and physical needs throughout the life-cycle (Brand & Gauche, 2010). Mental wellness whereby the individuals use their cognitive and emotional capabilities, function in society and meet the ordinary demands of everyday life (Brand & Gauche, 2010).	I am a functional member of society.

Cognitive attribute	Key description	Coping strengths	Example of PCBI items
Proactive coping	Proactive coping is an attempt to build up general resources that facilitate moving towards challenging goals, personal growth and engagement (Houdmont & Leka, 2010).	People who cope proactively attempt to increase resources (Schwarzer & Taubert, 2002), tackle stressors (Erkan, 2012) and help recognise potential stressors (Aspinwall & Taylor, 1997).	I constantly strive to improve my ability to deal with difficult situations.
Conscientiousness	Conscientiousness refers to the extent to which a person is self-disciplined, dependable, persistent, organised (McCrae & John, 1992), hard-working, and motivated in the pursuit of accomplishing goals (Hughes et al., 2009; Zhao & Seibert, 2006).	Conscientiousness is moderately associated with positive affect and initiative in solving problems and remaining committed (Witt et al., 2002). A conscientious individual is persistent and motivated in the pursuit of goals (Zhao & Seibert, 2006).	I have endurance during difficult situations.
Adaptability	Adaptability represents the capacity to adjust responses to changing external drivers and internal processes and thereby allow for development through adaptation in the current situation (Folke et al., 2010).	People's method of adaptation enables them to adjust positively to situations (Bailly et al., 2012).	I always adjust positively to any kind of situation.

In summary, the conative (motivational) coping behaviour constructs describe the motivation or drive the individual has, which serves as a support system in approaching the stress situation.

3.3.4 Interpersonal (social) coping behaviour

Interpersonal coping behaviour is the belief that one can perform a specific task or behaviour and is a modifiable attribute that has been shown to influence behaviour (Gallagher et al., 2012). As the individual develops, repeated experiences are internalised in an attachment style. Interpersonal behaviour is a complex system of representations, expectancies and beliefs about the self and others that influences the outcome of behaviour (Consedine et al., 2012). Interpersonal coping behaviour includes extroversion, social support and agreeableness.

3.3.4.1 Extroversion

Extroverts are assertive, dominant, energetic, active, talkative and enthusiastic, as well as being sociable and ambitious (Garcia, Nima, Rappe, Ricciardi, & Archer, 2014). Extroverted people usually adapt to their environment quite quickly and often appear to venture forth with confidence into unknown situations (Stephens-Craig, Kuofie, & Dool, 2015). External factors have little effect on them and they usually move around with confidence as they become familiar with the unknown. They are not afraid to expose themselves to risks. The extrovert's personality can further be characterised by an outgoing, candid and accommodating nature. They prefer to be active and energetic and they cultivate a positive attitude to life (De Beer, 2012). Bakker, Van der Zee, Ledwig and Dollard (2006) point out that extroverted individuals tend to focus on the positive side of their experiences. Ceyhan (2006) concludes that individuals who are considered extroverted tend to have a lower level of anxiety than individuals who are considered introverted. Introverts need hours alone every day, love quiet conversations about feelings or ideas, have to be dragged to social gatherings and find other people tiring (Dembling, 2012). They have an instinctual need to be heard and rely upon family resources to satisfy their need for feedback, communication and sharing of their experience, which will generally direct their actions (Van Rooyen, 2006). Hughes et al. (2009) mention that extroverts are concerned with getting ahead in life, are willing to take risks and come across as competitive, impactful and outgoing. Individuals who score high on extraversion tend to be cheerful, like people and large groups, seek excitement and stimulation.

The five-factor model of personality (McCrae & Costa, 1985) states that the big five factors are descriptive rather than explanatory constructs and do not inherently provide a theory of the underlying forces that produce these five dimensions of individual differences in personality. Personality traits represent tendencies to manifest particular patterns of

cognition, emotion, motivation and behaviour, in response to a variety of eliciting stimuli. Extroversion is linked to the tendency to experience positive emotions, which typically stem from experiences of reward or the promise of reward. Extroversion encompasses an array of traits, such as assertiveness, sociability and talkativeness. Extroversion is often manifested in social behaviour. This is probably because many human rewards involve social affiliation or status; rewarding sensitivity thus remains at the core of extroversion (DeYoung, Hirsh, Shane, Papademetris, Rajeevan, & Gray, 2010).

3.3.4.2 Social support

Social support can be done by joining a support group, staying in close contact with others and receiving counselling. It was found that mothers living with HIV who did not have social support were significantly more likely to have high psychological distress levels compared to HIV-positive mothers who had social support (Blaney et al., 2004). According to Compton (2005), various studies have found that social support has a positive impact on well-being. Perceiving oneself as having sufficient social support has been linked to higher self-esteem, more effective coping, better physical health and fewer psychological problems. Studies have shown that when individuals seek social support they are likely to experience increased optimism and more perceived control (Bain, 2009). Social support has been found to increase feelings of security, confidence and hope. Empathy, which is found in supportive relationships, has also been found to decrease feelings of anger, hostility and aggression, which have been associated with heart disease (Compton, 2005).

According to the social cognitive theory (Bandura, 1999), coping involves a wide range of deliberate thought and action, including problem-solving, reappraisal, avoidance and support-seeking. Social support is a relatively stable resource that buffers stress, primarily by influencing appraisal and coping. Social support includes what friends and family say and do regarding stressful events (i.e., enacted support), as well as recipients' perceptions that quality enacted support is available. Perceived support is based primarily on one's history of receiving effective enacted support. Social support is effective in buffering stress when the support specifically meets the demands of the stressor (Lakey & Orehek, 2011).

Positive functioning and social interaction in various social contexts are emphasised for their important role in mental health and well-being in people of all ages (Lahtinen, Lehtinen, Riikonen, & Ahonen, 2009). Social support may decrease the experience of stress by providing a reappraisal of the stressor, thus reducing the affective, physiological and cognitive reactions that make up the experience of stress (Skok et al., 2006). Having someone to talk

to about significant life stress has been found to decrease the experience of stress, and thus increase the experience of well-being (Van der Kolk, McFarlane, & Weisaeth, 2007). Social support helps individuals to reappraise stressful situations they are experiencing and allows them to choose the appropriate coping strategy for the situation (Figley & Kiser, 2013).

According to Hashemi, Razavil, and Shahriari (2007), external family coping strategies refer to the use of resources such as the church, support of the extended family, friends and neighbours, as well as available community resources (Kotze, Visser, Makin, Sikkema, & Forsyth, 2013). This coping behaviour includes the following subscales: Acquiring social support, which happens when the family obtains support outside itself, for example from friends and/or neighbours; seeking spiritual support, which entails that when faced with a crisis, the family seeks religious support from the church and its members; mobilising family members to obtain and accept help, which may be professional or community-based. Social support directly reduces strain and people who have access to social support have greater well-being (Dewe, O'Driscoll, & Cooper, 2010).

3.3.4.3 Agreeableness

Agreeable people are altruistic, sympathetic to others and cooperative (O'Rourkea, Claxton, Chouc, Smith, & Hadjistavropoulos, 2011). Agreeableness is considered the interpersonal personality factor with descriptors such as tender-mindedness, kindness and straightforwardness (Costa & McCrae, 1992). Agreeableness assesses one's interpersonal orientation. Individuals with high agreeableness can be characterised as trusting, forgiving, caring and altruistic (Zhao & Siebert, 2006). Agreeableness indicates an individual who is strong on an interpersonal level.

In the five-factor model of personality (McCrae & Costa, 1985) the five-factor conceptualisation personality traits affect individuals' adaptation to their environment, including the ways in which they self-regulate. The hypotheses is that highly agreeable people are primarily motivated by the goal to build and maintain positive relationships with others (Judge, Livingston, & Hurst, 2012). Agreeableness reflects the extent to which an individual engages in and endorses interpersonal cooperation (Muscanell & Guadagno, 2012).

Highly agreeable people actively seek out the companionship of others, experience pleasurable engagements with the environment, and espouse positive views of themselves (Armon & Shirom, 2011; Thoresen, Kaplan, Barsky, Warren, & Chermont, 2003).

Intrapersonal resources, including a sense of purpose in life and high levels of agreeableness, are associated with better functioning (Floyd, Mailick, Greenberg, & Jieun, 2013). The personality traits of agreeableness, openness and conscientiousness are related to a higher quality of coping (McClendon & Smyth, 2013) and people who show these traits also tend to show warmth, friendliness, empathy and consideration for others (McCrae & John, 1992).

Agreeableness and openness have been associated with better subjective mental and physical health (Lockenhoff, Duberstein, & Friedman, 2011). Agreeableness is the personality trait that is most consistently linked to effortful affect regulation and control (Pearman, Andreoletti, & Isaacowitz, 2010). Agreeableness is directly related to effortful control of emotions (Meier, Robinson, & Wilkowski, 2006; Tangney, Baumeister, & Boone, 2004). People who are highly agreeable report more efforts, with varying degrees of success, at maintaining and regulating their emotions (Haas, Omura, Constable, & Canli, 2007; Veage, Ciarrochi, & Heaven, 2011). Tobin, Graziano, Vanman, and Tassinary (2000) found that more agreeable individuals were also more likely to predict and experience high reactivity to emotionally laden conditions. Individuals with a high agreeableness score are concerned with getting along with others, and come across to others as diplomatic, approachable, optimistic and empathetic (Husam, 2012).

In summary, the social coping behaviour constructs describe the modifiable attributes that have been shown to influence behaviour during coping.

Table 3.4 provides an outline of the key description and coping strengths of the core interpersonal attributes of positive coping.

Table 3.4

Summary of the Core Interpersonal Attributes of Positive Coping

Cognitive attribute	Key description	Coping strengths	Examples of PCBI items
Extroversion	Extroversion refers to sociability and activity, and a predisposition to experience positive emotions (Lucas & Fujita, 2000).	Extroverted people usually adapt to their environment quite quickly and often appear to venture forth with confidence into unknown situations (Stephens-Craig et al., 2015). They are not afraid to expose themselves to risks (De Beer, 2012).	I am not afraid to expose myself to risks.
Social support	Social support entails reaching out to other people and receiving some form of assistance from them (Blaney et al., 2004).	Perceiving oneself as having sufficient social support has been linked to higher self-esteem, more effective coping, better physical health and fewer psychological problems (Bain, 2009).	I have sufficient social support.
Agreeableness	Agreeableness is described as being appreciative, forgiving, generous, kind, sympathetic, trusting, compliant and tender-minded (Mohammadi et al., 2010).	The personality trait of agreeableness is related to a higher quality of coping (McClendon & Smyth, 2013). Highly adaptable individuals maintain and regulate their emotions (Haas et al., 2007) and have a high level of reactivity to emotionally laden conditions (Tobin et al., 2000).	I am generous, kind and tenderminded.

Figure 3.2 illustrates the interrelationship between the cognitive, affective, conative and social behavioural aspects of positive coping behaviour. The coping process is dynamic and comprises various phases of positive coping. Cognitive coping is the first phase in the process, where the thinking process taking place is followed by affective coping in which the emotion is the driving force in addressing the situation. Affective behaviour needs conative behaviour to impel the situation and the last phase in the coping process is supported by extroverted self-efficacious interpersonal behaviour in dealing with the stress situation.

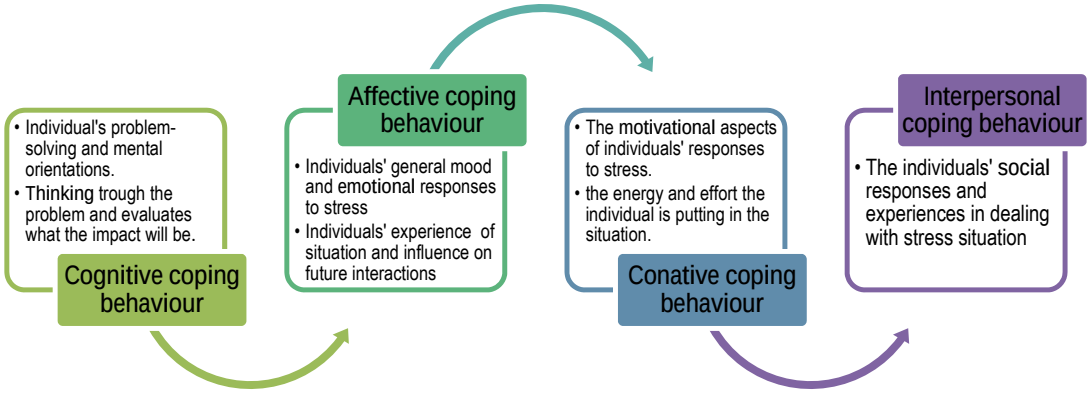


Figure 3.2: Interaction between the dimensions of positive coping behaviour

In summary, positive cognitive coping behaviour occurs when individuals have the capacity to reassess stress situations positively. Cognitive coping behaviour in the period before dealing with the stress situation, when the person can rely on the support and assistance of the cognitive behavioural constructs, is characterised by:

- cognitive attributes building up resources that can act as a buffer against stressors,
- wisdom in forming a judgement about the situation and resolving conflicts through open-mindedness, creativity, exploration and good judgement skills,
- self-esteem in the sense that the individual is confident, has control, is living purposefully and can manage negativity, unpleasant thoughts and interpersonal stressors,
- optimism about positive expectations in spite of the circumstances,
- humour as intervention in difficulties,
- a sense of coherence as a general approach to life,
- internal locus of control because of a high degree of personal control,

- openness to experiences because the individual is curious, imaginative, a big-picture thinker and flexible, and
- positive reframing where the individual builds up resources that can act as a buffer against future stressors.

Affective (emotional) coping behaviour involves positive emotions to build resources that support coping with the focus on the here and now and the alleviation of stress. Emotions that assist in this coping process are:

- positive affect, which mediates the relationship between positive coping and the stressor,
- emotional granularity, which enhances coping resources in the face of negative events,
- happiness which resets an individuals' capacity to distinguish between good and bad stimuli.

Conative (motivational) coping behaviour provides a powerful initial spur to the process and illuminating mechanisms of actions, such as;

- self-efficacy to perform a specific task to influence behaviour,
- resilience to detach actively from unhealthy attachments,
- flourishing to deliberately achieve optimal well-being and build strengths,
- intention for positive health to have a successful and balanced existence,
- proactive coping to increase resources and build up resistance against crises,
- conscientiousness to be goal-orientated and highly self-motivated, and
- adaptability to adjust proactively to a situation.

Interpersonal (social) coping behaviour enables the individual to perform a specific task and has an influence on behaviour through;

- extroversion whereby the person is energetic, enthusiastic, ambitious, accommodative and focuses on the positive,
- social support, which influences the person to have higher self-esteem, effective coping, optimism and control,
- agreeableness, since agreeable individuals are associated with better functioning.

It is assumed that when an individual has the above-mentioned behavioural capacities, effective positive coping will take place.

Table 3.5 provides an overview of the various positive coping behavioural constructs.

Table 3.5

Empirical Evidence Relating to the Positive Behavioural Constructs

Psychosocial dimension and constructs Cognitive	**Empirical evidence**
Cognitive attributes	The ability to solve everyday problems among older adults was studied. Research showed that logical thinking mediates the relationship between cognitive style and everyday problem-solving. Adults who have preserved intact logical thinking abilities are more likely to see the multifaceted reality of everyday problems (Pezzuti, Artistico, Chirumbolo, Picone, & Dowd, 2014). Moderation analyses indicated that most positive cognitive coping strategies were associated with reduced binge eating frequency (positive refocusing, refocus on planning, positive reappraisal, putting into perspective) (Kelly, Lydecker, & Mazzeo, 2012).
Wisdom	A study investigated the relationship of gratitude to wisdom. Findings showed that wisdom entails an appreciation of life and its experiences, especially the growth opportunities that may result from negative events (König & Glück, 2013).
Self-esteem	Research showed that the mechanisms (self-esteem as one of the mechanisms) through which social relationships and social support improve physical and psychological well-being, both directly and as stress buffers. Stress-buffering processes also involve these mechanisms (Thoits, 2011). Individuals with high levels of self-esteem enjoy accurate descriptions of themselves and are more assured about their self-views. Individuals with high self-esteem are more confident, perform well, are well-adjusted and enjoy psychological well-being. Self-esteem is an important and significant element of personality, cognition and behaviour (Rossouw, 2010).

Psychosocial dimension and constructs Cognitive	Empirical evidence
	Personal resources, such as self-esteem, optimism and perceived control, support the processing of threatening experiences (Schroevers et al., 2010). It is believed that higher levels of self-esteem may be associated with variables such as internal control, autonomy and high ego function (Roland & Foxx, 2003). People with high self-esteem tend to rely more on problem-focused strategies. They are more confident and can overcome their problems and show more clearly defined self-concepts and greater optimism about meeting goals (Gafoor, 2011).
Optimism	A study was done on incoming college undergraduates. The results showed that optimism was a direct predictor of the greater use of engagement coping (Perera & McIlveen, 2014). When coping with stressors, optimists appear to take a problem-solving approach that enhances their ability to deal with stressful events and is more planful (Seligman, 2011). Optimism is an individual difference variable that reflects the extent to which people hold generalised favourable expectations for their future. Higher levels of optimism have been related prospectively to better subjective well-being in times of adversity or difficulty. Consistent with such findings, optimism has been linked to higher levels of engagement coping (Rich et al., 2010). Having the energy and optimism required to initiate and persist in coping efforts, along with an outgoing nature, should facilitate primary control engagement strategies such as problem-solving and seeking support and secondary control engagement strategies such as cognitive restructuring and distraction (Connor-Smith & Flachsbart, 2007).

Psychosocial dimension and constructs Cognitive	Empirical evidence
Humour	The coping humour scale (Martin & Lefcourt, 1983) was used in a study to assess respondents' own coping skills. A list of techniques respondents could use to improve their own coping skills, including how to search for humour opportunities, was provided. The benefits of humour and laughter have been part of the trend toward complementary or alternative medical treatments over the past two decades. It does not get any more alternative than humour (Berk, 2015). Grimett (2011) showed that humour and laughter can be effective self-care tools to cope with stress and possibly even cure stress. The use of humour consistently results in improvements in pain thresholds. Humour also leads to the release of endorphins in the brain, which helps to control pain (Tse et al., 2010). A sense of humour involves the ability to discover and appreciate amusing or comic situations. Importantly, humour gives rise to positive emotions (Morreall, 2009). Humour can also bring relief from painful emotions by allowing individuals to gain perspective. Humour allows an individual to reinterpret a painful situation and see it as less important and even perhaps as a smiling or laughing matter. Several studies have shown that positive emotions can restore autonomic calmness after negative affect (Fredrickson et al., 2003).

Psychosocial dimension and constructs Cognitive	Empirical evidence
Sense of coherence	A study explored the moderating effect of sense of coherence on the impact of trauma and psychological health. The moderating effect of sense of coherence on mental health and impact of trauma was confirmed (Veronese, Fiore, Castiglioni, el Kawaja, & Said, 2012). Individuals with high levels of a sense of coherence are able to cope successfully with stressful situations by choosing adaptive and successful coping strategies (Eriksson & Lindstrom, 2007). Sense of coherence is not a specific coping style, method or technique, but rather a general approach to life that enables the individual to cope with challenges (O'Neil, 2006). Sense of coherence is linked to a variety of coping mechanisms and/or characteristics of a person that can facilitate effective tension management, and can thus be associated with the construct resilience (Kinman, 2008). Wiesmann et al. (2014) found that a strong sense of coherence and its pooling of psychological resources help to alleviate experiences of pain associated with chronic morbidity.
Locus of control	Locus of control is a problem-solving expectancy that addresses the issue of whether behaviours are perceived to be directly related to the attainment of needs, no matter what the goal or reinforcement. The results showed that self-efficacy, locus of control and perceived organisational support were all positively related to career success (Mañibo & Lopez, 2014). Locus of control influences the individual's motivation for a task and therefore it can be deduced that locus of control influences motivation indirectly (Ayupp & Kong, 2010).

Psychosocial dimension and constructs Cognitive	Empirical evidence
	Individuals who are internally oriented are more persistent in their efforts to solve complex problems (Beukman, 2005). Individuals with an internal locus of control can manage stressful situations effectively by using problem-solving strategies (Grimes et al., 2004).
Openness to experience	A standardised personality test instrument was used on emergency nurses. Participants scored higher than population norms in the domains of extraversion, openness to experience and agreeableness (Kennedy, Curtis, & Waters, 2014). Openness to experience is concerned with how an individual approaches problems, learns new information and reacts to new experiences. It indicates that a person is intellectually curious and imaginative (Hughes et al., 2009). People displaying high levels of openness to experience are inclined to be curious, imaginative, empathetic, creative, original, artistic, aesthetically responsive and flexible (Hudek-Knezevic et al., 2006).
Positive reframing	Positive reframing was found to mediate significantly between family values and caregiver gains (Parveen, Morrison, & Robinson, 2014). A model linking self-compassion to lower stress through coping styles and coping efficacy was tested. Results revealed significant indirect effects for adaptive coping styles (active, positive reframing, and acceptance) (Gloria & Steinhardt, 2014). Positive reframing is an active coping strategy that entails purposefully reappraising a stressful situation in a more positive light and finding meaning in what is being experienced (Folkman & Moskowitz, 2000).

Affective/emotional Construct	Empirical evidence
	Cognitive restructuring (positive re-appraisal) occurs where a person accepts the basic reality while viewing it from the most favourable angle (Fredrickson, 2005). Coping mechanisms that people employ help explain their success in maintaining a positive outlook, achieving satisfaction in life and adapting to the challenges of life (Gill & Morgan, 2011).
Positive affect	A study was conducted to explore how different coping strategies relate to environmental engagement and well-being. The more meaning-focused coping children used, the less they experienced negative affect, and the more they experienced life satisfaction, general positive affect, purpose, and optimism (Ojala, 2012). It was found that only positive affect mediated the relationship between proactive coping and depression. Positive psychology shows how positive constructs contribute to improved psychological functioning (Greenglass & Fiksenbaum, 2009). People who participate more frequently in social activities, activities outside the home and mass communication, as well as in solitary games or board games with other people, experience higher positive affect (Gonzalez-Herero & Garcia-Martin, 2012). Larsen and Prizmic (2008) argue that the balance of positive and negative affect is a key factor in subjective well-being and in defining whether a person flourishes. The hallmark of well-being is positive affect, which includes joviality, self-assurance and attentiveness (Snyder et al., 2011). Positive emotions play a crucial role in enhancing coping resources in the face of negative events (Tugade et al., 2004).

Affective/emotional Construct	Empirical evidence
	Positive emotions guide people's mindset, enabling them to think creatively and flexibly (Ashkanasy et al., 2011). Studies have shown that positive emotions play a role in the development of long-term resources such as psychological resilience and flourishing (Fredrickson et al., 2003).
Emotional granularity	Research has shown that healthy individuals who fail to differentiate among emotional states (i.e., those with low emotional granularity; EG) have poorer social functioning (Kimhy, Vakhrusheva, Khan, Chang, Hansen, Ballon, & Gross, 2014). The broaden-and-build theory of positive emotions suggests that positive emotions can widen the range of potential coping strategies that come to mind and subsequently enhance one's resilience against stress. Positive emotional granularity is the tendency to represent experiences of positive emotion with precision and specificity (Tugade et al., 2004).
Happiness	A research study found that emotion-focused coping is positively associated with emotional self-efficacy, emotional empathy and happiness (Evans-Palmer, 2015). Happiness reduces mental problems in individuals and leads to self-efficiency; happy individuals will have more control over life problems (Aminpoor & Naghadeh, 2014). Happiness can be conceptualised as a bipolar dimension where high scores correspond to high scores in life satisfaction and positive affect (Joseph & Wood, 2010). Happiness rests on the individuals' capacity to distinguish between good and bad stimuli that exist in an environment and trigger behavioural responses (Laynard, 2005). Happiness is an umbrella term for all that is good and the term often used is well-being or quality of life (George, 2010).

Affective/emotional	
Construct	**Empirical evidence**
	Happy people are more active, efficient, and productive at their jobs (Taris & Schreurs, 2009). Happy individuals are more active, approach-oriented, energetic, interested in their work, sympathetic to their colleagues and persistent in the face of difficulties (Fisher, 2010).
Conative/motivational	
Construct	**Empirical evidence**
Self- efficacy	Greater stress management self-efficacy was associated with lower depression scores for students whose stress impeded their academic performance, irrespective of their gender and age (Sawatzky, Ratner, Richardson, Washburn, Sudmant, & Mirwaldt, 2012). Self-efficacy is the belief that one can perform a specific task or activity has been shown to influence behaviour (Gallagher et al., 2012). Self-efficacy is the perceived ability to manage the demands of a specific situation successfully, with self-efficacy determining how people feel, think and motivate themselves (Bandura, 1997). Self-efficacy is attributed to a feeling of value, self-esteem, sufficiency and efficacy in handling the events of life (Dogan et al., 2013). Self-efficacy refers to one's beliefs about one's capability and the drive to apply oneself in a situation (Olson, 2012).

Conative/motivational Construct	Empirical evidence
Resilience	Researchers have also found that individuals who possess high levels of resilience are protected from stress and thus report lower levels of anxiety and depressive symptoms (Gloria & Steinhardt, 2014). Resilience is about the experience of adversity functioning better than expected (Masten, 2009) and the ability to withstand severe contextual stressors and risks in order to develop. Resilience is considered a protective mechanism that operates in the face of negative stressors (Bonanno, 2004). Resilience reduces mortality rates (Diaz-Pulido, Gouezo, Tilbrook, Dove, & Anthony, 2011) and counters the negative effects of ill health (van Heugten, 2013). Resilience predicts mental health (Martin-Moreno, Anttila, von Karsa, Alfonso-Sanchez, & Gorgojo, 2012) emotional health and well-being and social contact with family and friends, and optimism predicts resilience (Netuveli & Blane, 2008).
Flourishing	It was found that a positive mood that tends to provide pleasure is positively associated with self-esteem at the highest level and then it is positively associated with emotional approach coping and flourishing (Juth, Dickerson, Zoccola, & Lam, 2015). There are significant correlations between selected salutogenetic factors, such as flourishing, mindfulness and sense of coherence (Gimpel, Esch, Von Scheidt, Michalsen, Jose, Sonntag, & Stefano, 2014). Flourishing entails the deliberate drive to achieve optimal well-being and the building of strengths, guided by the ideal of flourishing, concentrating on what works, what is right, and what is improving (Sheldon & King, 2001). Flourishing is a state of wholeness where people can deal with stressors in an effective way and maintain wholeness when interacting with their environment in a positive way (Keyes, 2002).

Conative/motivational Construct	Empirical evidence
	Thriving is an aspect of flourishing, and is more than mere coping with stressors. It entails the mobilisation of all individual and social resources (coping strategies) not only to survive a threat, but to overcome the stressor or challenge more forcefully than before (O'Neil, 2006). Positive emotions play a role in the development of long-term resources such as psychological resilience and flourishing (Fredrickson et al., 2003).
Intention for positive health	The association between positive psychological well-being and cardiovascular disease were investigated. Findings showed that positive psychological well-being protects consistently against cardiovascular disease, independently of traditional risk factors and ill-being (Boehm & Kubzansky, 2012). Physical wellness, as a motivational aspect of coping, is regarded as encompassing knowledge on good nutrition, physical activity and general lifestyle; about building endurance, flexibility, physical strength and cardiovascular health; and about bodily awareness, understanding bodily changes and physical needs throughout the life-cycle (Brand & Gauche, 2010).
Proactive coping	Proactive coping does not take place spontaneously; it is a process of coping that needs conscious employment and careful, deliberate planning (Codaty, 2011). Proactive people see demands and opportunities in the future but they do not appraise these negatively (Schwarzer & Taubert, 2002). Proactive coping differs from other forms of coping in that it incorporates and utilises all resources: it focuses on visions of success and uses positive emotional strategies (Frydenberg, 2014). Proactive coping is all about positive appraisals involving challenges and goal achievement and strategies that accumulate resources and acquire skills that forearm and prepare (Aspinwall & Taylor, 1997).

Conative/motivational	
Construct	**Empirical evidence**
Conscientiousness	A study was done on the effects of conscientiousness and coping strategies on the relationship between abusive supervision and employees' job performance. Moderating effects of conscientiousness were found to be mediated by the use of avoidance coping strategies (Nandkeolyar, Shaffer, Li, Ekkirala, & Bagger, 2014). Witt et al, (2002) found that highly conscientious workers are predisposed to be organised, exacting, disciplined, diligent, dependable, methodical and purposeful. They are more likely to take the initiative in solving problems and remain committed. They also tend to be characterised as thoughtful, planful, organised and thorough and as experiencing higher levels of cognitive liveliness (Armon & Shirom, 2011). Conscientiousness has been shown to be positively related to the use of causation and effectuation decision logic, depending on the level of uncertainty in the environment (Bean, 2010). A meta-analysis showed that conscientiousness is moderately associated with positive affect. It has been proposed to have instrumental effects on subjective well-being by facilitating more positive experiences in achievement situations (Steel et al., 2008).
Adaptability	It was found that work–family conflict is a result of individuals' failure to adapt to situational demands in the work and family domains (Major & Litano, 2014).
Interpersonal	
Construct	**Empirical evidence**
Extroversion	Extraversion was positively correlated with task-oriented coping (Jelaš, Korak, & Vukosav, 2014). Researchers have found positive correlations between extraversion and positive affect experiences of positive life events, well-being and positive mental health, happiness and resiliency (Catalino & Fredrickson, 2011).

Interpersonal Construct	Empirical evidence
	Hughes et al. (2009) mention that extroverts are concerned with getting ahead in life, are willing to take risks and come across as competitive, impactful and outgoing. Individuals who score high on extraversion tend to be cheerful, like people and large groups, seek excitement and stimulation. Extroverts have an instinctual need to be heard and rely upon family resources to satisfy their need for feedback, communication and sharing of their experience, which will generally direct their actions (Van Rooyen, 2006). Ceyhan (2006) concludes that individuals who are considered extroverted tend to have a lower level of anxiety than individuals who are considered introverted. Introverts need hours alone every day, love quiet conversations about feelings or ideas, have to be dragged to social gatherings and find other people tiring (Dembling, 2012). Extroverted people usually adapt to their environment quite quickly and often appear to venture forth with confidence into unknown situations (Loehken, 2015).
Social support	Personality traits and social support lead to the development of positive coping methods in cancer patients (Rajandram, Jenewein, McGrath, & Zwahlen, 2011). Social support improves physical and psychological well-being, both directly and as stress buffers (Lyubomirsky & Layous, 2013). Social support, positive reappraisal, intrinsic motivation and role functioning were tested. Social support may facilitate proactive coping processes to enhance role functioning (Davis & Brekke, 2014). Social support directly reduces strain and people who have access to social support have greater well-being (Dewe et al., 2010).

Interpersonal Construct	Empirical evidence
Agreeableness	Results of a study of the relationship between family interference with work, job stress, agreeableness and employee attitudes indicated that only employees low in agreeableness perceived job stress and a decrease in job and life satisfaction (Anand, Vidyarthi, Singh, & Ryu, 2014). Research showed that the positive relationships of interpersonal conflict were strongest for people of low emotional stability–low agreeableness among all emotional stability–agreeableness combinations, and that the positive relationships of organisational constraints were strongest for people of high emotional stability–low conscientiousness among all emotional stability–conscientiousness combinations (Zhou, Meier, & Spector, 2014). Tobin et al. (2000) found that more agreeable individuals were also more likely to predict and experience high reactivity to emotionally laden conditions. Individuals with a high agreeableness score are concerned with getting along with others, and come across to others as diplomatic, approachable, optimistic and empathetic (Husam, 2012). Agreeableness is the personality trait that is most consistently linked to effortful affect regulation and control (Pearman et al., 2010). Highly agreeable people actively seek out the companionship of others, experience pleasurable engagements with the environment, and espouse positive views of themselves (Armon & Shirom, 2011).

In summary, research findings showed that effective positive coping depends on the individual's positive behavioural capacities. Furthermore, every single psychosocial behavioural construct was and is still researched in terms of the influence it has on coping and it has been found that effective coping does occur. A further benefit of these behavioural constructs is that they underpin capacities of the other constructs that add value to effective positive coping. Table 3.6 presents an overview of the psychosocial behavioural construct capacities and the coping styles that relate to the constructs.

Table 3.6

Coping Styles Associated with the Positive Coping Behavioural Constructs

Psychosocial dimensions of positive coping behaviour		
Cognitive	**Capacities**	**Coping Styles**
Cognitive attributes	Locus of control	Problem-solving
	Flourishing	strategies
	Conscientiousness	
	Proactive coping	
	Adaptability	
Wisdom	Locus of control	Problem-solving
	Openness to experience	strategies
Self-esteem	Sense of coherence	Problem-focused
	Locus of control	strategies
	Openness to experience	
	Positive affect	
	Self-efficacy	
	Resilience	
	Flourishing	
	Extroversion	
	Social support	
	Agreeableness	

Psychosocial dimensions of positive coping behaviour		
Cognitive	**Capacities**	**Coping Styles**
Optimism	Self-esteem	Positive reframing
	Positive affect	Approach-oriented
	Self-efficacy	coping strategies
	Resilience	Engagement coping
	Flourishing	Problem-solving
	Intension for positive health	strategies
	Proactive coping	
	Extroversion	
	Agreeableness	
Humour	Wisdom	Humour as a coping mechanism
Sense of coherence	Resilience	Active and adaptive
	Intention for positive health	coping styles
	Adaptability	
Locus of control	Self-esteem	Problem-solving
	Openness to experience	strategies
	Emotional granularity	
	Self-efficacy	
	Resilience	
	Proactive coping	
	Extroversion	
Openness to experience	Wisdom	Strategic approach
	Locus of control	
	Happiness	
	Flourishing	
Positive reframing	Extroversion	Active coping strategy
		Meaning-focussed coping
		Positive reframing as a coping mechanism

Psychosocial dimensions of positive coping behaviour		
Affective/emotional	**Capacities**	**Coping Styles**
Positive affect	Optimism Intention for positive health Proactive coping Conscientiousness	Positive affect serves as a coping mediator.
Emotional granularity	Humour Positive affect Resilience Flourishing Conscientiousness Agreeableness	Engagement coping
Happiness	Optimism Humour Positive affect Emotional granularity Intention for positive health	Active and approach-oriented
Conative/motivational	**Capacities**	**Coping Styles**
Self-efficacy	Self-esteem Resilience Flourishing Intention for positive health	Problem-focused coping
Resilience	Humour Sense of coherence Emotional granularity Happiness Proactive coping	Problem-solving coping

Psychosocial dimensions of positive coping behaviour		
Affective/emotional	**Capacities**	**Coping Styles**
Conative/motivational	**Capacities**	**Coping Styles**
Flourishing	Emotional granularity Happiness Resilience Positive health	Problem- solving and adaptive coping
Intention for positive health	Wisdom Self-esteem Humour Openness to experiences Positive affect Emotional granularity Happiness Self-efficacy Resilience Proactive coping Social support	Problem-solving and positive coping
Proactive coping		Positive emotional strategies
Conscientiousness Adaptability	Agreeableness Locus of Control Extroversion	Problem-solving coping Adopt individual forms of coping Adaptability is a coping style
Interpersonal	**Capacities**	**Coping Styles**
Extroversion	Openness to experiences Happiness Flourishing	Active coping
Social support	Optimism Humour Sense of coherence Positive affect Resilience	Appropriate coping strategy for the situation

Psychosocial dimensions of positive coping behaviour		
Affective/emotional	**Capacities**	**Coping Styles**
	Flourishing Intention for positive health Proactive coping Agreeableness	
Agreeableness	Conscientiousness	Higher quality of coping

In summary, empirical evidence showed that when individuals apply positive coping behaviour they cope effectively. Each and every positive coping behavioural construct does have a constructive part to play in the coping process as illustrated below in Table 3.7.

Table 3.7

The Constructive Role of the Coping Behavioural Constructs

Cognitive coping behaviour *is the individual's problem-solving and mental orientations. Cognitive coping behaviour is thinking through the problem and evaluates what the impact will be.*
The cognitive coping behavioural constructs that facilitate positive cognitions during coping include:
Cognitive attributes where a person will look for effective problem-solving interventions. **Wisdom** leads to experiences, which creates opportunities, which lead to effective handling of situations. A person who has a healthy **self-esteem** will have the wisdom what to do in a stress situation. When a person has **optimism** he/she handles difficulties effectively. **Humour** and laughter can be effective self-care tools to cope with stress and possibly even cure stress. **Sense of coherence** is a general approach to life that enables the person to cope with challenges. A person with **locus of control** is motivated for a task and is more persistent in their efforts to solve complex problems. A person with **openness with experience** is concerned with how problems will be approach, eager to learn new information and reacts to new experiences. **Positive reframing** is coping with stressful situations, which allows for learning and the building up of resources that can act as a buffer against future stressors

Affective coping behaviour is the individuals' general mood and emotional responses to stress and experiences of situation and influence on future interactions.
The affective coping behavioural constructs that facilitate positive affect during coping are;
Positive affect is sharing a positive event with others; this requires retelling the event, which creates an opportunity to re-experience it. **Emotional granularity** widens the range of coping strategies and enhances one's resilience against stress. **Happy** individuals will have more control over life problems.

Conative coping behaviour is the motivational aspects of the individual's responses to stress. It is the energy and effort the individual is putting in the situation.
The conative coping behavioural constructs that facilitate the inner drive and willingness to cope positively;
The perceived ability to manage the demands of a difficult situation successfully is made possible by **self-efficacy.** The protective mechanism of **resilience** implies being able to adapt properly to stress and adversity. **Flourishing** entails the deliberate drive on what works, what is right and what is important. **Intention for positive health** is striving toward having a general sense of happiness and satisfaction with life and the environment, which encompasses all aspects of life, including physical and mental health and well-being, as well as the ability to react to factors in the physical and social environments . People who apply **proactive coping** see the demands and opportunities in the future but they do not appraise these negatively. **Conscientiousness** individuals take the initiative in solving problems and remain committed. Individuals with **adaptability** have the capacity to adjust responses through effective problem-solving methods.

Interpersonal coping behaviour is the individuals' social responses and experiences in dealing with the stress situation.
The interpersonal coping behavioural constructs that assist the individual in dealing positively constructs with the stress situation are;
Extroverts adapt quite quickly in their environment and venture forth with confidence into unknown situations. **Social support** leads to the development of positive coping methods. **Agreeable** individuals are more likely to predict and experience high reactivity to emotionally laden conditions.

The observation can be made that people employing positive behavioural coping capacities are not afraid to approach any difficulties or challenges. When the challenges are faced, the positive coping behavioural capacities function as supportive positive personal resources in successfully concluding the coping process. The individual with a well-developed repertoire of positive behavioural coping capacities sees every stress situation as a learning experience and with every stress situation improves to become an effective coper. Positive coping behaviour entails building up personal coping resources, facilitating and promoting the achievement of challenging goals and personal growth, seeing risks as opportunities and coping as goal management, following a constructive path of action, creating opportunities for growth, life improvement and higher performance levels. Positive character components are seen to determine the proactive engagement in effective coping behaviour.

3.4 TOWARDS CONSTRUCTING THE POSITIVE COPING BEHAVIOUR INVENTORY

Many coping inventories have been developed over the years (Maschi, Viola, Morgen, & Koskinen, 2015). Coping is a multidimensional construct that is not adequately represented by a single measure and numerous inventories to assess coping have been proposed (Knight & Sayegh, 2010). The measures of coping focus predominantly on coping styles, positive facets of coping, responses to stressful events and coping strategies. The scales show the effectiveness of the type of coping style and the positive outcomes. However, there is still insufficient understanding of positive coping at a deeper level, which the present research endeavours to address. The general aim of this research is to determine the theoretical elements of positive coping behaviour and operationalise these into a reliable and valid measurement scale, the positive coping behaviour inventory (PCBI). The conceptual descriptions and theoretical principles were instrumental in generating items for the PCBI. Table 3.8 provides an overview of the PCBI behavioural dimensions, items generated and a conceptual description of each behavioural dimension.

The generation of items during questionnaire development requires considerable pilot work to refine wording and content. To assure face or content validity, items can be generated from a number of sources, including consultation with experts in the field, proposed respondents and review of associated literature (Van Dam, Earleywine, & Borders, 2010). A key strategy in item generation is to reconsider the research questions frequently and to ensure that items reflect these and remain relevant. It is during this stage that the proposed subscales of a questionnaire are identified to ensure that items are representative of these (Weston, Haudek, Prevost, Urban-Lurain, & Merrill, 2015). The item and factor analysis stages of the questionnaire development process may then be used to establish if such items are indeed representative of the expected subscale or factor (Gierl, Lai, & Breithaupt, 2012). For the specific task, a list of 51 PCBI items was evaluated by four subject matter experts in the positive psychology and coping field. An important consideration at the item generation stage was to ensure that the items would be understood by the potential respondents. For this reason, the 51 items were presented to a trail run of 10 respondents (Teo, 2010). Figure 3.3 shows the process item generation.

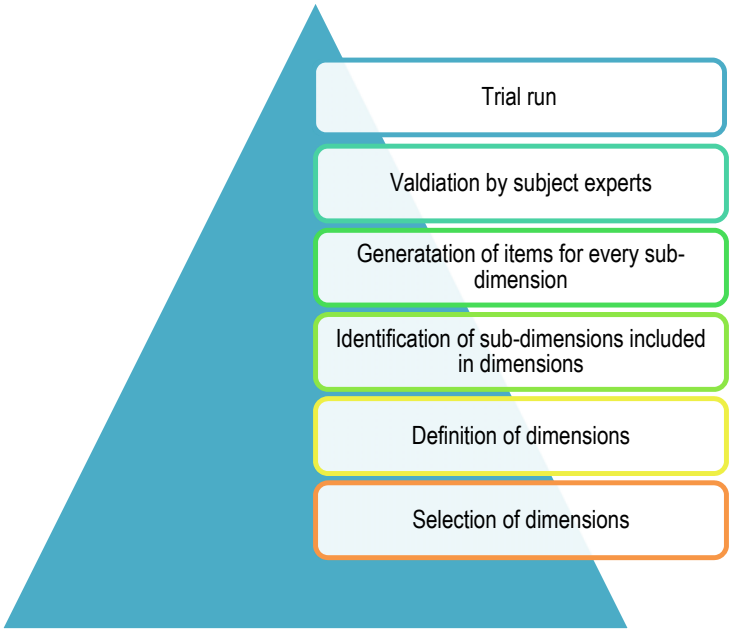


Figure 3.3: Item generation process

Table 3.8 provides an overview of the PCBI behavioural dimensions, items generated and a conceptual description of each behavioural dimension.

Table 3.8

Dimensions and items of the positive coping behavioural inventory

Dimensions and descriptive elements of Positive Coping Behavioural Inventory	Sub-dimensions/aspects included in dimension	Definition
a) Cognitive coping behaviour	• Cognitive attributes • Wisdom • Self-esteem • Optimism • Humour • Sense of coherence • Locus of control • Openness to experience • Positive reframing	Problem-solving is a commonly used method of coping, which may be viewed as both a cognitive and behavioural method of dealing with a situation. As a cognitive process, problem-solving can involve evaluating and thinking through the problem, and subsequent decision-making. Behavioural problem-solving refers to what one does in order to alter the immediate stressor (Ong et al., 2013). Positive cognitive coping behaviour occurs when individuals have a higher ability to reassess changed situations positively (Horstmann et al., 2012).
Item 1. I can manage unfamiliar problems effectively. 2. I usually see the meaningfulness of a stressful situation	**Cognitive attributes:** • The coping process starts with an **appraisal of the situation** and the **associated demands** being placed on the individual. It involves individuals **evaluating** the personal significance	Cognitive attributes refer to the mental resources needed to carry out effortful mental tasks and everyday activities involving decision-making, problem-solving or dealing with unfamiliar problems (Trouillet et al., 2011).

Dimensions and descriptive elements of Positive Coping Behavioural Inventory	Sub-dimensions/aspects included in dimension	Definition
3. I am usually quick to see how a stressful situation will affect my personal wellbeing. 4. I usually find solutions to situations that affect my goals negatively.	It involves individuals **evaluating** the personal significance of the situation and deciding that their goals are at stake (London, 2014).	
5. I usually weigh the pros and cons of a decision in order to find the best possible solution to a problem that affects my wellbeing 6. I am able to distinguish between a situation entailing risk and one that does not. 7. I usually reflect on problems in order to gain a deeper understanding of how they affect my personal life.	**Wisdom:** Sternberg (1998) proposes that wisdom **problems** require a person to **resolve** conflicts.	Wisdom involves forming a judgement when there are competing interests that lack a clear resolution (Sternberg, 1998).

Dimensions and descriptive elements of Positive Coping Behavioural Inventory	Sub-dimensions/aspects included in dimension	Definition
8. Even in uncertain times, I usually expect the best. 9. I usually devise a plan to deal positively with stressful events.	**Optimism:** When coping with stressors, optimists appear to take a **problem-solving approach** that enhances their ability to deal with stressful events and demonstrates **more planning** (Seligman, 2011).	Optimism has been defined as the dispositional tendency of individuals to maintain generalised positive expectations, even when faced with setbacks or problems in their lives (Scheier et al., 2001).
10. Humour helps me to bring relief in painful situations. 11. Through humour I am able to gain perspective in painful situations.	**Humour:** Humour can also bring **relief** from painful emotions by allowing individuals to **gain perspective** (Morreall, 2009).	Humour refers to a cheerful view of adversity that allows one to cope and sustain higher levels of happiness and the ability to make others smile and laugh (Peterson & Seligman, 2004).
12. I usually see life as predictable and manageable.	**Sense of coherence:** Sense of coherence has been identified as a useful individual resource that equips an individual with the **capacity** to **use** available resources **efficiently** (Lindström & Eriksson, 2005).	Sense of coherence as the global orientation that expresses the extent to which one has a pervasive, enduring, though dynamic feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected (Antonovsky, 1979).

Dimensions and descriptive elements of Positive Coping Behavioural Inventory	Sub-dimensions/aspects included in dimension	Definition
13. I feel confident about overcoming most of my problems. 14. Negative unpleasant incidents do not affect my sense of self-worth. 15. I feel valuable and worthy most of the time.	**Self-esteem:** People with high self-esteem tend to rely more heavily on **problem-focused strategies**. They are more **confident** and can overcome their problems and show more clearly defined self-concepts and greater optimism about meeting goals (Gafoor, 2011). Self-esteem influences how individuals **handle** negative feedback (Dijksterhuis, 2004), interpersonal stressors (Hetts & Pelham, 2001) and **unpleasant** thoughts or emotions (McGregor & Marigold, 2003). Self-esteem is described as the extent to which people consciously and explicitly consider themselves **valuable and worthy** (Tafarodi & Ho, 2006).	Self-esteem is construed to have two interrelated aspects: it entails a sense of personal efficacy and a sense of personal worth. It is the integrated sum of self-confidence and self-respect. It is the conviction that one is competent to live and worthy of living (Lalkhen, 2000).

Dimensions and descriptive elements of Positive Coping Behavioural Inventory	Sub-dimensions/aspects included in dimension	Definition
16. Even in uncertain times, I usually expect the best. 17. I usually devise a plan to deal positively with stressful events.	**Optimism:** When coping with stressors, optimists appear to take a **problem-solving approach** that enhances their ability to deal with stressful events and demonstrates **more planning** (Seligman, 2011).	Optimism has been defined as the dispositional tendency of individuals to maintain generalised positive expectations, even when faced with setbacks or problems in their lives (Scheier et al., 2001).
18. Humour helps me to bring relief in painful situations. 19. Through humour I am able to gain perspective in painful situations.	**Humour:** Humour can also bring **relief** from painful emotions by allowing individuals to **gain perspective** (Morreall, 2009).	Humour refers to a cheerful view of adversity that allows one to cope and sustain higher levels of happiness and the ability to make others smile and laugh (Peterson & Seligman, 2004).
20. I usually see life as predictable and manageable.	**Sense of coherence:** Sense of coherence has been identified as a useful individual resource that equips an individual with the **capacity** to **use** available resources **efficiently** (Lindström & Eriksson, 2005).	Sense of coherence as the global orientation that expresses the extent to which one has a pervasive, enduring, though dynamic feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected (Antonovsky, 1979).

Dimensions and descriptive elements of Positive Coping Behavioural Inventory	Sub-dimensions/aspects included in dimension	Definition
21. I believe most problems can be overcome by viewing them in a positive light. 22. I feel that one has control over one's destiny.	**Locus of control:** Individuals with an internal locus of control can **manage** stressful situations **effectively** by using **problem-solving** strategies (Grimes et al., 2004).	Locus of control is the extent to which individuals believe that they have control over their own destiny (Thomas et al., 2006).
23. I like to experience new things.	**Openness to experience:** Openness to experience is a trait of tending to take a more **strategic approach** to solving problems (Hughes et al., 2009). Persons who are **open** to experience **search** for and love **new** experiences (Smith, 2013).	Openness to experience is concerned with how an individual approaches problems, learns new information and reacts to new experiences. It indicates that a person is intellectually curious and imaginative (Spink, Green, & Jorgensen, 2014).
24. I find positive meaning in most difficult situations	**Positive reframing:** Positive reframing is an **active** coping strategy that entails **purposefully** reappraising a stressful situation in a more positive light and **finding meaning** in what is being experienced (Folkman & Moskowitz, 2000).	Positive reframing is a process through which negative events or circumstances are seen in a positive light (Lambert et al., 2009).

Dimensions and descriptive elements of Positive Coping Behavioural Inventory	Sub-dimensions/aspects included in dimension	Definition
b) Affective coping behaviour	• Positive affect • Emotional granularity • Happiness	Positive emotions broaden behavioural repertoires and in so doing build resources that support coping (Garland et. al, 2010). Coping resources are aimed at regulating people's emotions, solving or improving the practical problems they face and maintaining the psychological resistance and strength needed to remain productive for a prolonged period. (Papastavrou et al., 2011). The focus of affect is on the emotions an individual experiences in the now, the present moment, and the individual's awareness of why the specific emotions are experienced (Finn, 2012). Affective emotion-focussed coping strategies are more likely to use techniques to alleviate stress, for example humour (Caltabiano, Costin, & Ochiai, 2015).

Dimensions and descriptive elements of Positive Coping Behavioural Inventory	Sub-dimensions/aspects included in dimension	Definition
20. I feel happy, joyful and excited most of the time.	**Positive affect:** It was found that positive affect **mediated** the relationship between proactive coping and depression (Folkman & Moskowitz, 2000).	Positive affect refers to feelings that reflect a level of pleasurable engagement with the environment, such as happiness, joy, excitement, enthusiasm and contentment (Cohen & Pressman, 2006).
21. I usually feel positive and hopeful, no matter what the situation and circumstances are.	**Emotional granularity:** Positive emotions play a crucial role in **enhancin**g coping resources in the face of negative events (Tugade et al., 2004).	Positive emotional granularity is the tendency to represent experiences of positive emotion with precision and specificity (Tugade et al., 2004).
22. Most people would describe me as a happy person. 23. I feel most of the time energetic and interested in my work. 24. I care deeply about others 25. Nothing will bring me down. 26. I feel capable in handling difficult situations	**Happiness:** Happy people **cope better** with stress (Vaillant, 2008). Happy individuals are **more** active, approach-oriented, energetic, interested in their work, sympathetic to their colleagues and persistent in the face of difficulties (Fisher, 2010) and are **more resilient** (Stephens, Breheny, & Mansvelt, 2015).	Happiness is defined as stable extroversion and noted that it seemed to be related to easy sociability and a predisposition to natural, pleasant interactions with other people (Eysenck, 1983).

Dimensions and descriptive elements of Positive Coping Behavioural Inventory	Sub-dimensions/aspects included in dimension	Definition
c) Conative coping behaviour	• Self-efficacy • Resilience • Flourishing • Positive health • Proactive coping • Conscientiousness • Adaptability	Motivation is indicated by the intensity (or energy), direction and persistence of goal-directed behaviour. It influences the allocation of attentional resources, expenditure of effort, emotional reactions to difficulties and persistence in the face of setbacks (Dai & Sternberg, 2008). Motivation occupies a paradoxical place in behaviour and provides a powerful initial spur to the process, for example, hope in the stress situation.
27. I am able to persevere no matter what the situation is 28. I feel confident in handling my negative emotions 29. I am able to bounce back from adversity.	**Self-efficacy:** Self-efficacy appears to serve as a **protective** factor, **increasing** coping ability and **perseverance** in the face of challenge. Self-efficacy refers to one's **beliefs** about one's **capability** and the **drive** to apply oneself in a situation (Olson, 2011).	Self-efficacy is defined as one's beliefs in personal capabilities to organise and execute the courses of action required to produce a given outcome and plays a central role in explaining human motivation and behaviour (Kim et al., 2012).

Dimensions and descriptive elements of Positive Coping Behavioural Inventory	Sub-dimensions/aspects included in dimension	Definition
30. I feel that I learn from difficult situations. 31. I can overcome difficult situations	**Resilience:** Resilience is the ability to detach actively from unhealthy attachments and seek out **nurturing relationships**, the desire to nurture others and the ability to find situations that **reinforce** a **sense** of **competence** (Bain, 2009). Resilience is about the experience of **functioning better** than expected in adversity (Masten, 2009) and the ability to **withstand** severe contextual **stressors and risks** in order to develop.	Resilience is the power or ability to return to the original form or position, after being bent, compressed or stretched (Elliot et al., 2013). Psychological resilience is defined as an individual's ability to adapt properly to stress and adversity (Windle, 2011).
32. Nurturing my health and wellbeing is important to me 33. I know what my strengths are. 34. I usually concentrate on what is right, what works, and what is improving in my life	**Flourishing:** Flourishing entails the deliberate **drive** to achieve **optimal** well-being and the **building** of strengths, guided by the ideal of flourishing, concentrating on what works, what is right, and what is improving (Sheldon & King, 2001).	Flourishing is a state of mental health in which people are free of mental illness and have high levels of emotional, psychological and social well-being (Keyes, 2007).

35. Taking good care of my body, mind and soul is important to me		
Dimensions and descriptive elements of Positive Coping Behavioural Inventory	**Sub-dimensions/aspects included in dimension**	**Definition**
36. Good nutrition, physical activity and a positive lifestyle are all important to live the good life 37. I usually make choices that honour my body and wellbeing 38. I am a functional member of society.	**Intention for positive health:** Psychological well-being encompasses a **positive state** of **flourishing** (Keyes & Ryff, 2003). Intention for physical wellness is a **motivational aspect** of coping and understanding bodily changes and physical needs throughout the **life-cycle** (Brand & Gauche, 2010). Mental wellness entails individuals using their cognitive and emotional capabilities, functioning in society and meeting the **ordinary demands** of everyday life (Brand & Gauche, 2010).	Intention for positive health is seen as the individual's striving toward having a general sense of happiness and satisfaction with his/her life and environment, which encompasses all aspects of life, including physical and mental health and well-being, as well as the ability to react to factors in the physical and social environments (Asamani et al., 2015).

Dimensions and descriptive elements of Positive Coping Behavioural Inventory	Sub-dimensions/aspects included in dimension	Definition
39. I believe that prevention is better than cure. 40. I constantly strive to improve my ability to deal with difficult situations 41. I have resources lined up to help me face difficult situations.	**Proactive coping:** People who cope **proactively** strive for **increasing resources**, trying to maximise gains and then building up resistance factors to protect them against future crises (Schwarzer & Taubert, 2002).	Proactive coping is an attempt to build up general resources that facilitate moving towards challenging goals, personal growth and engagement (Houdmont & Leka, 2010).
42. I am creative when I solve problems. 43. I see difficult situations as a challenge. 44. I have endurance during difficult situations. 45. I always reach my goals.	**Conscientiousness:** Conscientiousness is moderately associated with positive affect and **initiative** in solving problems and remaining **committed** (Witt et al., 2002). A conscientious individual is **persistent** and **motivated** in the pursuit of goals (Zhao & Seibert, 2006).	Conscientiousness refers to the extent to which a person is self-disciplined, dependable, persistent, organised (McCrae & John, 1992), hard-working, and motivated in the pursuit of accomplishing goals (Hughes et al., 2009; Zhao & Seibert, 2006).
46. I always adjust positively to any kind of situation.	**Adaptability:** People's method of adaptation enables them to **adjust positively** to situations (Bailly et al., 2012).	Adaptability represents the capacity to adjust responses to changing external drivers and internal processes and thus allowing for development through adaptation in the current situation (Folke et al., 2010).

Dimensions and descriptive elements of Positive Coping Behavioural Inventory	Sub-dimensions/aspects included in dimension	Definition
d) Interpersonal coping behaviour	• Extroversion • Social support • Agreeableness	Interpersonal coping behaviour can be seen as the manner in which an individual experiences and evaluates his/her own circumstances (Horstmann et al., 2012). Interpersonal coping behaviour is the belief that one can perform a specific task or behaviour and is a modifiable attribute that has been shown to influence behaviour (Gallagher et al., 2012). As the individual develops, repeated experiences are internalised in an attachment style, a complex system of representations, expectancies and beliefs about the self and others that have an influence on the outcome of behaviour (Consedine et al., 2012).
47. I usually adapt quite quickly. 48. I am not scared of new or unknown situations.	**Extroversion:** Extroverted people usually **adapt** to their environment quite **quickly** and often appear to venture forth with **confidence** into **unknown** situations (Stephens-Craig et al., 2015). They are **not afraid** to **expose** themselves to risks (De Beer, 2012).	Extroversion refers to sociability, activity and a predisposition to experience positive emotions (Lucas & Fujita, 2000).

Dimensions and descriptive elements of Positive Coping Behavioural Inventory	Sub-dimensions/aspects included in dimension	Definition
49. I am not afraid to expose myself to risks.		
50. I have sufficient social support.	**Social support:** Perceiving oneself as having sufficient **social support** has been linked to **higher** self-esteem, **more** effective coping, **better** physical health and f**ewer** psychological problems (Bain, 2009).	Social support entails reaching out to other people and receiving some form of assistance from them (Blaney et al., 2004).
51. I am generous, kind and tenderminded.	**Agreeableness:** The personality trait of agreeableness is related to a **higher quality** of coping (McClendon & Smyth, 2013). Agreeableness indicates an individual who is **strong** on an **interpersonal** level (Zhao & Siebert, 2006).	Agreeableness is described as being appreciative, forgiving, generous, kind, sympathetic, trusting, compliant and tender-minded (Mohammadi et al., 2010).

In summary, positive coping behaviour is approached from a multidimensional and psychosocial perspective. The PCBI therefore comprises four meta-behavioural dimensions (cognitive, affective, conative and interpersonal) of positive coping behaviour. The items generated for each of these dimensions are based on the range of constructs shown by the literature review to be of relevance to each behavioural dimension. The number of items (n= 51) generated for each behavioural dimension is as follows:

- Cognitive coping behaviour: item numbers 1-19
- Affective coping behaviour: Item numbers 20-26
- Conative coping behaviour: Item numbers 27-46
- Interpersonal coping behaviour: Item numbers 47-51

3.5 IMPLICATIONS FOR WELLNESS PRACTICES

Employees face numerous stressors, including time pressures, workload, multiple roles and emotional issues, necessitating a preventive approach. The psychosocial positive coping behavioural capacities can be developed and wellness practices must support the development of these capacities. Creating resilience-promoting environments can be explored as a means to reduce negative and increase positive outcomes of stress in the workplace (McCann, Beddoe, McCormick, Huggard, Kedge, Adamson, & Huggard, 2013). The shift must be to positive thinking and behaviour, with the aim to build the capacity of individuals to make decisions that will facilitate the development of positive coping behavioural capacities (Wand, 2013).

The use of positive psychological interventions may be considered as a complementary strategy in wellness practices. Results of a meta-analysis show that positive psychology interventions can be effective in the enhancement of subjective well-being and psychological well-being (Bolier, Haverman, Westerhof, Riper, Smit, & Bohlmeijer, 2013). A greater understanding of resilience as an innate stress response resource highlights the need for processes that support resilience development and organisational and personal stress-management strategies (Grafton, Gillespie, & Henderson, 2010: Skomorovsky & Stevens, 2013). Table 3.9 provides suggested interventions on individual, group and organisational level of the psychosocial positive coping behavioural capacity as measured by the PCBI.

Table 3.9

Discrepancies on Individual-, Group- and Organisational level of the Psychosocial Positive Coping Behavioural Capacity

Psychosocial positive coping behavioural capacity as measured by the PCBI	**Characteristics of well-developed capacity**	**Suggested interventions Individual level**	**Team level**	**Organisational level**
		• Identifying personal resources such as positive coping behaviour an individual has to have. • Measuring coping behaviour to assess strengths and areas for enrichment • Building psychological resources • Displaying psychosocial capacities in coping • Employing employee wellness practices (PCBI)	• Understanding positive coping behaviour • Coping as a multi-dimensional construct • Methods of building positive behaviour in individuals • Employee positive coping behaviour • Behavioural coping patterns of diverse groups of employees	Wellness days: • Coping as a multidimensional construct • Healthy human functioning in the contemporary world of work • Positive psychology in the workplace, health and well-being • Well-being to enhance positive moods • Neutralising and/or buffering the negative effects of stressors in the organisation through positive coping behaviour

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
		• Developing positive coping behaviour patterns through the assessment of current coping behavioural strengths and enrichment areas through the PCBI		
Cognitive coping behaviour	High ability to reassess stress situations positively.			
Cognitive attributes	• Building up resources that can act as a buffer against stressors	Undertaking interventions on: • Identifying individual primary and secondary appraisal		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
	• Re-interpreting stressful situations more positively	• Identifying cognitive resources for working memory efficiency and mental flexibility • Employing cognitive restructuring technique (Zeidan, Johnson, Diamond, David, & Goolkasian, 2010).		
		• Maintaining cognitive resources (Zeidan et al., 2010).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Wisdom	• Forming a judgement about the situation • Resolving conflicts through open-mindedness, creativity, exploration and good judgement skills.	Undertaking interventions on: • Journal of individual goal achievements • List of personal interests • Cognitive and emotional development • Life skills on conflict resolution, curiosity, love of learning, open-mindedness, creativity and perspective (Waters, 2015).		
		Maintaining wisdom through follow-up interventions (Pearce, Koenig, Robins, Nelson, Shaw, Cohen, & King, 2015).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Self-esteem	• Confidence, • Control • Living purposefully • Ability to manage negativity, unpleasant thoughts and interpersonal stressors.	Undertaking interventions on: • Social identity and roles • Self-concept • Self-acceptance • Responsibility • Self-assertiveness • Purpose in life • Personal integrity (Arkowitz, Miller, & Rollnick, 2015).		
	•	Maintaining self-esteem through self-regulation (Kelly, Zuroff, Foa, & Gilbert, 2010).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Optimism	• Generalised positive expectations. • Ability to deal with stressful events. • Seeing the best in situations • Goal-directed behaviour. • Cheerfulness and mental and physical energy. • Resourcefulness.	Undertaking interventions on: • Establish approach coping strategies • Positive reframing method • Goal-directed behaviour • Apply positive affect (Shapira & Mongrain, 2010; White, & Waters, 2015).		
		Maintaining optimism through sustaining approach coping strategies, positive reframing, goal-directed behaviour and positive affect (Cauley & McMillan, 2010).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Humour	• An intervention that promotes health and wellness. • A cheerful view on adversity • Coping mechanism. • Gives rise to positive emotions.	Undertaking interventions on: • Daily journal on positive emotions and laughter experienced by the person • Yoga (helps the person to tap into a lighter, sweeter state of mind any time of day) (Schermer, Martin, Martin, Lynskey, Trull, & Vernon, 2015: Waters, 2015).		
		Maintaining humour through a daily journal on positive emotions experienced by the individual (Comer & Vega, 2015).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Sense of coherence	• Use available resources efficiently. • General approach to life to cope with challenges. • Useful individual resource that equips an individual with the capacity to use available resources efficiently.	Intervening to develop psychological resources (Ando, Natsume, Kukihara, Shibata, & Ito, 2011). Maintaining psychological resources (Collins, 2015).		
		Maintaining psychological resources (Collins, 2015)		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Locus of control	• Higher levels of well-being • Resilient traits in the stress process • Better ability to adjust • Masters of their destiny • Confident, alert and active.	Undertaking interventions on; • Positive core self-evaluations • Individual expectancies • Adjustment techniques • Person's perception of events in life • This may encompass behaviour such as praying, worshipping and meditating. Meditation has been shown to increase positive emotions and is probably related to the capability of mindfulness.		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
	•	Spiritual activity helps people coordinate more positive thoughts and beliefs, as well as offering a sense of purpose and meaning. (Yılmaz & Kaya, 2010).		
		Maintaining locus of control through self-evaluations, individual expectancies, adjustment techniques, and perceptions of life events (Wolinsky, Vander Weg, Martin, Unverzagt, Willis, Marsiske, & Tennstedt, 2010).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Openness to experience	• Curious, imaginative, a big-picture thinker and flexible	Mental (cognitive) training improves a person's ability to perform everyday tasks and makes a person's more open to new experience (Brown, Marquis, & Guiffrida, 2013).		
Positive reframing	• Resource builder	• Learning new things. Example: Must do one new thing once a week. • Journal-keeping of emotional experience. Learning new things can be inspiring and ignite one's sense of interest and curiosity. Being curious and seeking new and exciting information can increase positive emotions and enhance life		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Affective coping behaviour	Positive emotions to build resources that support coping with the focus on the here and now and the alleviation of stress.			
Positive affect	• Openness to new information and experiences • Willingness to adopt new norms • Pro-activeness	Undertaking interventions • Undertaking interventions on subjective well-being and positive emotions • Reappraisal after every stressful situation and finding meaning in ordinary events (Schueller & Parks, 2014; Peters, Flink, Boersma, & Linton, 2010).		
		Maintaining positive affect through reappraisal after every stressful situation and finding meaning in ordinary events (McConnell & Savage, 2015).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Emotional granularity	• Widens the range of potential coping strategies • Enhances one's resilience • Unlocks human cognition • Encourages individuals to think more freely, thoughtfully and creatively. • Potent motivator • Builds individual's physical, intellectual and social resources. Builds individual's physical, intellectual and social resources	Undertaking interventions • Identify and track positive emotions. • Focus on a specific positive emotion and act to increase it. Use a positivity treasure chest to give oneself a boost (Quoidbach, Mikolajczak, & Gross, 2015).		
		Maintaining positive emotions through emotional regulation (Quoidbach et al., 2015).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Happiness	• Elevated performance • Active, efficient, and productive. • Relate to positive outcomes. • Human flourishing.	Undertaking interventions on; • Journal-keeping of daily positive emotions, • Life satisfaction; for example, helping others, • Performing kind and new acts daily for one month (Buchanan & Bardi, 2010; Kaczmarek, Bujacz, & Eid, 2015).		
		Maintaining happiness through intentional activities and the gratitude journal.		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Conative coping behaviour	Provides a powerful initial spur to the process and illuminating mechanisms of actions	**Conative coping behaviour**		
Self-efficacy	• Influences behaviour • Manages the demands of a specific situation. • Serves as a protective factor. • Identifies positive aspects of negative situations. • Positively to life satisfaction. • Predicts of future success.	Intervening in development of: • Self-esteem; for example, take a two-minute self-appreciation break. • Self-belief and self-motivation; write down three things in the evening that one can appreciate about oneself		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
	• Influence positive physical health.	• Performance accomplishment: The experience of mastery influences one's perspective on one's abilities. Successful experiences lead to greater feelings of self-efficacy. • Vicarious experience. Observing people who are similar to oneself succeed will increase one's belief that one can master a similar activity.		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
		• Verbal persuasion. Constructive feedback is important in maintaining a sense of efficacy, as it may help overcome self-doubt. • Psychological states: Moods, emotions, physical reactions and stress levels influence how the person feels about his/her personal abilities. The in which way people interpret and evaluate emotional states is important for the development of self-efficacy beliefs.		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
		For this reason, being able to diminish or control anxiety may have a positive impact on self-efficacy beliefs (Williams & French, 2011).		
		Maintaining self-efficacy through sustaining self-esteem, self-belief and self-motivation.		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Resilience	• Ability to withstand severe contextual stressors. • Strengthened by experiences of adversity. • Protective mechanism. • Strength, endurance, persistence.	Undertaking interventions on; • Establish purpose in life • Develop positive self-belief • Evaluate effectiveness of social support system • Positive emotions, through cognitive restructuring to change the way the person thinks about negative situations and bad events. • Develop effective problem-solving skills (John & Ratana-Ubol, 2015).		
		Maintaining resilience through reviewing personal resiliency stories (Corrigan, Larson, Michaels, Buchholz, Del Rossi, Fontecchio, & Rüsch, 2015).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Flourishing	• Optimal well-being • Building of strengths • Enthusiasm for life • A state of wholeness	Undertaking interventions on; • Positive emotions; display more positive emotional reactivity to pleasant events. • Excel in daily life. In every daily choice people make they can choose to see the positive side or the negative side of things. • Be a contributing and productive member of society. • Consistently feel good and do well. Find activities that make the person laugh, where he/she can fool around and have fun. These may be games, sport or other recreational activities.		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
		• A starting point is to make physical, emotional, and spiritual health a priority in the person's life. • Continuously do these health upgrades: today and again tomorrow. (Frisch, 2006; Giannopoulos & Vella-Brodrick, 2011).		
		Maintaining flourishing through the above-mentioned interventions (Giannopoulos & Vella-Brodrick, 2011).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Intention for positive health	• To have a successful and balanced existence.	• A starting point is to make physical, emotional, and spiritual health a priority in the person's life. • Continuously do these health upgrades: today and again tomorrow. (Brown, Bourgeat, Peiffer, Burnham, Laws, Rainey-Smith, & Martins, 2014; Frisch, 2006).		
	•	Maintaining intention to maintain positive health through • A sense of contentment, • Zest for living and the ability to laugh and have fun,		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
	•	• The ability to deal with stress and bounce back from adversity, • A sense of meaning and purpose, in both activities and relationships, • The flexibility to learn new things and adapt to change, • Balance between work and play, rest and activity, • The ability to build and maintain fulfilling relationships, • Self-confidence and high self-esteem, and		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
		• Physical exercise (Aldwin & Gilmer, 2013). • Promoting physical activity three times a week for 20 minutes each session in combination with a healthy diet. • Being involved in leisure activities associated with reduced risk, including reading, playing board games, playing musical instruments and dancing (Brown et al., 2014).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Proactive coping	• Increases resources. • Maximises gains. • Focuses on visions of success. • Uses positive emotional strategies. • Undertakes autonomous and self-determined goal-setting.	• Develop a positive spiritual or philosophical approach to life. Acknowledge that life can be challenging: that is 'just life!' People will challenge themselves to stay positive and do the very best they can for themselves and others. • Establish important priorities. Knowing which things are important in people's lives can help them make positive decisions when things go wrong.		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
		• Prioritise and know clearly where to spend most time and energy and which things one needs to let go. Seek personally meaningful goals. Set personally meaningful goals in all areas of life, including family, health, spirituality, work etc. This keeps a person motivated throughout the good and not so good times.		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
		• Maintain some reserves. Knowing that one has very little leeway in life if things go wrong can create a lot of stress. For example, put aside some finances in case these are needed and make sure that one's life is not so busy that one cannot take some time out to cope, should an emergency arise. • Plan proactively. Plan life well so that the person will not be in reactive mode, but can take the time to think through a problem, should it arise. (Verešová & Malá, 2012).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
		Maintaining quality of life and general resources (Taabazuing, Arku, & Mkandawire, 2015).		
Conscientiousness	• Goal-orientated • Highly self-motivated • Organised, exacting, disciplined, diligent, dependable, methodical and purposeful.	• Self-awareness. Achieving self-awareness and remaining present in each moment relies on people's ability to clear their minds and focus on the task at hand. Skills training in self-reflection and meditation will accomplish self-awareness (Allen, Dietz, Blair, van Beek, Rees, Vestergaard-Poulsen, & Roepstorff, 2012; Frisch, 2006).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
		Maintaining conscientiousness through self-reflection tecniques (Frisch, 2006; McCrie, 2011).		
Adaptability	• Adjusts positively to situations.	• The person must be willing to stretch. Change is nothing but life stretching, reaching further, and becoming more than one was. When people learn to adapt, they synchronise themselves with life. By "going with the flow", they will find life working with them and achieving success will become much easier.		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
	•	• Adapting to life includes accomodating others. Since people are the source of individuals' power and crucial to their success, getting along with others should be a major concern. Learn how to accommodate the needs of others. Personal, business, and family relationships are also about adjustment. • Develop clear thinking and open-mindedness to see all possibilities (Frisch, 2006; Mikelsone & Liela, 2015).		
		Maintaining adaptability through open-minded techniques (Frisch, 2006; Mikelsone & Liela, 2015).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Interpersonal coping behaviour	Enables the individual to perform a specific task and have an influence on behaviour			
Extroversion	• Assertive, dominant, energetic, active, talkative and enthusiastic, sociable and ambitious. • Accommodating • Getting ahead in life, • Willing to take risks • Impactful	• Seek out social situations. • Enjoy sensory stimulation. Look for situations that make a person feel excited or pleased when encountering new and stimulating experiences. • Enjoy attention. Do not be distressed by people's attention.		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
		• Feel comfortable working in groups. The person may not prefer to work in groups, but he/she must feel comfortable with it. • Enjoy and seek out new experiences (Schaar, Valdez, & Ziefle, 2013).		
		Maintaining extroversion on the individual's newly established patterns (Eltiami & Yazdani, 2015).		
Social support	• Confidence • Hope • Empathy	• Seek out new people. • Tell others what one needs.		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
		• Reach out. Ask people one knows to help one broaden one's networks. A person who has recently become single can ask friends to introduce him to other single people of the same age. • Create new opportunities. For example, one may meet new people when one joins a club or group or gets involved in an organisation.		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
		• Support group. If one needs support for a highly specific problem, such as managing a health problem, a formal support group may be the best option (Schroevers et al., 2010).		
		Maintaining social support through sustaining family coping strategies and external resources (Anderson, Winett, Wojcik, & Williams, 2010).		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
Agreeableness	• Altruism • Sympathetic disposition to others • Cooperativeness • Tender-mindedness, • Kindness • Straightforwardness • Ability to maintain interpersonal relationships	• Decide to be agreeable with every person one meets. Develop an agreeable nature and make others feel good. • Agree with the truth. Let others know when one agrees with something they said by nodding one's head and saying, 'Yes, you're right' or 'I agree with you'. • Agree with others' right to an opinion. Even when one thinks that what they are saying is complete nonsense, acknowledge that it is fine for them to think that way, while at the same time restating what one believes to be true.		

Psychosocial positive coping behavioural capacity as measured by the PCBI	Characteristics of well-developed capacity	Suggested interventions Individual level	Team level	Organisational level
		• Admit it when one is wrong. People who admit mistakes are admired by others, but most people prefer to deny, lie or blame. If one is wrong, simply say: ' I was wrong…', 'I certainly got that wrong …' or 'I really blew it …' • Avoid arguing. One can rarely win an argument, even if one is right. Arguing loses friends and credibility and gives fighters what they want - a fight (Erdle, Irwing, Rushton, & Park, 2010).		
		Maintaining agreeableness in sustaining interpersonal personality and orientation (Clark & Schroth, 2010).		

3.6 CRITICAL REFLECTION AND SYNTHESIS

To understand positive coping behaviour, it is essential to have knowledge of and insight into positive behaviour. Positive behaviour means to behave positively in spite what is happening. Individuals with positive behavioural capacities display these when dealing with challenging and stressful situations. There are different ways of coping and the indication is that coping behaviour is part of the personality. Positive coping behaviour is multi- dimensional, with positive cognitive coping behaviour as the first dimension through which the cognitive behavioural capacities make it possible to have a higher ability to reassess stress situations positively. The second dimension of affective coping behaviour consists of positive emotions, which build resources to support the individual in the coping process. This is followed by the third dimension of conative coping, which is the motivational aspect of the individual's responses to stress. It is the energy and effort the individual is putting into the situation and the last dimension of interpersonal coping behaviour to enable the individual to perform the task of dealing effectively with stressful events.

Each and every single psychosocial behavioural construct was and is still researched in terms of the influence it has on coping and it has been found that effective coping does occur. Behavioural constructs underpin the capacities of the other constructs during the coping process, adding value to effective coping. All positive coping behavioural constructs have a constructive part to play in the coping process. Therefore positive behaviour can improve the way in which people cope. Positive coping ensures constructive meaning in individuals' lives. Positive coping behaviour reduces the effect of stress on the individual and the individual's perception of the burden. People employing positive behavioural coping capacities in general are not afraid of approaching any difficulties or challenges. The individual with a well-developed repertoire of positive behavioural coping capacities sees every stress situation as a learning experience and an opportunity to enhance his or her capacity to cope effectively. Positive coping behaviour is the building up of personal coping resources, facilitating and promoting the achievement of challenging goal management, following a constructive path of action, creating opportunities for growth, life improvement and reaching of higher performance levels.

Empirical evidence is found on every single construct's relationship with coping. The PCBI represents a broad array of positive coping capacities that support individual flourishing and coping. Table 3.9 illustrates that skills can be learnt to enable the individual apply effective positive coping. The PCBI is multi-dimensional and holistic. It allows the individual to work on more than one behavioural capacity, as seen in research evidence.

The implications for wellness practices are that the PCBI may potentially serve as a preventative tool to use in mental wellness practices. The PCBI may potentially be used on organisational, team and individual level. Because of the PCBI's multi-dimensionality and the fact that it focuses on a broad array of positive behavioural capacities, it is foreseen that it will help individuals whose scores place them in the low-level range of coping to become aware of the capacities they need to cope more effectively.

3.7 CHAPTER SUMMARY

Chapter 3 addressed the second and third research aims, namely to conceptualise the psychosocial dimensions that constitute positive coping behaviour and the relevant constructs and to evaluate the theoretical implications of positive coping behaviour for employee wellness critically.

Chapter 4 addresses the research methodology.

CHAPTER 4: RESEARCH METHODOLOGY

This chapter outlines the empirical investigation aimed at describing the sample for this research and the statistical strategies that were employed to achieve its empirical aims. The chapter contributes to the achievement of the first empirical aim of this research: to *operationalise the elements of the theoretical framework for positive coping behaviour into a valid and reliable measure (the Positive Coping Behaviour Inventory).* The chapter starts with the determination and description of the sample, followed by the methods applied during the scale development process. Furthermore, the chapter discusses the methods followed during the exploratory factor analysis (EFA), Rasch modelling, scale intercorrelations (bivariate correlations) and multi-group confirmatory factor analyses. The manner in which the validity and reliability of this research were assured is also discussed. The chapter ends with a summary.

4.1 DETERMINATION AND DESCRIPTION OF THE SAMPLE

Population sampling is the process of taking a subset of subjects that is representative of the entire population. The sample must be of sufficient size to warrant statistical analysis (Hulley, Cummings, Browner, Grady, & Newman, 2013). Erford (2014) describes sampling as the process of selecting a portion, piece, or segment, which is an important step in the research process, because it helps to inform the quality of inferences made by the researcher that stem from the underlying findings that are representative of the whole. The population for this research comprised working adults in a single research setting.

4.1.1.1 Convenience sampling technique

The empirical study (research scale development) employed a non-probability, convenience sampling technique to gain access to respondents who participated in the administering of the Positive Coping Behavioural Inventory (PCBI) or the development of the new measuring instrument. Convenience sampling is a specific type of non-probability sampling method that relies on data collection from population members who are conveniently available to participate in study (De Muth, 2014). This technique, like other sampling techniques, has some advantages and disadvantages, namely:

Advantages of convenience sampling (Denscombe, 2010):

- Simplicity of sampling and the ease of research
- Helpful for pilot studies and for hypothesis generation
- Data collection can be facilitated in short duration of time
- Cheapest to implement that alternative sampling methods (Smith, 2013).

Disadvantages of convenience sampling (Malina et al., 2011):

- Highly vulnerable to selection bias and influences beyond the control of the researcher
- High level of sampling error
- Studies that use convenience sampling have little credibility due to reasons above (Loos, Vuylsteke, Manirankunda, Deblonde, Kint, Namanya, & Nöstlinger, 2016).

4.1.1.2 Sampling procedure

The respondents were purposefully selected based on the requirement that respondents had to be working and aged between 19 and 65 years. The sample was drawn from the total population of individuals (N = 525) working in Omnia. Omnia Group is a diversified group with specialised services and solutions for the agricultural, mining and chemicals industries. Omnia, which has its roots in the fertilizer and agricultural industry, has an in-depth understanding not only of its core markets here in South Africa, but also in the fundamental industries of mining and agriculture in Africa. Based in Johannesburg, South Africa and with operations in 15 African countries and six international countries, Omnia has more than six decades of experience in business. Additionally, Omnia continues to grow its global footprint, with business units in Australasia, Brazil and Mauritius and clients in other regions such as Europe, South America and South East Asia. A 100% response rate was achieved.

Permission to undertake this research was sought from the managing director of Omnia. The researcher wrote an official letter of request for permission to the human resource manager of Omnia. Once permission had been granted to undertake the research, the researcher started the process of planning for sampling and data collection. The human resource manager appointed human resource administrators to render the data collection service and project management support. Project management support included assistance to the human resource administrators and the researcher, as well as management and capturing of data. The Research Ethics Committee of the University of South Africa granted ethical clearance for conducting the research.

The research took place in Omnia with employees working in Omnia offices all over South Africa from April 2015 until November 2015 when the target of 525 respondents completing the questionnaires was reached. The questionnaire that was distributed to respondents was accompanied by a cover letter that informed the respondents of the purpose and significance of the research and requested them to consent to participation, which was thus voluntary. The time required to complete the questionnaire as well as the assurance that respondents could discontinue their voluntary participation at any time was included in the letter. The cover letter assured respondents of their anonymity and the confidentiality of their responses, which would only be used for the purpose of the current research (see Appendix A).

In order to ensure a high degree of internal validity between the different human resources administrators, the following criteria had to be met (Fink, 2013):

- The human resource manager was required to have some experience with the research process, including logistics management, project management, data management and data capturing.
- A briefing session in which human resource administrators were trained on various aspects pertaining to this research was also arranged. In addition, several demonstrations of the data collection procedure and data management were performed with the human resource administrators to ensure that they understood the process and complied with the ethical principles. The human resource manager and administrators demonstrated a high level of knowledge and competence, as observed during interactions with the researcher before data collection started.

The researcher conducted physical fieldwork in an attempt to mitigate the low response rate found when conducting research. The human resource manager did send an email with a cover letter regarding the purpose of the research to all managers in Omnia and asked for participation in this research. The researcher's email address was attached for those respondents who did complete the questionnaire electronically. The next sub-section provides a description of the sample used in this research in terms of biographical characteristics.

4.1.1.3 Characteristics of the sample

The empirical study targeted the total population of N = 525 employees working in Omnia. The sample was diverse in terms of age, gender and race, overall mood description and general health, as reported below. For statistical purposes, the age groups were also clustered according to career stages: < 35 years (exploration/transition to establishment stage/early adulthood life stage) and > 35 years (establishment/maintenance stage/middle adulthood life stage). The age composition of the sample tilted slightly towards the >35 years (establishment/maintenance career stage) group which constituted about 56.76% of the total sample, as shown in Table 4.1.

Table 4.1

Age Distribution of the Sample

Biographical variable	**n**	**Percentage**
19 - 30 years	152	28.95%
31 - 45 years	234	44.57%
46 - 65 years	139	26.48%
<35 years	227	43.24%
>35 years	298	56.76%

Figure 4.1 shows the age distribution between 19 and 30 years, 31 and 45 years and 46 and 65 years. The largest representation of the sample was in the 31-45 years group of 44.57%.

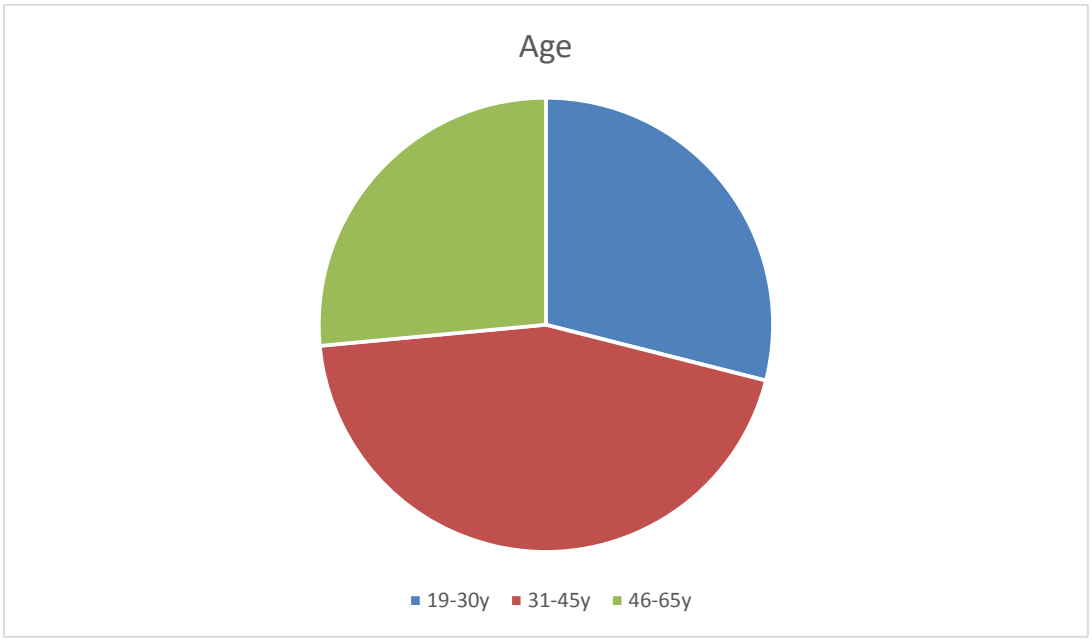


Figure 4.1: Age distribution of the sample

Figure 4.2 shows the age distribution between <35 years and >35 years. The mean age of the sample was *M* = 37.92 and the *SD* = 10.94.

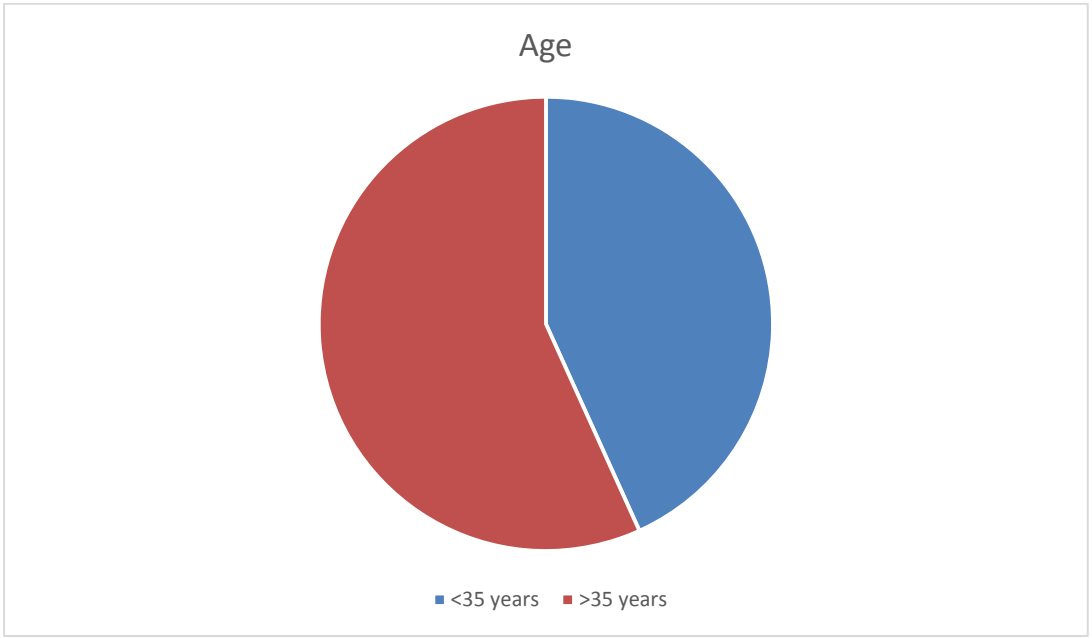


Figure 4.2: Age distribution between <35 years and >35 years.

The gender composition of the sample tilted slightly towards males who constituted about 52% of the total sample, as shown in table 4.2. Given the marginal difference between males and females, the sample in this research was about equal in terms of gender.

Table 4.2

Gender Distribution of the Sample

Biographical variable	n	Percentage
Males	273	52%
Females	252	48%

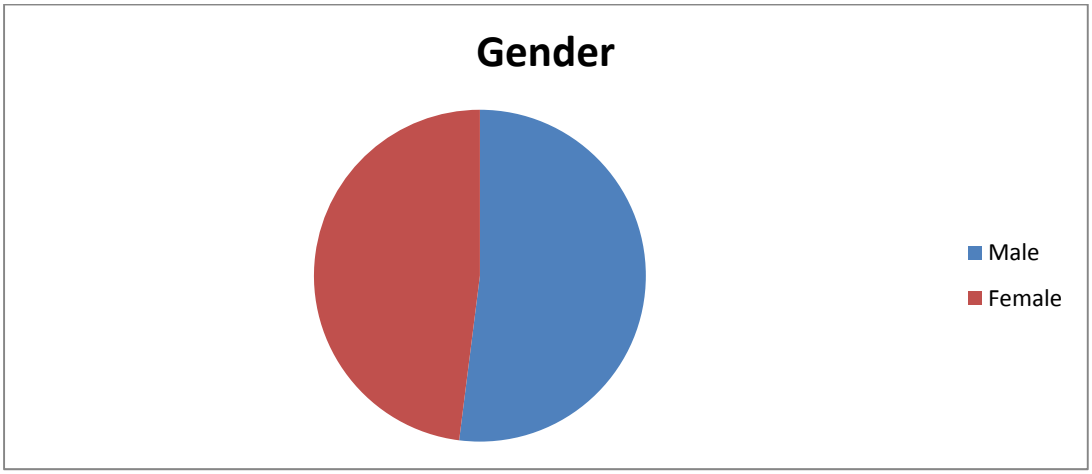


Figure 4.3: Gender distribution of the sample

In terms of the race distribution, as can be seen in table 4.3, about 44.57% of the respondents were African, almost 6% were coloured, 0.76% were Indian and 48.57% were white. These race groups were clustered for statistical purposes as Black people in line with the South African Employment Equity Act and constituted 51.23% of the sample as a group. Given the marginal difference between the Black and White participant groups, the sample in this research was about equal in terms of race.

Table 4.3

Race Distribution of the Sample

Biographical variable	n	Percentage
Africans	234	44.57%
Coloureds	31	5.90%
Indians	4	.76 %
Whites	255	48.57%

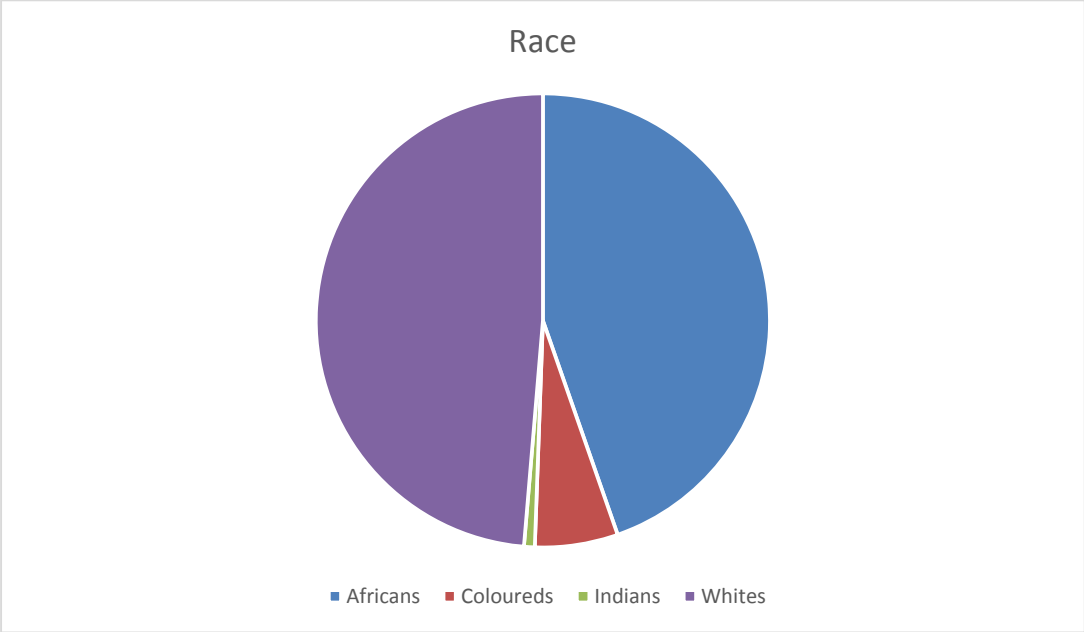


Figure 4.4: Race distribution of the sample

The respondents were asked to describe their overall mood and 50% of the respondents indicated that their mood was positive, and 50% felt less positive: 33% respondents felt neutral, 12% felt stressed and only 5% felt despondent, as shown in figure 4.5.

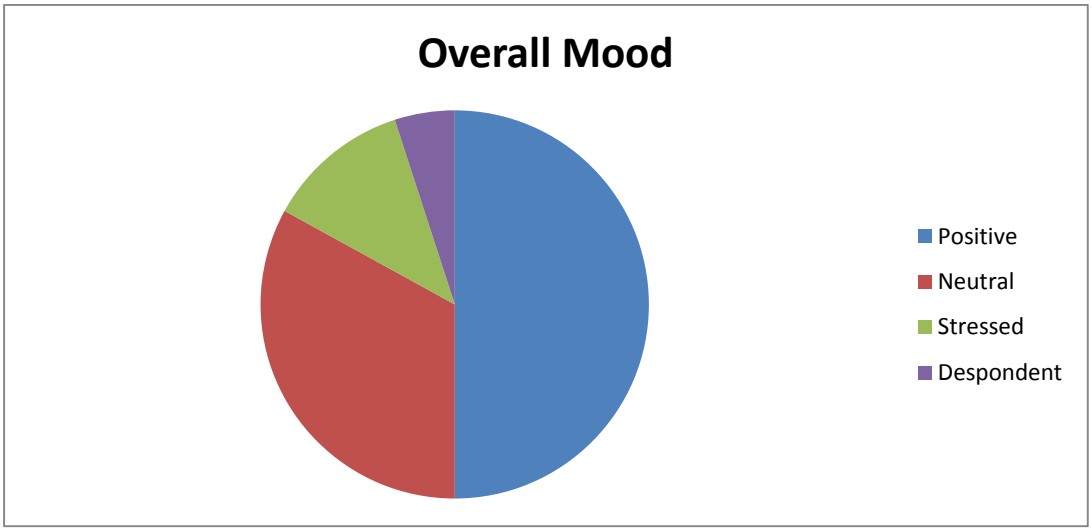


Figure 4.5: Overall mood

The results presented in figure 4.6 show that 38% felt healthy and well overall, while 44% felt fine with their health, 12% felt worried about health problems and 6% of respondents indicated

that they suffered from chronic illness. Overall, it appears that 62% of the respondents were not overly confident about their health.

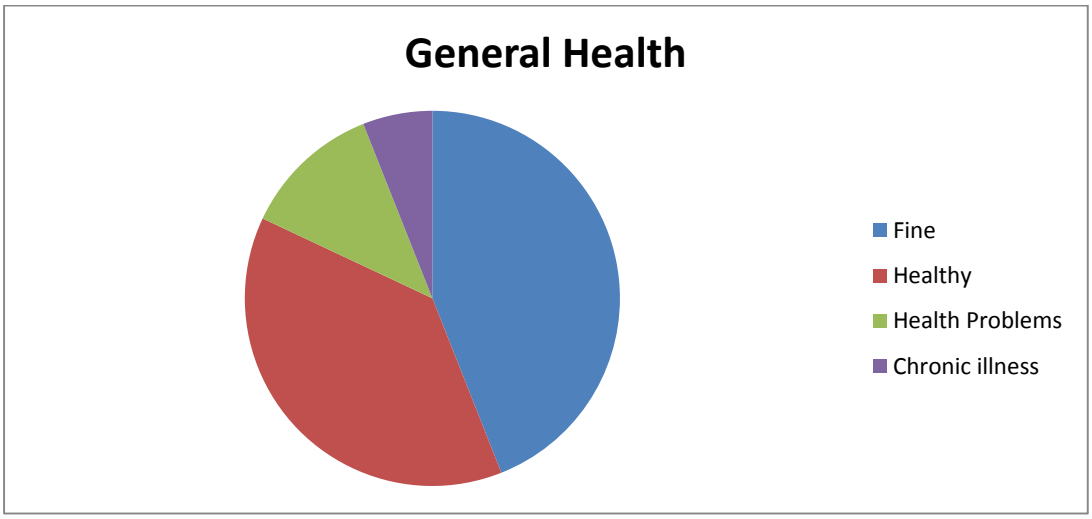


Figure 4.6: General health

In summary, the sample was predominantly represented by individuals in the establishment career stage (middle adulthood), and more or less equally represented by males and females, and Black and White people. The overall mood was equally represented by those feeling positive and those feeling less positive at the day of completing the questionnaire. The majority of participants did not feel overly confident about their state of health.

4.2 RESEARCH METHOD: PHASE 1 (DEVELOPMENT OF SCALE)

The type of research in the study was exploratory design of which the purpose is to identify and describe a problem area never previously studied or known (Salmons, 2015). A further purpose of an exploratory design is to explore the concept in depth in as loose and free-ranging a way as possible to arrive at a description of an experience or its meaning (Wellner, 2015).

Descriptive research deals with questions of what things are like and depends on what the researcher wishes to describe. Descriptions can highlight puzzles that need to be resolved and thus provide the stimulus for constructing theory (Erford, 2014). Descriptive research applies to the elements of the theoretical framework for positive coping behaviour operationalised into a valid and reliable measure, namely the PCBI, and assessment of the psychometric properties (internal consistency, reliability and internal structural validity) of the

newly developed PCBI. Explanatory research is searching for causes or consequences (Gerpott, Thomas, & Weichert, 2013). It is more specific and asks, for example in the context of the present research, whether positive coping behaviour is multidimensional in nature and how it can be measured in a valid and reliable manner.

The focus of the research was on exploring a range of research literature on positive coping behaviour constructs in order to operationalise these constructs empirically into a measure and test the psychometric properties of the newly developed PCBI empirically.

As discussed in Chapter 1 (Scientific Background and Contextualisation of the Research), a triangulation design that took place in two phases was used. Each phase contained a series of steps where scientific rigour was used for data collection. The triangulation assures that the interpretation of each factor is supported by each unit and sub-unit (Guerrero, Urbano, Cunningham, & Organ, 2014). Triangulation can be seen as a strategy for increasing the validity of the research findings. Triangulation rests on the rationale that one can counterbalance a single method's fallacies by combining it with alternative assessment techniques, thereby enabling the researcher to attribute any effect to the cause instead of the method (Zaforteza, Gastaldo, Moreno, Bover, Miró, & Miró, 2015). By using triangulation, the researcher feels more confident about the findings. Triangulation is often used for data exploration purposes and the possibility of gaining a more complete and holistic perspective on the research problem (Schomaker, 2015). This research includes the literature review and an empirical study, including theoretical analysis of positive coping behaviour and the drafting of the PCBI. Details of the process followed in the development of a questionnaire used in this research are presented in the sections that follow. Efforts were made to ensure that the new measure complied with the established universal conventions in terms of scientific rigor and psychometric properties, and the processes followed are reported later in this chapter. A discussion of the research procedure applied in this research follows below.

The process that was followed during the scale development phase in this research adheres to the common scale development procedure discussed below.

4.2.1 Scale development procedure

There are a number of decisions that the scale developer must make prior to the analysis of data. The formative stage of the scale development process is the most crucial when a host of important conceptual decisions about the scale are made (Walser, 2015). Definitions and

ways to assess validity and reliability are also crucial aspects of scale development. For a scale to be successful, it should have sound literature support and should survive various rigorous statistical tests, such as validity and reliability (Erford, 2014). Scale developers must have a clear idea of what they want to measure and understanding of the scale should fit into a hierarchy of constructs (Tummers, Groeneveld, & Lankhaar, 2013). Dalal et al. (2014) stressed the necessity of constructing a sound conceptual specification while developing a new measurement scale. Scale development can be broken down into four stages, as shown in figure 4.7, namely planning, construction, evaluation and validation (Guillen-Royo, 2016).

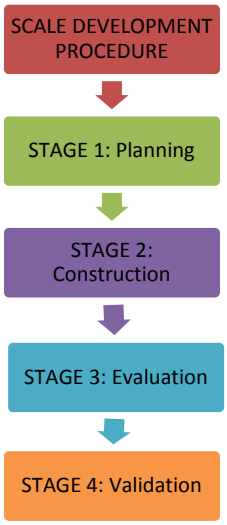


Figure 4.7: Scale development procedure

4.2.1.1 Planning stage

The planning stage is the most important stage in the scale development process where the constructs to be measured are score interpretations, the test format, major sources of validity evidence, the desired inferences, psychometric properties, security measures and quality control (Crump, 2015). A review of the literature helps to ensure that the construct definition aligns with related theory and research in the field, while at the same time helping the researcher identify survey scales or items that could be used or adapted for the current purpose (Jankowski & Slotnick, 2015). The purposes for the literature review are to define the construct clearly and to determine if measures of the construct (or related constructs) already exist (Othman & Naintin, 2015). In terms of the PCBI, this aspect was addressed in the literature review.

4.2.1.2 Construction stage

Measurement is the process of linking abstract concepts to empirical indicants as the process involving an organised plan for classifying and quantifying the data (Steiner, Woolvin, & Skerratt, 2016). The new measurement construction starts with classifying the specific aims of the measure that determine the purpose of the measure and indicate the content areas to be assessed (Bautista, Chirosa, Robinson, van der Tillaar, Chirosa, & Martín, 2016). Stipulating the specific areas to be addressed by the aims is necessary but not sufficient for the formulation of aims. The writing of items may begin when the aims of the measure have been clearly stated. Selecting a response format, generating an item pool and obtaining content validation are the critical steps of the construction stage (DeVellis, 2011). Determining which item response format best suits the intended participants in relation to their age and ability is important (Carter, Dalal, Lake, Lin, & Zickar, 2011). The classical scales of Likert (Likert, 1932), Thurstone (Thurstone, 1928) and Guttman (Guttman, 1944) are generally selected for the development of affective instruments. The most commonly used in the development of attitude scales in the social sciences is the Likert format, which was chosen for application in this research (Blackman et al., 2015). The draft scale provided for a six-option response which ranged from: 1 = 'Definitely agree' to 6 = "Definitely disagree'. Thus, the lower the score, the more effective the positive coping behaviour of the participant was presumed to be.

4.2.1.3 Evaluation and validation stages

The critical steps of the evaluation and validation stages lead to the development and administration of pilot tests as a means of establishing reliability and validity and selecting items for the final instrument (DeVellis, 2011). In this research, a pool of subject matter experts was used to review the instrument in order to examine the quality of items and to guide the selection of those items that were retained in the final research version of the instrument. The pool of subject matter experts consisted of six academics and four employees in the organisation (Omnia) to review the initial items. Feedback from the subject matter experts assisted in refining the items generated for the research version of the PCBI and assessing content validity of the items generated. The questionnaire was also language edited by a professional language editor. This step of the scale development procedure assisted in establishing the face validity of the PCBI. Agreement among the subject matter experts on the questionnaire items was 98%, providing evidence of initial reliability of the items generated.

4.2.2 Conceptualisation of the constructs

Review of the literature assists in formulating an operational definition for the constructs to be measured. The operationalisation of a construct and the components necessary to measure it are described (van der Linden, 2016). The review of the literature also helps to identify the types of items likely to assess the construct as accurately and meaningfully as possible. This step of the procedure assisted in establishing preliminary content validity of the scale. In terms of the PCBI, the main constructs in this research were operationalised as follows:

Positive coping behaviour is approached from a multidimensional and psychosocial perspective. The psychosocial dimensions of positive coping behaviour relate to positive behavioural capacities embedded in individuals:

4.2.2.1 Cognitive coping behaviour

Problem-solving is a commonly used method of coping, which may be viewed as both a cognitive and behavioural method of dealing with a situation. As a cognitive process, problem-solving can involve evaluating and thinking through the problem, and subsequent decision-making. Behavioural problem-solving refers to what one does in order to alter the immediate stressor (Ong et al., 2013). Positive cognitive coping behaviour occurs when individuals have a higher ability to reassess changed situations positively (Horstmann et al., 2012). Core subconstructs that underpin the cognitive dimension of positive coping behaviour are: cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing.

4.2.2.2 Affective coping behaviour

Positive emotions broaden behavioural repertoires and in so doing build resources that support coping (Garland et al., 2010). Coping resources are aimed at regulating people's emotions, solving or improving the practical problems they face and maintaining the psychological resistance and strength needed to remain productive for a prolonged period. (Papastavrou et al., 2011). The focus of affect is on the emotions an individual experiences in the now, the present moment, and the individual's awareness of why the specific emotions are experienced (Finn, 2012). Affective emotion-focussed coping strategies are more likely to use techniques to alleviate stress, for example humour (Caltabiano et al., 2015). Core subconstructs that underpin the affective dimension of positive coping behaviour are: positive affect, emotional granularity and happiness.

4.2.2.3 Conative coping behaviour

Motivation is indicated by the intensity (or energy), direction and persistence of goal-directed behaviour. It influences the allocation of attentional resources, expenditure of effort, emotional reactions to difficulties and persistence in the face of setbacks (Wanberg, Zhu, Kanfer, & Zhang, 2012). Motivation occupies a paradoxical place in behaviour and provides a powerful initial spur to the process, for example, hope in the stress situation. Core subconstructs that underpin the conative (motivational) dimension of positive coping behaviour are: self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability.

4.2.2.4 Interpersonal coping behaviour

Interpersonal coping behaviour can be seen as the manner in which an individual experiences and evaluates his/her own circumstances (Horstmann et al., 2012). Interpersonal coping behaviour is the belief that one can perform a specific task or behaviour and is a modifiable attribute that has been shown to influence behaviour (Gallagher et al., 2012). As the individual develops, repeated experiences are internalised in an attachment style, a complex system of representations, expectancies and beliefs about the self and others that have an influence on the outcome of behaviour (Consedine et al., 2012). Core subconstructs that underpin the interpersonal (social) dimension of positive coping behaviour are: extroversion, social support and agreeableness.

Overall, in terms of the PCBI, positive coping behaviour was conceptualised as the use of a range of psychosocial personal resources or capacities in dealing meaningfully with stressful events and situations (Furnes & Dysvik, 2012). Positive coping behaviour is the building up of personal coping resources, facilitating and promoting the achievement of challenging goal management, following a constructive path of action, creating opportunities for growth, life improvement and reaching of higher performance levels. The rationale for the development of the PCBI was that positive coping behaviour should be measured to obtain scientific understanding of the strengths and virtues that individuals need in order to thrive.

4.2.3 The development of the Positive Coping Behavioural Inventory

Developing valid and reliable measures is a parallel process in the building and testing of a theory. Measures have to go through a process of developing and testing (Madianos, Economou, Peppou, Kallergis, Rogakou, & Alevizopoulos, 2012). The aims are to build an instrument to allow theory testing and to have an instrument that is reusable for other theories, as well as for application purposes (Romaniuc, 2016). The process followed in the development of a new PCBI scale is outlined below. The empirical results that test the compliance of this new scale with the established psychometric principles (validity and reliability) are reported in Chapter 5 (Research Results: exploratory factor analysis, Rasch modelling, confirmatory factor analysis, scale intercorrelations (bivariate correlations), multi-group confirmatory factor analysis, regression analysis, and tests for significant mean differences).

4.2.3.1 Item generation

In item generation, the content of the initial item pool should be over-inclusive and item wording needs careful attention. The item pool should be tested, along with variables that assess closely related constructs, on a heterogeneous sample representing the entire range of the target population (Macur, Király, Maraz, Nagygyörgy, & Demetrovics, 2016). This was achieved in this study by purposive sampling of respondents in a single research setting. Finally, in selecting scale items, the goal is internal consistency. Factor analysis plays a crucial role in ensuring the uni-dimensionality and discriminant validity of scales (Voon et al., 2014). Chapter 5 reports on the use of exploratory factor analysis and Rasch modelling to examine this aspect of the newly developed PCBI.

The primary concern in item generation is content validity, which addresses the alignment between test questions and the content or subject area one intends to assess (Iuspa, 2014). Content validity must be built into the test from the outset rather than being limited to the final stages of test development. Content validity is more difficult to assure when the test measures an ill-defined trait. Content validity determines the overall content validity of a test from the judgments of experts (Chang, 2015). Once a thorough understanding of the theoretical foundation for the potential measure has been developed, there are several ways in which preliminary items may be created. The first is deductive, sometimes called logical partitioning or classification from above. The second method is inductive, known also as grouping, or classification from below. The inductive approach may be appropriate when the conceptual

basis for a construct does not result in easily identifiable dimensions for which items can then be generated (Schindehutte, Morris, & Kuratko, 2015).

Deductive scale development derives its name from the fact that the theoretical foundation provides enough information to generate the initial set of items. This approach requires an understanding of the phenomenon to be investigated and a thorough review of the literature to develop the theoretical definition of the construct under examination. The definition is then used as a guide for the development of items (Tuan, 2012). Items may then be generated from this definition, ensuring that they are worded consistently in terms of describing a single behaviour or an affective response. An advantage of the deductive approach to scale development is that if properly conducted, it will help to assure content validity in the final scales. Through the development of adequate construct definitions, items should capture the domain of interest. The disadvantages of the deductive approach are that it is very time-consuming and requires that researchers possess a working knowledge of the phenomena under investigation (Gabriel, 2015). The present study followed a deductive approach to the generating of items. As discussed in the literature chapters, the literature review and conceptualisation of the construct and its subdimensions guided the generation of items. The use of subject matters experts assisted in assessing the content validity and face validity of the PCBI.

In this research, a clear link was established between items and their theoretical domain. This was accomplished by beginning with a strong theoretical framework in Chapter 2 (Meta-theoretical context of the study: Employee wellness and coping behaviour in the contemporary employment environment) and Chapter 3 (Positive coping behaviour) and employing a rigorous sorting process that matched items to construct definitions. This process was succinct and is clearly reported in this chapter (chapter 3).

4.2.3.2 Item development

At this level of the process the researcher identifies a potential set of items for the construct or constructs under consideration. The next step is the administration of these items to examine how well they establish predictions about the structure of the measure (Fink, 2013). This process includes an assessment of the psychometric properties of the scale, which is followed by an examination of its relationship with other variables of interest.

There are a number of guidelines to be followed in writing items. Statements should be simple and as short as possible, and the language used should be familiar to target respondents. It

is also important to keep all items consistent in terms of perspective, being sure not to mix items that assess behaviours with items that assess affective responses (Neff, 2015). Items should address only a single issue and leading questions should be avoided, as they may bias responses. Items that all respondents would answer should not be used either, as they will generate little variance. The issue of negatively worded, reverse-scored items has stimulated much discussion and has strong proponents both for and against their use. The use of reverse-scored items may reduce response set bias (Bifftu, Dachew, Tiruneh, & Tebeje, 2015). Items must be very carefully worded to assure appropriate interpretation by respondents, and careful attention should be paid to factor loadings and communalities at the factor analytical stage of scale development (Martinez, Lewis, & Weiner, 2014). These aspects were considered in the empirical study relating to the PCBI.

There are no hard-and-fast rules of how many items are to be included, but keeping a measure short is an effective means of minimising response biases caused by boredom or fatigue (Kennedy, Medley, Sweat, & O'Reilly, 2010). Additional items also demand more time in both the development and administration of a measure. Muzzolon, Spoto and Vidotto (2015) suggest that at least four items per scale are needed to test the homogeneity of items within each latent construct. Adequate internal consistency reliabilities can be obtained with as few as three items (Lewis et al., 2015), and adding items indefinitely makes progressively less impact on scale reliability. It is difficult to improve on the internal consistency reliabilities of five appropriate items by adding items to a scale (Guillen-Royo, 2016). Niclasen and Dammeyer (2015) found that scales with many items may have high internal consistency reliabilities even if item intercorrelations are low. It is important to assure that the domain has been adequately sampled, as inadequate sampling is a primary source of measurement error (Longacre, 2015). Thurstone (1947) points out that scales should possess simple structure, or parsimony. Not only should any one measure have the simplest possible factor constitution, but any scale should require the contribution of the minimum number of items that adequately taps the domain of interest. These findings would suggest that the eventual goal will be the retention of four to six items for most constructs, but the final determination must be made only with accumulated evidence in support of the construct validity of the measure. It should be anticipated that approximately one half of the created items will be retained for use in the final scales, so at least twice as many items as will be needed in the final scales should be generated to be administered in a survey questionnaire (Lewis et al., 2015).

At this stage of scale development the researcher must ensure that data are collected from a sample of adequate size to conduct subsequent analyses appropriately (Fink, 2013). It is important that the scale used must generate sufficient variance among respondents for

subsequent statistical analyses for scaling the items. The sample size needed to appropriately conduct tests of statistical significance (De Muth, 2014). Exploratory and confirmatory factor analysis (EFA and CFA) have been shown to be particularly susceptible to sample size effects. Use of large samples assists in obtaining stable estimates of the standard errors to assure that factor loadings are accurate reflections of the true population values. As the number of items increases, it may be necessary to increase the number of respondents. With larger samples, smaller differences tend to be detectable as more than mere sampling fluctuation (Nabirye, Brown, Pryor, & Maples, 2011).

Factor analysis is one of the most commonly used procedures in the development and evaluation of psychological measures. Factor analysis is particularly useful with multi-item inventories designed to measure personality, attitudes, behavioural styles and other multiple constructs of interest (Mertens, 2015). Once the data have been collected factor analysis is used to refine the new scales further. Factor analysis allows the reduction of a set of observed variables to a smaller set of variables. This creates a more parsimonious representation of the original set of observations, providing evidence of construct validity. A key assumption in the domain sampling model is that all items belonging to a common domain should have similar average inter-correlations (Kaplan & Saccuzzo, 2013). The number of factors to be retained depends on the underlying theory. The researcher should have a strong theoretical justification for determining the number of factors to be retained and the examination of item loadings on latent factors provides confirmation of expectations (Smith, 2015). Chapter 5 reports on how the researcher dealt with these aspects of scale development.

Writing items can be a long and time-consuming process. In this research, a pool of items was written and critically reviewed by six experts in the subject field of research and four employees in the organisation. The review process was aimed at determining as far as possible whether the items were clearly stated, whether the items conformed to the selected response format, whether the response options for each item were plausible and whether the wording was familiar to the target population. An initial pool of 51 items was generated during this stage, based on review of the literature.

4.2.3.3 Item evaluation and refinement

The review of the item pool begins with steps of content validation and qualitative evaluation in which the quality of the items is assessed in relation to the target population. In the content validation stage, six subject experts on positive psychology and coping and four employees in the organisation reviewed the pool of 51 items to assess the face and content validity, to evaluate the relevance of the items to the dimensions they proposed to measure, to assess the importance of the items, to assess the item difficulty level and to judge items for clarity to constitute the final draft measure.

The results showed clean ranking of each item in terms of clarity, difficulty, relevance and importance. All items were consistently ranked and the results were 98%, demonstrating that reviewers agree on the clarity, difficulty, relevance, and importance of the items.

After final analysis of the expert inputs, the revised draft instrument had 51 items in total, which were administered to the sample chosen for this research on a 6-point Likert scale, ranging from (1) Definitely Agree to (6) Definitely Disagree. All items were classified into the appropriate dimension and each dimension had at least five items (Appendix A). Fink (2013) stated that an instrument is designed to be content valid when the items sufficiently follow the process and content dimensions of the specified aims of the instrument as determined by expert opinion.

In summary, it is concluded that the development of the PCBI followed scale development protocols to ensure the face and content validity and reliability of the scale for research purposes.

4.3 RESEARCH METHOD: PHASE 2 (ITEM EVALUATION WITH EXPLORATORY FACTOR ANALYSIS)

Overall, phase 2 of the research method focused on item evaluation with exploratory factor analysis (EFA) while phase 3 focused on confirmatory factor analysis (CFA). Researchers generally recommend splitting the sample in two when using EFA and CFA in the same study. Three separate studies on the sample were therefore conducted in order to achieve the research aims. Study 1 involved a randomly selected sample (n = 200) of the full data set (N = 525) to test the dimensionality and factorial validity of the PCBI. Once the factor structure was established, Rasch and reliability analysis was conducted on the total sample of N = 525. Study 2 involved a randomly selected sample (n = 325) of the full data set (N = 525) to test

the measurement model fit and initial structural validity of the PCBI by means of CFA. After confirming the measurement model fit and structural validity of the PCBI, study 3 involved correlation analysis and multi-group structural equivalence testing (metric invariance, configural invariance and scalar invariance) for age, gender and race groups on the full sample (N = 525). Care was taken that members of the sample of n = 200 were not included in the sample of n = 325.

All data were imported on a SPSS file and analysed, using statistical methods, specifically utilising the statistical programmes SPSS (Statistical Package for Social Sciences) Version 23 for the Microsoft Windows platform (SPSS Inc., 2015) and SAS version 9.4 (SAS, 2013). Rasch modelling was conducted by using Winsteps (Version 3.70.0) (Linacre, 2010).

4.3.1 Exploratory factor analysis

Exploratory factor analysis (EFA) is a widely used and broadly applied statistical technique in the social sciences (Strydom, 2015). The underlying factors or latent variables for a set of variables are identified by EFA (Templin & Bradshaw, 2014). EFA helps the researcher identify the number and nature of latent factors (Lee, 2014). EFA may be used as an exploratory first step during the development of a measure, and then CFA can be used as a second step to examine whether the structure identified in the EFA works. In other words, CFA can be used to confirm the factor structure identified in the EFA (Stone, 2015).

4.3.1.1 Diagnostics tests

A Kaiser-Meyer-Olkin (KMO) test and the Bartlett's Test of Sphericity were computed as part of the EFA. The KMO statistic is a summary of how small the partial correlations are, relative to the original (zero-order) correlations (Alqahtani & Mohammad, 2015). The partial correlation for each pair of variables in the factor analysis comprises the correlation between those variables after partialling out the influence of all of the other variables in the factor analysis. If the variables share common factor(s), then the partial correlations should be small and the KMO should be close to 1.0. The KMO measure should equal 0.50 when the correlation matrix equals the partial correlation matrix. A special case of this situation is the case where the original correlation matrix is an identity matrix. As the correlation matrix approaches an identity matrix, the KMO value, as calculated by the Statistical Algorithms formula, approaches .5. The SPSS program code sets KMO to .50 when the correlation matrix is an identity matrix, avoiding the division-by-0 problem (Ashraf, Kadir, Pihie, & Rashid, 2014).

KMO values greater than 0.80 can be considered good, i.e. an indication that component or factor analysis will be useful for these variables. This usually occurs when most of the zero-order correlations are positive. KMO values of less than .50 occur when most of the zero-order correlations are negative. KMO values lower than 0.50 require remedial action, either by deleting the offending variables or by including other variables related to the offenders. Perhaps the variables reflect responses to a questionnaire where some items were written so that high scores reflected the trait in question while other items were structured so that low scores reflected the trait. Reverse-coding the negatively-worded items may remedy the low KMO value in this situation (Sinclair-Maragh, Gursoy, & Vieregge, 2015). The results of these tests are presented in Chapter 5 (Research Results: Exploratory Factor Analysis).

4.3.1.2 Establishing the factor structure of the PCBI inventory

In the literature review the *a priori* theoretical factor structure of the PCBI was hypothesised by operationalising four theoretical behavioural coping dimensions (cognitive coping behaviour, affective coping behaviour, conative/motivational coping behaviour and social coping behaviour) and then generating items for each of the four theoretical subdimensions of the PCBI. EFA was used as a pretest to evaluate the questionnaire items in terms of item and factor loadings and not to explore an underlying factor structure. The focus of the EFA was not to verify but to modify the *a priori* theoretical factor structure by identifying the dimensional factors onto which the items loaded best and to identify redundant items. The EFA was also used to assess whether the PCBI had essential unidimensionality or homogeneity, that is, whether the scale items assess a single underlying/overall factor or construct (positive coping behaviour). According to the guidelines of Pallant (2013), a good factor structure is evident from 40% of the cumulative variance explained. Evidence of unidimensionality (homogeneity) is represented by one factor accounting for at least 40% of the total variance. An indicator of the essential unidimensionality of the scale is when the general factor explains more than 60% of the total variance of the factor (Wolff & Preising, 2005). Once the dimensionality of the PCBI was determined, the second-order (multi-dimensional) structural validity of the proposed model could be tested using a structural equation modelling technique, namely confirmatory factor analysis (CFA). CFA and Rasch analysis were used to test the hypothesis that the newly developed PCBI has valid and reliable measurement properties.

Exploratory factor analysis was conducted on a randomly selected sample (n = 200) of the full data set (N = 525). The principal component method of extraction (maximum likelihood) and quartimax rotation with Kaiser normalisation were used. The goal of rotation is to simplify and clarify the data structure (Smith, Anderson, Davenport, & Leahy, 2013). Orthogonal rotations

produce factors that are uncorrelated and oblique methods allow the factors to correlate (Smith et al., 2013).There is no widely preferred method of oblique rotation and all tend to produce similar results. In this research, quartimax rotation (orthogonal) was used as a method for data analysis. Common oblique rotations include direct oblimin, quartimin and promax (Smith et al., 2013). The KMO value should be at least at the recommended minimum value of .60 (Hair, Black, Babin, & Anderson, 2010; Melnykov & Maitra, 2010), while the Bartlett's test of sphericity (Bartlett, 1954; Melnykov & Maitra, 2010) should attain a statistical significance of p = .000 for the scale in order to support the factorability of the correlation matrix for the scale.

The last decision was to decide on the number of factors to retain for further analysis. The size of eigenvalue units and the number of items that loaded adequately in each factor were considered for the retention of items. An eigenvalue cut-off of 1.45 units was used to establish the number of principal component factors, following recommendations in the literature on the minimum number of items required in each factor. All items with a factor load of 1.768 and higher were considered for inclusion in each factor and each factor had to have a minimum of four items. Because the a priori theoretical factor structural model and item generation proposed four underlying factors for the newly developed PCBI, it was decided to retain factors with an eigenvalue of 1.768 and higher. The original PCBI contained 51 items. Ten items were removed, leaving 41 items to be used in further statistical analysis. (See Chapter 5: Research Results: Preliminary Statistical Analysis). Table 4.4 depicts a summary of parameters followed during the EFA phase of this research.

Table 4.4

Summary of Parameters used during the Exploratory Factor Analysis

Measure/procedure	Parameters	Source (s)
Sample size	50 is very poor; 100 is poor; 200 is fair; 300 is good; 500 is very good; and 1000 or more is excellent.	(Melnykov & Maitra, 2010).
Kaiser-Meyer-Olkin	Minimum acceptable value for EFA ≥ 0.60	(Melnykov & Maitra, 2010).
Bartlett's Test of Sphericity	Significance $p \leq .05$.	(Melnykov & Maitra, 2010).

4.3.2 RASCH modelling technique

Rasch and reliability analysis was conducted on the total sample of N = 525. The Rasch item fit statistics further assisted in assessing the unidimensionality (homogeneity) of each of the four PCBI dimensions. After the EFA factor extraction process, Rasch modelling was conducted using Winsteps software (Version 3.70.0) (Linacre, 2010). Winsteps software first uses a normal approximation algorithm to obtain initial estimates of model parameters and uses these initial estimates for iterative Joint Maximum Likelihood Estimation (Linacre, 2005). The iterative process stops once convergence criteria are reached. Rasch models have the algebraic form of logit-linear models. The Rasch model is a mathematical formulation linking the probability of the outcome when a single person attempts a single item. It is thus one of the families of latent trait models for the measurement of achievement, and is arguably the least complex member of this family (Templin & Bradshaw, 2014). This model was used in this research to examine the psychometric properties (uni-dimensionality or homogeneity and internal consistency reliability) of the newly developed PCBI. Response rating category functioning and differential item functioning were also assessed by means of Rasch modelling.

4.3.2.1 Unidimensionality

The Rasch model is probabilistic and not deterministic; some failure of the model to predict the observed values is expected. In this regard, two statistics are used to represent these deviations: infit mean square (information-weighted fit statistic) and outfit mean square outlier-sensitive fit statistic). The ideal value for the infit and outfit statistics should be 1.0 (Cervellione, Lee, & Bonnano, 2009) to indicate unidimensionality or homogeneity (that is, that the items of the respective dimension measures the intended underlying construct adequately) (Crandall, Rahim, & Yount, 2015; Linacre, 2010). Fit statistics, the infit and outfit, help detect

discrepancies between the data and Rasch model expectation. Only when a test fits the model expectation can it be considered as having the property of fundamental measurement (Khairani & Nordin, 2011).

The infit statistics are more sensitive to unexpected responses to items near the respondents' ability level as predicted by their overall pattern of responses, while the outfit statistics are more sensitive to unexpected responses far away from the respondents' ability level. Because outfit score is less threatening to measurement and easy to manage (Linacre, 2010), infit scores are typically considered more informative (Burckhardt, Manicavasagar, Batterham, Miller, Talbot, & Lum 2015). Therefore, the researcher used infit statistics to assess the fit of items to the Rasch model and the unidimensionality of the measure.

4.3.2.2 Person/item fit

Person fit to the Rasch model is an index of whether individuals are responding to items in a consistent manner or if responses are idiosyncratic or erratic (Gothwal, Wright, Lamoureux, Khadka, McAlinden, & Pesudovs, 2011). Responses may fail to be consistent when people are bored and inattentive to the task, when they are confused, or when an item evokes an unusually salient response from an individual. Similarly, item fit is an index of whether items function logically and provide a continuum useful for all respondents. An item may be a misfit because it is too complex, confusing, or because it actually measures a different construct. Item and person fit of at least 2.00 (Bond & Fox, 2007) implies that participants would probably have indicated similar responses in other contexts. The mean item infit and person infit also assessed whether the responses underfitted (≥ 1.30) or overfitted (≤ .70). Lack of underfit and overfit indicates that individuals responded to the items in a consistent manner. The outfit statistics below 2.00 indicates that the scale provided useful information.

4.3.2.3 Person and item separation and reliability

Person and item separation and reliability of separation assess instrument spread across the trait continuum (Becker, 2011). Person separation represents the extent to which a measure can reproduce and consistently rank scores. It is a signal-to-noise ratio computed by dividing the true person variance on the latent trait by the root mean square measurement error. Separation values larger than 2.0 are desirable. Lower values of separation indicate redundancy in the items and less variability of persons on the trait. If separation is 1.0 or below, then this may indicate that the items do not have sufficient breadth in position. Person

separation indicates the standard deviation of latent trait values in standard error units (Bernardo & Estrellado, 2015).

Researchers often work with a small number of items and a larger number of people. In the current research, 41 items (reduced from initial 51 items based on EFA) and 525 respondents were involved. Separation is affected by sample size, as are fit indices and error estimates. With larger sample sizes, separation tends to increase and error to decrease (Siordia, 2015).

Reliability of person separation was used in this research to determine whether respondents were being adequately separated by items along the continuum representing the construct, as well as to provide an indication of replicability for person placement across other items measuring the same construct. The reliability of item separation was also investigated to ensure that the measure appropriately divided the people in terms of their ability. Rasch analysis provides internal consistency reliability estimates for both persons and items ranging from .0 to 1.00 (Blackman et al., 2015). Conceptually, Rasch person reliability is analogous to Cronbach Alpha/KR 20 in the classical test theory in terms of interpretation and calculation (Burckhardt et al., 2015). A cut-off point ≥ .70 is considered acceptable (Costa, Van, Abbott, & Krass, 2015). Rasch item reliability is an important aspect for construct validation, as it indicates the spread of items along the continuum of interest. A spread of items is required to form a well-defined variable for interpretation (Becker, 2011).

Although not part of Rasch modelling, Raykov's rho (ρ) coefficient (also known as coefficient omega [ω] or composite reliability coefficient) was also computed in addition to the Rasch reliability coefficient and the Cronbach alpha coefficients because confirmatory factor analysis (a form of structural equation modelling [SEM]) is relevant to the research. Recently the value of the alpha coefficient in psychological research has been criticised, especially when SEM is of relevance. Cronbach's alpha coefficient is seen to tend to over- or underestimate reliability (Raykov, 2012).

4.3.2.4 Rating category functioning

Response category ordering studies the degree to which an item with ordered response categories displays thresholds as the points at which responses to adjacent categories are equally likely to occur. Items in which respondents have difficulty distinguishing between item levels are not desirable in new instrument development. If items are correctly ordered, respondents should be able to distinguish between different levels of responses. Therefore, categories should follow the intended hierarchy; i.e. they should demonstrate a stepwise

change in ability level from category to category (e.g. definitely agree should represent a higher level of perception than agree). Should evidence of disordering emerge, the response levels must be merged and the Rasch model refitted using the merged levels. The merging process must be repeated until all the items have been ordered (Mackey, Cuomo, & Liang, 2015).

4.3.2.5 Differential item functioning and bias

Differential item functioning (DIF) by means of Rasch modeling was used to assess the presence of bias among respondents on each of the four subscales of the PCBI. DIF concerns the expectation that respondents who belong to different subgroups (age: <35 years; >35 years; gender: male; female; race: black participants; white participants) but have equal levels of ability would have the same probability of selecting a particular response to an item. DIF allows each item calibration to be compared between two or more groups in order to assess whether group membership affects responses to the items (Kritikou, Paradia, & Demestichas, 2013). The following parameters of magnitude were used: insignificant DIF: <.50 logits; mild (probably inconsequential): between .50 and 1.00 logits and notable: >1.00 logits. A negative DIF index shows that the item is easily agreed upon by a certain group while a positive DIF index means that an item is more unlikely to be agreed upon by a group that has similar abilities but different levels of probability of responding to the item correctly. The criteria used for the DIF analysis were: DIF contrast ≥ .5 < 1 ($p \leq .05$) and DIF contrast ≥ 1 ($p \leq .01$).

A logit is the natural log-odds of a participant being successful at a task versus being unsuccessful. The average item measure on the logit scale is arbitrarily set at zero. A negative item logit indicates that the item requires a lower level of ability than the average (*i.e.*, the item is relatively easier) (Camargo & Henson, 2011). The measures on the Rasch model are linear. For example, a person with the ability of four logits has three times more ability than a person with the ability of two logits. The linearity of the measure is very important, because meaningful arithmetic operations can only be performed with linear measures, thus enabling comparisons and statistical studies (Camargo & Henson, 2011).

In summary, the Rasch model fulfils the requirements of fundamental measurement in that it generates a linear interval scale. Rasch analysis tests whether the data fit the model by assessing whether the response pattern observed in the data corresponds to the theoretical pattern expected by the model (Brügger, Kaiser, & Roczen, 2015). The Rasch model was selected because of the: (a) sound person-fit methods, (b) simplicity and ease of use, since only one parameter is needed (important for wide clinical use and ease of explanation); (c)

scaling properties of linear, interval measurement that enable a clear standard and simple graphic interpretation on person and item maps; (d) elimination of concerns about overfitting with additional parameters and perhaps missing important misfitting patterns (i.e. explaining away the misfit with added parameters); and (e) usefulness for smaller samples because it estimates only a single parameter (Henson, Blandon, & Cranfield, 2010). The item and person parameters are freed from the distributional properties of incidental parameters when the data fit the model expectations. If the data fit the model, the logit continuum is on an interval scale, making the estimates appropriate for parametric statistical analysis. Greater logit values for items indicate increasing item difficulty (Burckhardt, et al., 2015). This model is intended for the development and examination of measurement instruments. By disclosing anomalies in the data that often have to be addressed qualitatively, the Rasch model bridges the gap between research methods representing partly different epistemological traditions. Table 4.5 illustrates an outline of the parameters of the statistical tests used in Rasch modelling.

Table 4.5

Summary of Parameters for Measures used in RASCH Modelling

Statistical procedure	Parameters	Source (s)
Person/item separation	Separation ≥ 1.0 (greater spread of items and persons along a continuum)	(Riazi, Walters, Rubin, Ambler, Jichi, Mynors-Wallis, & Aspden, 2014).
Reliability	Cut-off point ≥ .70	(Andreou, Alexopoulos, Lionis, Varvogli, Gnardellis, Chrousos, & Darviri, 2011).
Goodness of fit	Values ≥ .6 ≤ 1.4 Values ≤ .6 indicated redundancy, while values ≥ 1.40 show the presence of 'noise'.	(Crandall et al., 2015; Linacre, 2010).
Unidimensionality	First contrast eigenvalue unit ≤ 2.0 Eigenvalue units ≥ 2.0 indicate multidimensionality.	(Linacre, 2010).
Differential Item Functioning	Insignificant DIF, ≤ .50 logits; Mild (but probably inconsequential), ≥ .50 ≤ 1.00 logits; and Notable, ≥1.00 logits	(Bédard, Kergoat, Kergoat, & Leclerc, 2015).

The next section discusses the methods used during confirmatory factor and inferential analyses in the current research.

4.4 RESEARCH METHOD: PHASE 3 (CONFIRMATORY FACTOR ANALYSIS)

Phase 3 of the research method involved (1) confirmatory factor analysis on the factorial structure of the PCBI established during phase 1 of the research and (2) group confirmatory factor analysis to test for structurual equivalence of the PCBI on age, gender and race groups.

4.4.1 Confirmatory factor analysis

Phase 3 of the research method involved a randomly selected sample (n = 325) of the full data set (N = 525) to test the measurement model fit and initial structural validity of the PCBI. Confirmatory factor analysis (CFA) was conducted within the framework of structural equation modeling (SEM) to empirically assess the structural validity of the PCBI and whether the hypothesised theoretical and EFA four-factor measurement model underlying the PCBI scale

has a good fit with the empirically derived model data. The four hypothesised factorial dimensions are cognitive coping behaviour, affective coping behaviour, conative coping behaviour and social coping behaviour. The purpose of the structural equation model is to account for variation and covariation of the measured variables. Path analysis (regression) tests models and relationships among measured variables (Salo, Laurikainen, Laine, Comerón, Gadotti, Buta, & Athanassoula, 2015).

The objective of CFA is therefore to test whether the data fit a hypothesised measurement model (Zhang, Liang, Chen, Zhang, Zhang, Weng, & Zhang, 2013). This technique is similar to structural equation modelling (SEM). A measurement model is usually part of a larger network/model, which consists of dependence relationships among constructs. The constructs represent different variables, which are germane to understanding the phenomenon. This larger network is known as a path diagram or a structural model (Kline, 2015). There can be two types of constructs in a structural model: exogenous and endogenous (Bertanha & Moser, 2016). Exogenous constructs are independent, that is, they act only as a predictor or cause for other constructs in the model. They thus cause fluctuations or variations in the values of other constructs in the model (Al-Gahtani, 2016). Endogenous constructs are dependent on other variables in at least one causal relationship in the model. In a given structural model, exogenous constructs are identified by one or more arrows (signifying causal relationships) coming out of (but not going into) them. Endogenous constructs have at least one arrow going into them (Fontenot, Mathisen, Carley, & Stuart, 2015). The four factorial dimensions were treated as exogenous variables while the overall PCBI construct was treated as endogenous variable.

After confirming the measurement model fit and structural validity of the PCBI, multi-group structural equivalence testing (metric invariance, configural invariance and scalar invariance) for age, gender and race groups on the full sample (N = 525) through multi-group confirmatory factor analysis was also conducted. The best fit structural (CFA) model was used as a framework for the multi-group confirmatory factor analysis. The PRO CALIS procedure (SAS, 2013) was used for the statistical analysis.

The planning of the CFA analysis was driven by theoretical relationships among the observed and unobserved variables. The CFA analysis is used for four major purposes:

(1) Psychometric evaluation of measures;
(2) Construct validation;
(3) Testing method effects; and

(4) Testing measurement invariance (e.g. across groups or populations) (Mansfield, Williams, Hourani, & Babeu, 2010).

The CFA technique fundamentally aligns with the assignment of the relationship between a construct and its indicators (Latour, van Goudoever, Duivenvoorden, Albers, van Dam, Dullaart, & Hazelzet, 2011). It can be employed to validate the scale being adapted or adopted, because it is crucial that the measurement of each variable must be psychometrically sound (Patrzek, Grunschel, Koenig, & Fries, 2015). Even with a fixed scale, it can still be used to approve the validity and unidimensionality in a precise connection of study (Van Diessen, Numan, van Dellen, van der Kooi, Boersma, Hofman, & Stam, 2015). Once these are accepted, there would be much assurance in the findings derived from the structural model. Unlike EFA, CFA requires pre-specification of all aspects of the model to be tested and is more theory- driven than data-driven. Despite this, prior to the CFA, data were checked for missing values, outliers and multicolinearity, as described below:

(1) Missing data can contraction power and bias standard errors and loading coefficients (Jackson, Gillaspy Jr, & Purc-Stephenson, 2009). If comprehensive data are missing for certain variables, the data should be investigated to adjust if the data are missing at random or if there is an alignment to the missing data based on some particular factor. Full information maximum likelihood estimation of missing values was used instead of list-wise deletion. This method of replacing missing values produces the least bias, by maintaining the mean and variance of the original data (MacDicken, 2015).

(2) A univariate outlier is a data point that consists of an extreme value on one variable. (Pett, 2015). A multivariate outlier is a combination of unusual scores on at least two variables. Both types of outliers can influence the outcome of statistical analyses. Outliers exist for four reasons (Bellini, 2015). Incorrect data entry can cause data to contain extreme cases. A second reason for outliers can be failure to indicate codes for missing values in a dataset. Another possibility is that the case did not come from the intended sample. Finally, the distribution of the sample for specific variables may have a more extreme distribution than normal (Hastings & Rubin, 2015). The subsequent analyses, such as SEM, are sensitive to the effects of extreme outliers, as covariance matrices are negatively influenced (Hitch, 2015; Yazdanpanah, Komendantova, & Ardestani, 2015). In this research, no extreme cases were found on any of the individual items.

(3) Multicolinearity is a state of very high intercorrelations or inter-associations among the independent variables (Kwon, Cho, Roberts, Kim, & Yu, 2015). It is therefore a type of

disturbance in the data, and if present in the data the statistical inferences made about the data may not be reliable. Multicolinearity is characterised as bivariate correlations between variables that are extremely high, $r \geq .85$, (Du, Wei, & Cai, 2012) or $r \geq .90$ (Lamanauskas, Slekiene, Balog, & Pribeanu, 2013). This resultl in increased standard errors and unstable loading coefficients among the multicollinear variables (Meyer, Meyer, & Distelkamp, 2012). Appropriate indicators that are highly correlated break an underlying assumption of SEM that indicators used for measurement are independent. Determining highly correlated indicators is critical in SEM, given the use of latent variables formed by combining multiple indicators to measure a single concept (Ware, Sing, & Banwet, 2012). All correlation values in the current research were found to be within an acceptable range.

4.4.2 Structural equivalence

Multi-group structural equivalence was conducted in the current research, focusing on sample sub-groups, namely age, gender and race (N = 525). A critical presumption of multi-group analysis is that both the measuring instrument and the construct being measured are operating in the same way (structurally equivalent) across the populations of interest (Byrne & van de Vijver, 2014).

The multi-group confirmatory factor analysis compared the age, gender and race groups in terms of three levels of structural equivalence, namely (1) measurement unit equivalence, (2) construct equivalence and (3) full-score equivalence.

- Measurement unit equivalence was obtained by means of metric invariance testing. This form of equivalence testing assessed whether the factor loadings of each item on each factor are the same for all the respective sub-groups. Factor loadings were equal across the respective sub-groups, but the intercepts were allowed to differ.
- Construct equivalence (configural invariance) was done by determining whether the factor structure of the PCBI is the same for each of the respective biographical sub-groups.
- Full-score equivalence (scalar invariance) examined whether the item intercepts and factor loadings are equal across sub-groups, implying that meaningful mean comparisons can be made. Both loadings and intercepts were constrained to be equal in this analysis. Full score equivalence implies that meaningful comparisons between the respective subgroups can be made with confidence.

4.4.3 Goodness of fit indices

The resulting fit indices were measured in this research as part of SEM: absolute fit indices (the Chi-square (x^2) and Standardised Root Mean Square Residual (SRMR), relative fit indices, Tucker Lewis Index (TLI), and noncentrality-based indices (Comparative Fit Index (CFI) and RMSEA (Root Mean Square Error of Approximation).

Absolute fit indices determine how well an a priori model fits the sample data (Velmurugan & Velmurugan, 2014) and demonstrates which proposed model has the most superior fit. These measures provide the most fundamental indication of how well the proposed theory fits the data. Unlike incremental fit indices, their calculation does not rely on comparison with a baseline model but is instead a measure of how well the model fits in comparison to no model at all (Corlu & Çorlu, 2015).

A significant Chi-square indicates lack of satisfactory model fit. The smaller the Chi-square, the better the model fit. Chi-square statistics are used more as a descriptive index of fit, rather than as a statistical test. A smaller x^2 value indicates better fitting models and an insignificant x^2 is desirable. The Chi-square is highly sensitive to departures from multivariate normality. X^2 is sensitive to sample size. With large sample size, the Chi-square values will be inflated (statistically significant), thus might erroneously imply a poor data-to-model fit (Praveenkumar, Thenmozhi, Rayappan, & Amirtharajan, 2014).

The SRMR is defined as the difference between the observed correlation and the predicted correlation (Velmurugan & Velmurugan, 2014). The SRMR allows one to assess the average magnitude of the discrepancies between observed and expected correlations as an absolute measure of (model) fit criterion. A value of less than 0.10 and between of 0.08 is considered a good fit.

The Root Mean Square Error of Approximation (RMSEA) in conjunction with the SRMR (standardised root-mean-square residual) was calculated. The main factor of the RMSEA is that it examines the degree to which the model unsuccessfully fit with the data. The RMSEA estimates the overall level of inaccuracy, and highlights the fitting function value associated with the degrees of freedom (Hooper, Coughlan & Mullen, 2008). The standardised RMR (SRMR) is an absolute measure to establish model fit. SRMR is viewed as the standardised variance between the observed correlational relationship and the hypothesised (predicted) correlational relationship (Hair et al., 2010). A marginal value of RMSEA and SRMR for model

acceptance is <.10 and a value of <.08 and lower is considered adequate for model fit (Hamtiaux, Houssemand, & Vrignaud, 2013; Park, Nam, & Cha, 2012). In recent times, a cut-off value of .06 or less has seemed to be the general consensus amongst authorities in this area (Duncan, Duncan, & Strycker, 2013).

The TLI, sometimes called the NNFI (SAS Program), Morelli, Mahan and Illingworth (2014) found TLI to be relatively independent of sample size. TLI/NNFI values over .90 or over .95 are considered acceptable (Al-Sayyed & Abdalhaq, 2016).

The Comparative Fit Index (CFI) assesses the fit of the hypothesised model compared to an independence model (Hooper et al., 2008). The CFI attempts to adjust for model complexity or parsimony. It does so by including the degrees of freedom used in the model directly into the computation.The CFI is also known as the Bentler Comparative Fit Index, which is seen as an incremental fit index that measures the comparative progress in the fit of the empirical model over that of a baseline model (the independence model) (Fowler, Clapp, Madan, Allen, Oldham, & Frueh, 2016). CFI values close to >.90 and higher are deemed as an acceptable model fit (Hamtiaux et al., 2013; Park et al., 2012).

The Akaike Information Criterion (AIC) is best known as a predictive fit index and normally utilised to compare non-hierarchical hypothesised models with similar data. Low values indicate a reasonable fit as opposed to models that fail to fit the data (Fowler et al., 2016).

Table 4.6 summarises the parameters for statistical techniques used in the CFA, structural equation modelling and multi-group structural equivalence.

Table 4.6

Summary of Parameters for Statistical Techniques used in the CFA, Structural Equation Modelling and Multi-group Structural Equivalence

Procedure/Index	Parameters	Interpretation and use of index	Source (s)
Cronbach's Alpha	Cut-off point ≥ .70	Reliability emulates the consistency of items over time, tests, and groups. Cronbach's alphas ≥ .70 are considered acceptable.	(El Hajj, AL-Saeed, & Khaja, 2016; Guimaraes & Paranjape, 2014).
Chi-square (x^2)	Insignificant x^2 result at $p > .05$ threshold. Acceptable model fit - ratio of x^2 to *df* (CMIN/DF) should be ≤ 2 or ≤ 3, useful for nested models/model trimming.	Tests the hypothesis that the specified model provides an ideal fit (within the limits of sampling error); the χ^2 value obtained should be smaller than 2; note that different discrepancy functions will yield different χ^2 values	(Cleophas & Zwinderman, 2016; Rukundo, Iversen, Andreassen, Oshaug, Kikafunda, & Rukooko, 2015; Valdivia, Barbieri, & Gold, 2012; Velmurugan & Velmurugan, 2014)
Standardised Root Mean Square Residual)	Range from zero to 1.0. Well-fitting models' value is ≤ .05. Values as high as .08 are deemed acceptable.	The standardised root mean square residual (SRMR) based on transforming both the sample covariance matrix and the predicted covariance matrix into correlation matrices. The SRMR is defined as the difference between the observed correlation and the predicted correlation. Thus, it allows assessing the average magnitude of the discrepancies between observed and expected correlations as an absolute measure of (model) fit criterion. A value less than 0.10 and of 0.08; Kline (2015) recommends a cut-off value close to .08.	(Nasser & McInerney, 2014). (Herman, Ashkanasy, & Dasborough, 2012; Perez, Cromley, & Kaplan, 2014).

Procedure/Index	Parameters	Interpretation and use of index	Source (s)
Tucker Lewis Index	Cut-off criterion should be TLI ≥ .95.	TLI is a measure of the proportionate improvement in fit (confined in terms of noncentrality) as one moves from the baseline to the target model, per df; Mishra and Tyagi (2015) recommend a cut-off value of .95.	(Lu, 2014; Perez et al., 2014; Mishra & Tyagi, 2015; Morelli et al., 2014).
Incremental Fit Index	Cut-off criterion should be IFI ≥ .95.	An adjusted version of NFI designed to lessen its dependence on sample size is the IFI; nonetheless the IFI may be biased upward for small N when the model is miss-specified, and the providence correction may be inappropriate; Mishra and Tyagi (2015) recommend a cut-off value of .95.	(Alwahaishi & Snásel, 2013; Mishra & Tyagi, 2015).
Comparative Fit Index	Cut-off criterion should be CFI ≥ .95.	CFI is a measure of the correlative improvement in fit (defined in terms of noncentrality) as one moves from the baseline to the target model; Corlu and Çorlu (2015) recommend a cut-off value of .95.	(Corlu & Çorlu, 2015; Lee, 2012; Leentjens, Moonen, Dujardin, Marsh, Martinez-Martin, Richard, & Köhler, 2013).
Root Mean Square Error of Approximation	A cut-off value of ≤ .06.	RMSEA is a projection of how well the fitted model concurrent the population covariance matrix per *df*; Wiroonratch (2014) proposed that a value of .05 indicates a close fit and that values up to .08 are reasonable; Velmurugan and Velmurugan (2014) suggest a cut-off value of .06; a *p*-value for testing the hypothesis that the discrepancy is smaller than .05 may be calculated (test of close fit).	(Halbesleben, 2010; Velmurugan & Velmurugan, 2014; Wiroonratch, 2014).

4.5 CORRELATIONAL AND INFERENTIAL STATISTICAL ANALYSES

In the present research the focus was on correlational and inferential statistical analyses of the total sample (N = 525). These analyses concern inter-correlations, multiple regression analysis, a test for distribution normality and tests for significant mean differences. The following sub-section explains the method followed when computing inter-correlations in the current research.

4.5.1 Inter-correlations of the subscales of the PCBI scale

In order to evaluate the relationships among sub-scales of the PBCI scale, product-moment correlation coefficients (also known as a Pearson *r*) were measured. The product moment correlation, *r*, is an extensively used index of effect that conveys information on both the magnitude of the relationship between variables and its direction (Ertürk & Vurgun, 2015; Nebel, Schneider, & Rey, 2016). The potential range of *r* is prominent: from -1.00 through zero (absolutely no relationship) to +1.00 (Tiernan & O'Kelly, 2014). Product-moment correlation was selected because the variables being tested were treated to be repeated. To the extent of evaluating practical effect size, coefficient values ranging from .10 and below .30 were regarded as small, those ranging from .30 but below .50 were regarded as moderate, and those above .50 were regarded as large (Badoud, Billieux, Eliez, Imhof, Heller, Eytan, & Debbané, 2015; Rashid, Mondol, Rahman, & Noman, 2016).

In practice, researchers often select the alpha level to be suitably low, often a probability of $p \leq .05$, which means there would be only a 5% chance of falsely rejecting the null hypothesis and finding that a contrast occurred when in fact there was no difference (Type I error). While a type I error is conspicuous when the researcher accepts an effect in the sample that does not exist in the population, a Type II error occurs when the researcher fails to accept an effect or difference in the sample that does exist in the population (Kuplennik, Tchoudakov, Zelas, Sadovski, Fishman, & Narkis, 2015).

Kemp, Hollowood, and Hort (2011) attempt a few approaches for minimising both type I and Type II errors, which the researcher carefully treated in the present research.

4.5.1.1 Minimising Type I error

(1) In chapter one the theory of statistical analysis development and the statistical tests performed in the present research were discussed.

(2) In the current research, data were analysed in order to distinguish missing values, outliers and evidence of multicolinearity. When acceptable administration of data sets is implemented, it minimises errors. It is furthermore important for the adequate circulation of every variable. The number of bivariate plots and tables was investigated prior to more complex analysis.

(3) Adjustment of a single test for each empirical research aim was achieved by decreasing the number of significance tests performed per study. In the present research an applicable statistical technique was applied by testing each empirical research aim.

(4) To standardise the sub-groups in which the hypothesised relationship is not significant to the larger group, linking measures should be related to the dependent variable of the same theoretical construct. The stated hypotheses were used as a guide to complete the statistical analysis.

(5) No conclusions should be made about results if the results have not been tested for significance. Conclusions are drawn from the findings of the research.

4.5.1.2 Minimising Type II error

- A pre-test should be carried out before beginning the research. Statistical power depends on only three elements: the size of the population the researcher considers, the size of the random sample the researcher intends to examine and the preferred statistical significance criterion. The effect size can be predicted from the related literature, or it may be resolved as the minimum effect that would be of substantive concern, or the researcher may accomplish conventional values suitable to the substantive field. In the current research the significance criterion (typically .05 or .01) and the significance level of the correlation coefficients were set at $p \leq .05$.
- The sample used in the current research was large enough to provide group and sub-group differences. The influence of detecting group differences tends to be strongest when group sizes are equal or if the overall number of subjects is fixed.
- One method of maintaining control over the extraneous variables is restricting the population studied in terms of the extraneous variables through biographical characteristics.
- Selecting a sample size with a large range (variance) on the independent variable will produce larger effect sizes, which will maximise the variance in the major independent variables.
- Hypotheses can be tested by using independent sample t-tests. One concern with this approach is the way the decision on which test to apply depends on the observed data,

and how this affects the performance (Type I error rate) of the selected test. The guidance will be to choose a t-test focus on the normality issue. The independent sample t-tests were used in the present research after the normality distribution assumption had been satisfied.

The following sub-section represents the methods and parameters applied during the multiple regression analysis in the prevailing research.

4.5.2 Multiple regression analysis

Multiple regression analysis was conducted in this research with biographical characteristics (age, gender and race) used as independent variables to estimate the percentage of variance explained in the dependent variables (sub-scales of the PCBI scale). Multiple regression (*R*) is two or more explanatory variables. Rather than modelling the mean response as a straight line, as in simple regression, it is now modelled as a function of several explanatory variables (Nizalova & Murtazashvili, 2016). A regression equation is used in statistics to find out what relationship, if any, exists between sets of data. This is extremely useful if the researcher wants to make predictions from data, either future predictions or indications of past behaviour (Xu, Freeman, Cowling, & Schooling, 2013). The general purpose of multiple regression is to learn more about the relationship between several independent or predictor variables and a dependent or criterion variable. In general, multiple regression allows the researcher to ask the general question, "What is the best predictor of positive coping behaviour?" (Baker, Bromley, Briggs, Cheyne, Cohen, García-Fiñana, & Meador, 2015). General reporting standards strongly recommended reporting effect sizes and confidence intervals to complement tests of statistical significance. Button (2016) has offered the following cut-off criterion for multiple regression analysis: R^2 value ≥ .01 ≤ .09 (small practical effect size); R^2 value ≥ .09 ≤ .25 (moderate practical effect size); and R^2 value ≥ .25 (large practical effect size). The significance level was set at $p \leq .05$.

The next sub-section explains the methods followed to test the distribution normality in the current research.

4.5.3 Test for distribution normality

The data for the indicated research were tested for distribution normality prior to the administration of the statistical tests for mean differences. A Kolmogorov-Smirnov (KS) test was selected to test for normality. Normality tests are crucial for at least two reasons, namely:

(1) Nonlinear and interacting physical processes usually lead to non-Gaussian distributions, and the developing instrument of the processes can consequently be better understood by examining the distribution of selected variables.

(2) Frequent statistical procedures require or are optimal under the assumption of normality, and it is therefore of interest to know whether or not this expectation is fulfilled (Arvanitidis & Kollias, 2016).

Abounding data analysis methods assume the expectation that data were sampled from a normal distribution or at least from a distribution which is adequately close to a normal distribution (Drezner & Turel, 2011). Acceptance is of great importance because, in many cases, it regulates the method that ought to be used to project the unknown parameters in the model and further predicts the test procedures which the analyst may apply. If the normality assumptions were not satisfied, the equivalent non-parametric test would be used (Bertanha & Moser, 2016). There are tests available to complete if a sample emerges from a normally distributed population, such as the KS.

The KS test was first design by Kolmogorov and then developed by Smirnov. In its authentic form, the KS test is used to demonstrate if a sample comes from a population with a completely specified continuous distribution (Kaya, Orbak, Polat, Polat, & Gümüşdere, 2016). The KS test is a nonparametric hypothesis test that measures the probability that a chosen univariate dataset is drawn from the same main population as a second dataset (the two-sample KS test) or a continuous model (the one-sample KS test). The test is based on the KS statistics that measure the greatest distance between the empirical distribution function of a univariate dataset and the comparison step function of the second dataset (and its cumulative distribution function). In both cases, the underlying population distribution is assumed to be continuous. (Dal Monte, Schintu, Pardini, Berti, Wassermann, Grafman, & Krueger, 2014). Its strengths include:

- The test is distribution-free, under a continuity assumption for the univariate population/model distribution, giving valid probabilities for any underlying distribution of the original and comparison dataset (Muralee Krishna, Madhu, Mohan, Suresh, & Singh, 2015).

- It can be universally applied without restriction to any research problem. For example, there is no restriction on the size of the sample (Akpinar, Rollas, Alagöz, Seğmen, & Sipit, 2014).
- Critical values of probabilities are widely available, with asymptotic formulae for large samples (n > 30) and tabulated values for small samples (Berthelot, Saint-Laurent, Gervais-Beaulac, & Savoie, 2014).
- The one-sample KS test can serve as a goodness-of-fit test following regression or another procedure. This is critically important in inference as a link between data and theory (Nikolaus, Müller, & Hautzel, 2016).
- The statistic is easy to compute, readily understood graphically and familiar (Bower, 2011).

The test compares the cumulative distribution of the data with the expected cumulative normal distribution, and bases its *p* value ($p \leq .05$) on the largest discrepancy (Landini, 2016). When normality and homogeneity of variance assumptions are not satisfied ($p < .05$), the equivalent non-parametric test must be applied to test mean differences. The KS test showed thatr the data for the present sample was normnally distributed ($p > .05$) and therefore the independent samples t-test was used.

4.5.4 Tests for significant mean differences

The test for mean difference was applied using the independent samples t-test. The age, gender and race groups each comprised two sub-groups.The independent samples t-test compares the mean scores of two groups in a given variable, that is, two mean scores of the same variable, where one mean represents the average of that characteristic for one group and the other mean represents the average of that specific characteristic in the other group (Soylu, Yuksel, Gulel, Erbay, Meric, Zengin, & Demircan, 2013). The independent samples t-test compares one measured characteristic between two groups of observations or measurements. It shows whether the difference between the two independent samples is a true difference or whether it is just a random effect (statistical artifact) caused by skewed sampling. The independent samples t-test is also called an unpaired t-test. It is the t-test to use when two separate independent and identically distributed variables are measured (Fukunaga, Okada, Konishi, Murashita, Yuzaki, Shomura, & Koyama, 2012). Independent samples are easiest to obtain when selecting the participants by random sampling. The independent samples t-test is similar to the dependent sample t-test, which compares the mean score of paired observations. These are typically obtained when either

re-testing or conducting repeated measurements, or when grouping similar participants in a treatment-control study to account for differences in baseline. However, the pairing information needs to be present in the sample and therefore a paired sample can always be analysed with an independent samples t-test but not the other way around (Wang, Wang, Chen, Kinchla, & Nugen, 2016).

The significance cut-off level was set at $p \leq .05$. Table 4.7 presents a summary of the parameters for statistical techniques used in multiple regression analysis, the test for distribution normality and the tests for significant mean differences.

Table 4.7

Summary of Parameters for Statistical Techniques used in Multiple Regression Analysis, Test for Distribution Normality and Test for Significant Mean Differences

Measure/procedure	**Parameter**	**Source (s)**
Inter-correlation	*r* value ≥ .10 ≤ .30 (small practical effect size). *r* value ≥ .30 ≤ .50 (moderate practical effect size). *r* value ≥ .50 (large practical effect size). Significance level $p \leq .05$	(Militello, Rundo, & Gilardi, 2014; Rix, 2015).
Multiple regression	R^2 value ≥ .01 ≤ .09 (small practical effect size) R^2 value ≥ .09 ≤ .25 (moderate practical effect size) R^2 value ≥ .25 (large practical effect size) Significance level $p \leq .05$	(Baker et al., 2015).
Test for distribution normality	Significance level $p \leq .05$ (non-normal distribution) Significance level $p > .05$ (normal distribution)	(Parente, & Santos Silva, 2016).
Test for significant mean difference	Significance level $p \leq .05$ Cohen's d: *d* value >.20 <.49 (small practical effect) *d* value > 50 < 79 (moderate practical effect) *d* value > 80 (large practical effect)	(Erickson, O'Dell, Jiang, Oncescu, Gumus, Lee, & Mehta, 2014).

The next section explains the different types of validity that were applied in the current research to ensure a valid PCBI scale and valid research findings.

4.6 VALIDITY OF THE RESEARCH AND ITS FINDINGS

As Cohen, Cohen, West, and Aiken (2013) confirm, the validity of a study is construed as the extent to which it measures what it is supposed to measure. A discussion of the different types of validity and how they were ensured in the current research follows.

4.6.1 Face validity

Face validity, a measure of validity, is not about what the measurement procedure actually measures, but what it appears to measure. One reason for selecting face validity is the belief that a measure should appear to measure what it measures. When using face validity it is important to consider it in context, as the main form of validity or as a supplemental form of validity to other types of validity (construct validity and content validity). Face validity is seen as the first step in measuring validity, but should not be assumed to be provably valid because measures may have high validity, but when the survey does not appear to be measuring what it should be measuring, it has low face validity (Clark & Welk, 2016). Face validity in scale development research is important to focus on consistency and guidance regarding item retention during the expert judging. After analysing the data from the scale development effort, the application of different decision rules to use for item retention is important. The results that the research is using, whether new, changed, or previously unexamined scale items, should at a minimum be judged for face validity (Jimenez, Gomez, Buhrmester, Vázquez, Whitehouse, & Swann, 2016).

In the present research subject matter experts confirmed the face validity of the PCBI as an indicator of the scale's content validity.

4.6.2 Content validity

Content validity is the extent to which an instrument measures the important aspects of concepts that developers or users design it to assess (El Hajj et al., 2016). Experts' input, as well as input in item generation of respondents in the organisation, can provide evidence of content validity. The generation of items is the most important element of establishing sound measures. In this stage, the primary concern of the scale developer will be content validity. It is often viewed as the minimum psychometric requirement for measurement adequacy and is the first step in construct validation of a new measure (Hinkin, 1995). Content validity must be built into the measure through the development of items, immediately after items have been

developed, as this will provide the opportunity to refine and/or replace items before preparing and administering a questionnaire (Rubin & Babbie, 2016).

In the current research, content validity of the instrument was established by ensuring the relevance and representativeness of the content of the items and the technical quality of those items. In addition, the measure developed in this research was subjected to expert review in its draft stage and the experts' inputs were integrated in the final draft. The instrument development process followed in the current research as outlined in this chapter supported the content aspect of validity by providing details on item generation, item development, item refinement and evaluation. The objective of the steps in the instrument development process as reported in this chapter, sub-section 4.2.3, was to create measures that prove validity and reliability. Further inferential statistical tests such as exploratory analysis and CFA were also performed on this measure to ensure that it satisfied the required psychometric inquiry. The technical quality of the items of the measure was verified using point-measure correlation (analogous to the traditional item-total correlations in classical test theory) and standardised item mean-square fit indices (Brouwer, Groenendaal, Koopman, Nievelstein, Han, & de Vries, 2010) to strengthen content validity.

4.6.3 Criterion-related validity

Criterion-related validation requires demonstration of a correlation or other statistical relationship between constructs (Morelli et al., 2014). In criterion-related validity, if the correlation is high, it can be said that the test has a high degree of validation support and its use as a selection tool would be appropriate. Criterion-related validity is determined by comparing the scores from the development instrument with one or more external variables that provide a direct measure of the characteristic in question. Criterion-related validity is accepted when the measure comprehends individuals on a standard it is expected to predict (Lilienfeld, Sauvigné, Lynn, Cautin, Latzman, & Waldman, 2015). Criterion-related validity was not applicable to the present research. It is recommended that future cross-validation studies investigate the criterion-related validity of the PCBI further.

4.6.4 Construct validity

Construct validity defines how well a test or experiment measures up to its claims. It refers to whether the operational definition of a variable actually reflects the true theoretical meaning of a concept (Saraiva, Rodrigues, Cordovil, & Barreiros, 2013). Construct validity is one of the

most important concepts in social research. It is the core of any study in which researchers use a measure as an index of a variable that is not itself directly observable (e.g. happiness, locus of control, optimism). If a test lacks construct validity, results obtained using this test or procedure will be difficult to interpret (Malinowsky & Larsson-Lund, 2016). Construct validity is established by presenting correlations between a measure of a construct and a number of other measures that should, theoretically, be associated with it (convergent validity) or vary independently of it (discriminant validity). The aim of construct validation is to enclose a professed measure to establish its relation to other variables with which it should, theoretically, be associated positively, negatively, or practically not at all (Woo, Fu, Popovic, Chow, Cella, Wong, & Ganesh, 2016).

Construct validity is closely linked to the concept of the nomological network specifying the relationships among a number of constructs. However, locating a construct within such a nomological network by means of investigations of discriminant validity is very trying, since a large number of relationships have to be considered. In contrast, the investigation of convergent validity is much more focused than the investigation of discriminant validity, and as a consequence, convergent validity can be achieved in a more straightforward way (Warren, Dupont, Abdel-Moati, Hobeichi, Palandro, & Purkis, 2016).

Discriminant validity is a property that scales are expected to show. A scale showing this property has been proven not to correlate with scales representing constructs that are regarded as unrelated to the construct that is represented by this scale (Ogara, Koh, & Prybutok, 2014). Discrimination is an important characteristic of an innovation in personality assessment, since a dimension of personality is hypothesised. When a construct is proposed, the proponent invariably has in mind distinctions between the new dimensions and other constructs already in use. Discriminant validity is rarely considered in isolation and usually not classified as one of the major types of validity. Mostly it appears in combination with convergent validity (Maatoug, Sahli, Harrabi, Chouikha, Hmad, Dendana, & Ghannem, 2016).

Convergent validity is a type of validity that is determined by hypothesising and examining the overlap between two or more tests that presumably measure the same construct (Lysaght, 2015). Convergent validity is used to evaluate the degree to which two or more measures that should theoretically be related to each other are, in fact, observed to be related to each other (Luedtke & van der Laan, 2016). Convergent and discriminant validity are also two important aspects of construct validity.

Future cross-validation studies of the PCBI are recommended to investigate this aspect of the PCBI. The current study evaluated the structural validity of the PCBI and the way in which convergent and discriminant validity manifested in terms of the structure that emerged from the CFA analysis.

The results for these analyses were reported in Chapter 5 (Research Results: Multi-Group Structural Equivalence). As Kuhn (2012) indicates, factor analysis and internal consistency reliability provide evidence of construct validity. To summarise, construct validation is fundamental for the development of quality measures (Moreira & Silva, 2015) therefore this new PCBI scale was subjected to rigorous scientific scrutiny.

4.7 CHAPTER SUMMARY

The population and sample employed in this research were described and methods pursued at different phases of the indicated research project were explained in detail in this chapter. At the same time, the first phase, the process followed in the development of a new measure, was described in detail. The second phase defined the methods followed during the EFA phase of the research along with the statistical techniques engaged. The methods and statistical procedures pursued in the third phase of the indicated research (CFA) were described as well. This encompasses the statistical procedures followed in inferential statistical analysis, such as inter-correlations, SEM, structural equivalence, multiple regression, tests for distribution normality and tests for significant mean difference.

Chapter 5 presents the research results of the current research.

CHAPTER 5 RESEARCH RESULTS

The present study is an exploratory study focused on the development of a new scale for the measurement of positive coping behaviour, namely the Positive Coping Behaviour Inventory (PCBI). The literature chapters operationalised and provided justification for the theoretical framework and subdimensions of the PCBI, including the items generated for each subdimension. This chapter discusses the statistical procedures performed to explore the factorial validity, uni-dimensionality and structural validity of the PCBI. The results of the empirical study are also reported in this chapter

Research aim 1 was to operationalise the elements of the theoretical framework for positive coping behaviour empirically into a valid and reliable PCBI. The next section addresses the exploratory factor analysis results of the KMO and Bartlett's test, and Principal Component Analysis (including Scree plot) which were conducted using a Varimax rotation technique. The chapter also presents the results of the Rasch analysis which was conducted to examine the psychometric properties of the new PCBI scale, and evidence of the achievement of the empirical aims of the research as set out below by the following research hypothesis:

H1a: The elements of the theoretical framework for positive coping behaviour can be operationalised into a valid and reliable PCBI.

In order to achieve research aim 1 and test H1a, statistical analysis was conducted in four stages:

Stage 1: Exploratory factor analysis (EFA), Rasch analysis and confirmatory factor analysis (CFA) were conducted to assess the factorial and structural validity and reliability of the newly developed scale. This stage addressed the following research sub-aim:

Sub-aim 1.1: To assess the psychometric properties (reliability and validity) of the newly developed PCBI.

Stage 2: This stage involved exploring the magnitude and direction of the correlations between the subscale variables of the PCBI best fit model. This stage addressed the following research sub-aim:

Sub-aim 1.2: To assess the nature of the interrelationships between the sub-scale dimensions of the PCBI.

5.1 PRELIMINARY STATISTICAL ANALYSIS

This research focuses on the early (exploratory) stage of scale development (i.e. empirically confirming theory and assessing the factorial and structural validity (intra-test correlation), uni-dimensionality and reliability of the newly developed measure) and not on the cross-validation (inter-test correlation with similar measures) of the newly developed scale. Cross-validation studies generally use two independent samples for the validation of the psychometric properties of a measurement scale. The current study focused on one sample (N = 525) in a specific research setting.

Researchers generally recommend splitting the sample in two when using EFA and CFA in the same study. Three separate studies on the sample were therefore conducted in order to achieve the research aims. Study 1 involved a randomly selected sample (n = 200) of the full data set (N = 525) to test the dimensionality and factorial validity of the PCBI. Once the factor structure was established, Rasch and reliability analysis was conducted on the total sample of N = 525. Study 2 involved a randomly selected sample (n = 325) of the full data set (N = 525) to test the measurement model fit and initial structural validity of the PCBI. After confirming the measurement model fit and structural validity of the PCBI, study 3 involved correlation analysis and multi-group structural equivalence testing (metric invariance, configural invariance and scalar invariance) for age, gender and race groups on the full sample (N = 525). Care was taken that members of the sample of n = 200 were not included in the sample of n = 325.

In the literature review the *a priori* theoretical factor structure of the PCBI was hypothesised by operationalising four theoretical behavioural coping dimensions (cognitive coping behaviour, affective coping behaviour, conative/motivational coping behaviour and social coping behaviour) and then generating items for each of the four theoretical subdimensions of the PCBI. As outlined in chapter 4, subject matter experts confirmed the face validity of the PCBI as an indicator of the scale's content validity.

EFA was used as a pretest to evaluate the questionnaire items in terms of item and factor loadings and not to explore an underlying factor structure. The focus of the EFA was not to verify but to modify the *a priori* theoretical factor structure by identifying the dimensional factors onto which the items loaded best and to identify redundant items. The EFA was also used to

assess whether the PCBI had essential unidimensionality or homogeneity, that is, whether the scale items assess a single underlying/overall factor or construct (positive coping behaviour). According to the guidelines of Pallant (2013), a good factor structure is evident from 40% of the cumulative variance explained. Evidence of unidimensionality (homogeneity) is represented by one factor accounting for at least 40% of the total variance.

An indicator of the essential unidimensionality of the scale is when the general factor explains more than 60% of the total variance of the factor (Wolff & Preising, 2005). Once the dimensionality of the PCBI was determined, the second-order (multi-dimensional) structural validity of the proposed model could be tested using a structural equation modelling technique, namely confirmatory factor analysis (CFA).

CFA and Rasch analysis were used to test the hypothesis that the newly developed PCBI has valid and reliable measurement properties. Other preliminary analysis included testing for common method variance by performing a Harmann's one-factor solution (EFA) and a one-factor CFA on the initial theoretical structure of the PCBI.

5.1.1 Exploratory factor analysis: Sample adequacy

Exploratory factor analysis was conducted on a randomly selected sample (n = 200) of the full data set (N = 525). The principal component method of extraction (maximum likelihood) and quartimax rotation with Kaiser normalisation were used. As shown in Table 5.1, the Kaiser-Meyer-Olkin value for the PCBI was .95. The value exceeded the recommended minimum value of .60 (Hair et al., 2010; Melnykov & Maitra, 2010), while the Bartlett's test of sphericity (Bartlett, 1954; Melnykov & Maitra, 2010) attained a statistical significance of p = .000 for the scale, thus supporting the factorability of the correlation matrix for the scale. These results indicate that the sample used in the study was adequate and that significant correlations existed between the variables of the correlation matrices of the PCBI.

Table 5.1

KMO and Bartlett's Test: PCBI

Kaiser-Meyer-Olkin measure of sampling adequacy: PCBI		**.95**
Bartlett's test of sphericity	Approximate chi-square	13877.686
	Df	1275
	Sig.	.000

Notes: n = 200

5.1.2 Exploratory factor analysis: Item loadings of the PCBI

Eight factors with an eigenvalue greater than 1 are visible in Table 5.2. The criteria mentioned below guided the number of factors to be extracted (Hair et al., 2010; Owen, 1995) from the EFA analysis for further statistical purposes of the PCBI. These factors were subjected to further rotation.

- Statistical criteria used conventionally, such as Kaiser's eigenvalue-larger-than-one-criterion, were considered. Because the *a priori* theoretical factor structural model and item generation proposed four underlying factors for the newly developed PCBI, it was decided to retain factors with an eigenvalue of 1.768 and higher.
- The theoretical expectation regarding both the number of factors and the interpretability of the factors obtained was considered. Table 5.2 provided evidence of the multidimensionality of the PCBI. Table 5.2 further shows that the multidimensionality of the PCBI could be ascribed to the presence of a general factor. Overall, when considering all eight factors in Table 5.2, 57% of the variance was explained which is close to the 60% variance explained threshold for evidence of essential unidimensionality (an underlying general factor).
- The number of significant factors ($p < 0.01$) and the proportion of variance explained were considered. The scree plot (figure 5.1) shows that the first four factors cumulatively explained 47.44% of the variance in the data, thus indicating a good factor structure according to the guidelines of Pallant (2013). An inspection of the scree plot revealed an inflection point at the fourth component (eigenvalue of 1.768).
- Any given item was considered to belong to a particular factor if it had a factor loading of .50 or higher because of the factors loading strongly onto an overall factor. Theoretical expectations and the contents of factors and items were considered when decisions either to include or omit items were not clear-cut. The EFA focused on discovering an underlying (simple) structure and not to determine it. The purpose of the EFA was seen as assisting in exploring whether the four theoretically proposed factors could be identified in a reliable and way to conduct further statistical analyses. The EFA assisted in removing problematic items and identifying the factor on which the item had a better loading. It was also decided that each factor should have a minimum of four items.

Table 5.2

Factor extraction using Principal Component Analysis

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.690	34.687	34.687	17.182	33.691	33.691	16.945	33.225	33.225
2	2.788	5.467	40.154	2.188	4.290	37.981	1.580	3.098	36.323
3	1.949	3.821	43.976	1.318	2.584	40.566	1.441	2.825	39.148
4	1.768	3.466	47.442	1.407	2.759	43.325	1.339	2.626	41.774
5	1.394	2.734	50.176	.983	1.928	45.253	1.017	1.994	43.768
6	1.301	2.550	52.726	.805	1.577	46.830	.985	1.931	45.699
7	1.156	2.266	54.993	.585	1.147	47.978	.930	1.824	47.523
8	1.056	2.070	57.063	.637	1.249	49.227	.869	1.704	49.227

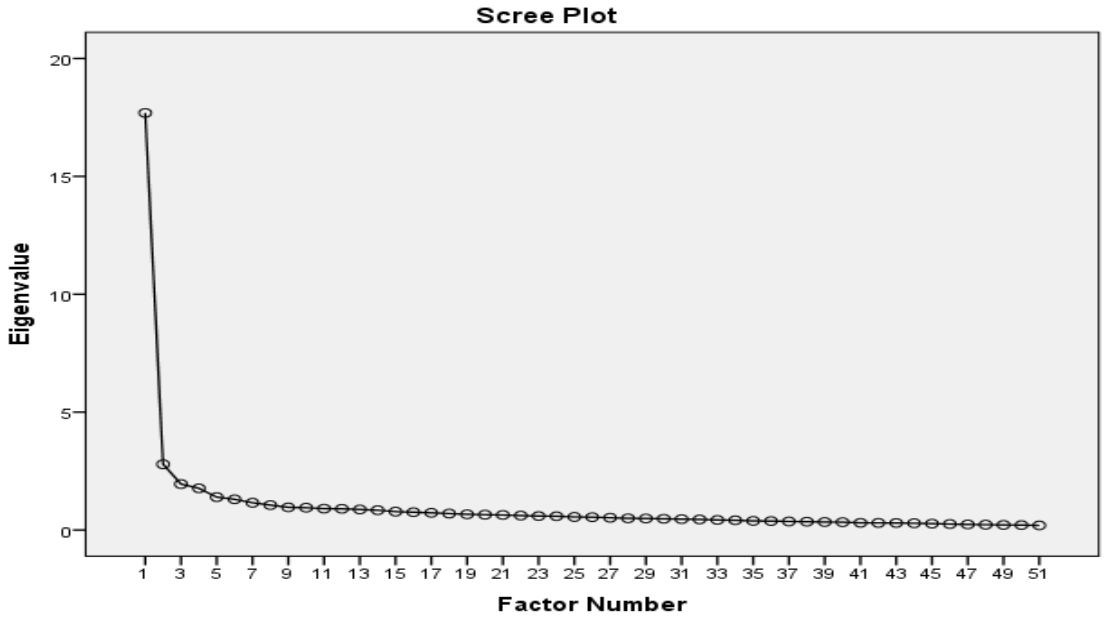


Figure 5.1. Scree plot for factor retention of the PCBI

Table 5.3 summarises the 41 items that were retained and determined onto which of the four factors they loaded for the purpose of further statistical analysis

Table 5.3

Revised Item Loadings of the PCBI: Factor loadings

Original PCBI item/new subscale item number	Description of item	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1 Cognitive coping behaviour:					
1 COG1	I can manage unfamiliar problems effectively	.50			
6 COG2	I am able to distinguish between a situation entailing risk and one that does not.	.53			
8 COG3	I feel confident about overcoming most of my problems	.68			
10 COG4	I feel valuable and worthy most of the time	.64			
12 COG5	I usually devise a plan to deal positively with stressful events	.54			
13 COG6	Humour helps me to bring relief in painful situations	.51			
14 COG7	Through humour I am able to gain perspective in painful situations	.50			
16 COG8	I believe most problems can be overcome by viewing them in a positive light	.64			
18 COG9	I like to experience new things	.66			
19 COG10	I find positive meaning in most difficult situations	.60			
Total number of items Factor 1		10			
Factor 2 Affective coping behaviour:					
20 AFF1	I feel happy, joyful and excited most of the time		.67		
21 AFF2	I usually feel positive and hopeful, no matter what the situation and circumstances are		.62		
22 AFF3	Most people would describe me as a happy person		.65		
23 AFF4	I feel energetic and interested in my work most of the time.		.59		
24 AFF5	I care deeply about others		.55		
25 AFF6	Nothing will bring me down		.61		
26 AFF7	I feel capable of handling difficult situations		.78		
28 AFF8	I feel confident in handling my negative emotions		.66		
Total number of items Factor 2:			8		
Factor 3 Conative (motivational) coping behaviour:					
27 CON1	I am able to persevere no matter what the situation is			.71	
29 CON2	I am able to bounce back from adversity			.71	
30 CON3	I feel that I learn from difficult situations			.72	
31 CON4	I can overcome difficult situations			.76	
33 CON5	I know what my strengths are			.60	
34 CON6	I usually concentrate on what is right, what works, and what is improving in my life			.60	
35 CON7	Taking good care of my body, mind and soul is important to me			.65	
36 CON8	Good nutrition, physical activity and a positive lifestyle are all important to live a good life			.60	

Original PCBI item/new subscale item number	Description of item	Factor 1	Factor 2	Factor 3	Factor 4
37 CON9	I usually make choices that honour my body and wellbeing			.52	
38 CON10	I am a functional member of society			.58	
39 CON11	I believe that prevention is better than cure			.64	
40 CON12	I constantly strive to improve my ability to deal with difficult situations			.65	
41 CON13	I have resources lined up to help me face difficult situations			.52	
42 CON14	I am creative when I solve problems			.63	
43 CON15	I see difficult situations as a challenge			.69	
44 CON16	I have endurance during difficult situations			.63	
45 CON17	I always reach my goals			.56	
46 CON18	I usually adjust positively to any kind of situation			.65	
Total number of items Factor 3:				18	
Factor 4 Social coping behaviour:					
47 SOC1	I usually adapt quite quickly				.65
48 SOC2	I am not scared of new or unknown situations.				.63
49 SOC3	I am not afraid to expose myself to risks				.52
50 SOC4	I have sufficient social support				.59
51 SOC5	I am generous, kind and tender-minded				.53
Total number of items Factor 3:					5
Factor 4 Social coping behaviour:					41

Notes: n = 200

In summary, the EFA confirmed the multidimensionality of the PCBI as proposed by the theoretical model. The original PCBI contained 51 items. Ten items were removed, leaving 41 items to be used in further statistical analysis. The construct sense of coherence in cognitive coping behaviour fell away through the items that were removed. In the cognitive coping behaviour dimension nine items were removed. In the affective coping behaviour dimension one item was added from the conative coping behaviour dimension, namely item 28, which was originally part of the construct of self-efficacy (conative coping dimension). Two items fell away from the conative coping dimension. The items of the social coping behaviour dimension remained the same. The unidimensionality (homogeneity) of each of the four dimensions of the revised PCBI was further assessed by means of Rasch analysis.

5.1.3 Testing for common method variance

Common method variance presents a potential threat of bias in behavioural research, especially when using cross-sectional (single-informative) surveys (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Accordingly, the Harman's one-factor test and CFA (one-factor solution) were conducted to assess the model fit data of the revised PCBI. Table 5.4 summarises the results of the Harman's one-factor test and the CFAs conducted on the revised PCBI factorial structure. A marginal value of RMSEA and SRMR for model acceptance is .10 and a value of .08 and lower and a CFI value close to .90 and higher are considered an acceptable fit (Hamtiaux et al., 2013; Park, Nam & Cha, 2012).

Table 5.4
Testing for Common Method Variance: Factor Solutions

Measurement instrument	Harman's one factor test: Percentage variance explained by a single factor	One factor solution (Confirmatory Factor Analysis)
Positive Coping Behavioural Inventory	17.69%	CMIN/df = 4.24*** RMSEA = .08 SRMR = .06 CFI = .77 AIC = 3467.1523

Note: n = 200; ***$p \leq .0001$

The one-factor solution for the PCBI showed that loading the 41 PCBI items onto one overall construct accounted for only 17.69% of the covariance among the scale variables. When loading the four PCBI factors onto a single construct in the CFA one-factor model, the fit indices showed that the single factor did not fit the model well, with a CFI value well below .90 (Chi-square/df ratio = 4.24; $p < .0001$; RMSEA = .08; SRMR = .06; CFI = .77). Overall, in line with the guidelines of Podsakoff et al. (2003), the one-factor results for the PCBI suggested that common method bias did not pose a threat to the research findings.

In summary, the EFA four-factor solution (41 items) supported the theoretical model conceptualised for the PCBI in the literature review. The one-factor results for the PCBI suggested that common method bias did not pose a threat to the research findings.

5.1.4 RASCH: Rating scale functionality

Table 5.5 reports the functionality of the rating scale categories and item fit statistics of the four subscale dimensions and items based on the EFA. The Rasch item fit statistics further assisted in assessing the unidimensionality (homogeneity) of each of the four PCBI dimensions. Rasch analysis was conducted on the total sample of N = 525.

Table 5.5

Rating Scale Categories and Item Fit Statistics for the Four Dimensions of the PCBI

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension :Cognitive coping behaviour							
COG2 (P6)	1 2 3 4 5 6	165 31% 183 35% 119 23% 43 8% 11 2% 4 1%	-2.08 -1.24 -.60 -.09 .31 -.30	1.1 1.4 1.4 1.0 .7 2.5	.22	1.07	1.20
COG3 (P8)	1 2 3 4 5 6	164 31% 169 32% 104 20% 58 11% 25 5% 5 1%	-2.33 -1.18 -.53 -.22 .18 .49	.90 .7 .7 1.0 .9 1.5	.06	.95	.90

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
COG5 (P12)	1 2 3 4 5 6	104 20% 217 41% 136 26% 44 8% 18 3% 6 1%	-2.60 -1.28 -.67 -.20 .17 .46	.9 1.1 .9 .9 .9 1.4	-.06	.87	.87
COG6 (P13)	1 2 3 4 5 6	161 31% 174 33% 118 22% 43 8% 19 4% 10 2%	-2.29 -1.19 -.56 -.18 .15 .37	1.0 .9 .7 .9 1.0 1.6	.08	1.00	.97

Item	Rating category	Category frequency (%)		Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
COG7	1	146		-2.30	1.1	-.08	1.00	1.00
(P14)	2	28%		-1.37	1.0			
	3	156		-.63	.8			
	4	30%		-,23	.8			
	5	141		.08	1.1			
	6	27%		.36	1.3			
		48						
		9%						
		22						
		4%						
		12						
		2%						
Subscale dimension :Cognitive coping behaviour								
COG8	1	161	31%	-2.32	1.0	-.01	.90	.87
(P16)	2	158	30%	-1.24	.7			
	3	117	22%	-.63	.9			
	4	52	10%	-.23	.8			
	5	31	6%	.22	.7			
	6	6	1%	.92	.6			
COG9	1	185	35%	-2.08	1.2	.05	1.19	1.10
(P18)	2	140	27%	-1.33	1.0			
	3	114	22%	-.66	.8			
	4	51	10%	-.15	.8			
	5	17	3%	.18	.9			
	6	18	3%	.41	1.0			
COG10	1	110	21%	-2.35	1.4	-.26	1.01	1.01
(P19)	2	174	33%	-1.53	.9			
	3	137	26%	-.78	1.0			
	4	68	13%	-.21	.7			
	5	25	5%	-.06	.9			
	6	11	2%	.35	1.6			

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Affective coping behaviour							
AFF1	1	89	-2.71	.9	-.11	.76	.79
(P20)	2	17%	-1.39	.9			
	3	187	-.51	.6			
	4	36%	.07	.7			
	5	134	.34	.8			
	6	26%	.97	1.2			
		75					
		14%					
		21					
		4%					
		19					
		4%					
AFF2	1	84	-2.67	1.3	-.17	.83	.84
(P21)	2	16%	-1.46	.7			
	3	172	-.61	.8			
	4	33%	.06	.6			
	5	150	.38	1.2			
	6	29%	.91	.9			
		75					
		14%					
		33					
		6%					
		11					
		2%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Affective coping behaviour							
AFF3	1	130	-2.42	1.0	.11	.93	.87
(P22)	2	25%	-1.15	.7			
	3	175	-.46	.8			
	4	33%	.08	.7			
	5	119	.49	1.0			
	6	23%	.97	.8			
		60					
		11%					
		34					
		6%					
		10					
		2%					
AFF4	1	131	-2.50	1.1	.00	1.20	1.21
(P23)	2	25%	-1.26	.9			
	3	159	-.50	1.0			
	4	30%	.00	.9			
	5	117	.36	.9			
	6	22%	.86	1.1			
		68					
		13%					
		33					
		6%					
		17					
		17%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Affective coping behaviour							
AFF5	1	180	-1.97	1.2.	.35	1.45	1.49
(P24)	2	34%	-.99	1.5.			
	3	156	-.55	1.3			
	4	30%	.14	.9			
	5	97	.38	1.1			
	6	18%	.44	2.7			
		57					
		11%					
		21					
		4%					
		14					
		3%					
AFF6	1	103	-2.44	1.2	-.30	1.06	1.06
(P25)	2	20%	-1.51	1.2			
	3	131	-.73	1.0			
	4	25%	-.14	.7			
	5	142	.29	.9			
	6	27%	.64	1.4			
		86					
		16%					
		43					
		8%					
		20					
		4%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Affective coping behaviour							
AFF7	1	138	-2.51	.8	.12	.85	.81
(P26)	2	26%	-1.12	.6			
	3	167	-.33	.7			
	4	32%	.17	.7			
	5	116	.35	1.1			
	6	22%	.92	.9			
		60					
		11%					
		34					
		6%					
		10					
		2%					
AFF8	1	107	-2.50	1.1	.00	.98	.96
(P28)	2	20%	-1.26	.9			
	3	182	-.50	1.0			
	4	35%	.00	.9			
	5	133	.36	.9			
	6	25%	.86	1.1			
		62					
		12%					
		26					
		5%					
		15					
		3%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Conative coping behaviour							
CON1	1	129	-2.28	1.1	-.20	.95	.91
(P27)	2	25%	-1.49	.7			
	3	164	-.58	.6			
	4	31%	-.17	.9			
	5	127	.22	.8			
	6	24%	.14*	1.2			
		63					
		12%					
		27					
		5%					
		15					
		3%					
CON2	1	137	-2.33	1.0	-.11	.96	.93
(P29)	2	26%	-1.30	.7			
	3	175	-.56	.9			
	4	33%	-.12	.7			
	5	112	.02	1.2			
	6	21%	.25	1.3			
		64					
		12%					
		28					
		5%					
		9					
		2%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Conative coping behaviour							
CON3	1	199	-2.14	1.0	.22	1.12	1.01
(P30)	2	38%	-1.05	.7			
	3	156	-.24	.5			
	4	30%	-.18	1.0			
	5	86	.24	.9			
	6	16%	.07*	1.8			
		56					
		11%					
		19					
		4%					
		9					
		2%					
CON4	1	168	-2.25	1.0	.02	.99	.88
(P31)	2	32%	-1.20	.6			
	3	168	-.40	.5			
	4	32%	-.70	.8			
	5	100	.16	.9			
	6	19%	.32	1.1			
		45					
		6%					
		29					
		9%					
		15					
		3%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (*θ*)	Infit mean square	Outfit mean square
Subscale dimension : Conative coping behaviour							
CON5	1	213	-2.01	1.0	.55	1.02	.92
(P33)	2	41%	-.92	.7			
	3	185	-.23	.8			
	4	35%	-.10	1.1			
	5	88	.12	1.2			
	6	17%	.80	.8			
		24					
		5%					
		8					
		2%					
		7					
		1%					
CON6	1	174	-2.11	1.0	.40	.84	.86
(P34)	2	33%	-1.04	.9			
	3	208	-.38	1.0			
	4	40%	.06	.7			
	5	103	.06*	1.2			
	6	20%	1.00	.6			
		30					
		6%					
		4					
		1%					
		6					
		1%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Conative coping behaviour							
CON7	1	202	-2.03	1.0	.32	.98	.89
(P35)	2	38%	-1.14	.8			
	3	160	-.34	.6			
	4	30%	.05	.7			
	5	97	.38	.8			
	6	18%	.57	.9			
		45					
		9%					
		14					
		3%					
		7					
		1%					
CON8	1	193	-2.07	1.0	.31	1.03	.96
(P36)	2	37%	-1.04	.8			
	3	167	-.41	.8			
	4	32%	-.05	.9			
	5	107	.28	.9			
	6	20%	.45	1.3			
		39					
		7%					
		12					
		2%					
		7					
		1%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Conative coping behaviour							
CON9	1	126	-2.22	1.1	-.09	1.05	1.10
(P37)	2	24%	-1.31	1.2			
	3	169	-.69	1.0			
	4	32%	-.15	1.0			
	5	153	-.22*	2.0			
	6	29%	.61	.8			
		50					
		10%					
		20					
		4%					
		7					
		1%					
CON10	1	134	-2.20	1.1	-.04	1.09	1.23
(P38)	2	26%	-1.26	1.1			
	3	193	-.68	1.5			
	4	37%	-.04	.6			
	5	106	-.01	1.4			
	6	20%	-.12*	2.6			
		66					
		13%					
		14					
		3%					
		12					
		2%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Conative coping behaviour							
CON11	1	210	-2.03	1.0	.26	1.16	1.08
(P39)	2	40%	-1.08	.8			
	3	144	-.40	.7			
	4	27%	-.01	.7			
	5	94	.17	1.1			
	6	18%	.21	1.7			
		47					
		9%					
		21					
		4%					
		9					
		2%					
CON12	1	137	-2.44	.9	.00	.94	1.00
(P40)	2	26%	-1.17	.5			
	3	194	-.46	.7			
	4	37%	.00	1.0			
	5	116	.23	.8			
	6	22%	-.24*	3.0			
		48					
		9%					
		17					
		3%					
		13					
		2%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Conative coping behaviour							
CON13	1	79	-2.50	1.2	-.39	1.19	1.24
(P41)	2	15%	-1.46	1.2			
	3	189	-.78	.9			
	4	36%	-.36	1.1			
	5	143	.04	1.2			
	6	27%	-.38*	3.3			
		69					
		13%					
		29					
		6%					
		16					
		3%					
CON14	1	111	-2.44	1.0	-.21	.86	.87
(P42)	2	21%	-1.42	.9			
	3	181	-.64	.9			
	4	34%	-.14	.6			
	5	126	.14	1.2			
	6	24%	.03*	1.3			
		75					
		14%					
		25					
		5%					
		7					
		1%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Conative coping behaviour							
CON15	1	135	-2.36	1.0	-.23	1.00	1.02
(P43)	2	26%	-1.37	.7			
	3	156	-.62	.7			
	4	30%	-.09	.5			
	5	124	.03	1.3			
	6	24%	.03*	1.9			
		64					
		12%					
		26					
		5%					
		20					
		4%					
CON16	1	129	-2.28	1.1	-.11	1.08	1.02
(P44)	2	25%	-1.49	.7			
	3	191	-.58	.6			
	4	36%	-.17	.9			
	5	113	.22	.8			
	6	22%	.14*	1.2			
		51					
		10%					
		26					
		5%					
		16					
		3%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Conative coping behaviour							
CON17	1	74	-2.03	1.6	-.42	1.11	1.18
(P45)	2	14%	-1.71	1.4			
	3	196	-.83	1.2			
	4	37%	-.25	.9			
	5	137	-.01	1.0			
	6	26%	.14	1.2			
		73					
		14%					
		23					
		4%					
		22					
		4%					
CON18	1	89	-2.37	1.2	-.27	.89	.88
(P46)	2	17%	-1.56	.9			
	3	197	-.65	.9			
	4	38%	-.16	.8			
	5	141	.22	.7			
	6	27%	.09	1.3			
		64					
		12%					
		23					
		4%					
		11					
		2%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Social coping behaviour							
SOC1	1	106	-2.72	.9	.05	.84	.82
(P47)	2	20%	-1.21	.7			
	3	181	-.44	1.0			
	4	34%	.14	.9			
	5	133	.73	.5			
	6	25%	.52*	1.4			
		63					
		12%					
		33					
		6%					
		9					
		2%					
SOC2	1	135	-2.50	1.0	.05	.83	.78
(P48)	2	26%	-1.34	.6			
	3	147	-.32	.4			
	4	28%	.23	.6			
	5	127	.56	.8			
	6	24%	.66	1.2			
		62					
		12%					
		41					
		8%					
		13					
		2%					

Item	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Social coping behaviour							
SOC3	1	97	-2.57	1.2	-.18	.87	.92
(P49)	2	18%	-1.55	.9			
	3	149	-.53	.7			
	4	28%	-.04	.9			
	5	147	.55	1.0			
	6	28%	.80	1.1			
		77					
		15%					
		38					
		7%					
		17					
		3%					
SOC4	1	90	-2.64	1.1	-.16	1.10	1.11
(P50)	2	17%	-1.40	1.2			
	3	187	-.56	.8			
	4	36%	.14	.5			
	5	114	.51	.9			
	6	22%	.15*	2.4			
		71					
		14%					
		41					
		8%					
		22					
		4%					

Item	Category statistics				Item fit statistics		
	Rating category	Category frequency (%)	Average measure	Outfit	Measurement intensity Measure (θ)	Infit mean square	Outfit mean square
Subscale dimension : Social coping behaviour							
SOC5 (P51)	1	149	-2.18	1.3	.24	1.36	1.34
	2	28%	-1.07	.9			
	3	180	-.43	1.2			
	4	34%	.12	1.1			
	5	96	.45	1.3			
	6	18%	.56	1.8			
		52					
		10%					
		27					
		5%					
		21					
		4%					

Notes: n = 525. P = original PCBI item

The rating scale categories measured responses as follows: 1: Definitely agree; 6: Definitely disagree. Overall, Table 5.5 indicates that the respondents had positive self-evaluations regarding their coping behavioural traits with the over-utilisation of the first three frequency categories (1, 2 and 3).

5.1.4.1 Cognitive coping behaviour dimension

As can be seen in Table 5.5, the six-point Likert-type frequency-based scale functioned satisfactorily for the cognitive sub-scale. None of the categories showed outfit statistics higher than 2.00, indicating that the categories provided good information and functioned satisfactorily. It appears from Table 5.5 that overall the last three categories (4, 5 and 6) were under-utilised. In terms of the measurement intensity of each item of the cognitive subscale, Table 5.5 shows that COG2 (P6) had the highest measurement intensity (θ = .22), followed by COG6 (P13: θ = .08). COG10 (P19) had the lowest measurement intensity (θ = -.26). All the items showed good infit (<1.30), indicating that the items showed essential unidimensionality or homogeneity (i.e. the items provided information consistent with the other cognitive coping behaviour items). All items had outfit statistics of <2.00, indicating that the items of the cognitive coping behaviour subscale dimension provided useful information.

5.1.4.2 Affective coping behaviour dimension

As can be seen in Table 5.5, the six-point frequency-based scale functioned satisfactorily for the affective sub-scale. None of the categories showed outfit statistics higher than 2.00, indicating that the categories provided good information and functioned satisfactorily. It appears from Table 5.5 that overall the last three categories (4, 5 and 6) were under-utilised. In terms of the measurement intensity of each item of the affective subscale, Table 5.5 shows that AFF5 (P24) had the highest measurement intensity (θ = .35), followed by AFF7 (P26: θ = .12). AFF6 (P25) had the lowest measurement intensity (θ = -.30). All the items showed good infit except for AFF5(P24: Infit = 1.45), indicating underfit (> 1.30), which suggests that this item might be redundant and did not show homogeneity (i.e. the item did not seem to provide information consistent with the other affective coping behaviour items. All items had outfit statistics of <2.00, indicating that the items of the affective coping behaviour subscale dimension provided useful information.

5.1.4.3 Conative coping behaviour dimension

As can be seen in Table 5.5, the six-point frequency-based scale functioned satisfactorily for the conative sub-scale. None of the categories showed outfit statistics higher than 2.00, indicating that the categories provided good information and functioned satisfactorily. It appears from Table 5.5 that overall the last three categories (4, 5 and 6) were under-utilised. In terms of the measurement intensity of each item of the affective subscale, Table 5.5 shows that CON5 (P33) had the highest measurement intensity (θ = .55), followed by CON6 (P34: θ = .40). CON17 (P45) had the lowest measurement intensity (θ = -.42). All the items showed good infit (<1.30), indicating that the items showed homogeneity (i.e. the items provided information consistent with the other conative coping behaviour items). All items had outfit statistics of <2.00, indicating that the items of the conative coping behaviour subscale dimension provided useful information.

5.1.4.4 Social coping behaviour dimension

As can be seen in Table 5.5, the six-point frequency-based scale functioned satisfactorily for the social sub-scale. None of the categories showed outfit statistics higher than 2.00, indicating that the categories provided good information and functioned satisfactorily. It appears from Table 5.5 that overall the last three categories (4, 5 and 6) were under-utilised. In terms of the measurement intensity of each item of the social subscale, Table 5.5 shows that SOC5 (P51) had the highest measurement intensity (θ = .24), followed by SOC 1 (P47: θ = .05) and SOC 2 (P48: θ = .05). SOC 3 (P49) had the lowest measurement intensity (θ = -.18). All the items showed good infit except for SOC 5 (P51: Infit = 1.36), indicating underfit (> 1.30), which suggests that this item might be redundant and does not show homogeneity (i.e. the item does not seem to provide information consistent with the other social coping behaviour items). All items had outfit statistics of <2.00, indicating that the items of the cognitive coping behaviour subscale dimension provided useful information.

In summary, all the items of the four PCBI subscale dimensions had acceptable outfit statitics indicating that the items provided useful information. The infit and outfit statistics provided evidence of the unidimensionality or homogeneity of each of the four PCBI dimensions (that is, the items of each dimension adequately measured a single underlying factor or construct). The six-point frequency-based scale functioned satisfactorily. Overall, Table 5.5 indicates that the respondents had positive self-evaluations regarding their coping behavioural traits with the over-utilisation of the first three frequency categories (1, 2 and 3). Item 24 (AFF5) and item 51 (SOC5) were indicated as redundant items.

5.1.5 RASCH: Unidimensionality and reliability analysis

This section reports on the internal consistency reliabilities and unidimensionality of the four dimensions of the PCBI after problematic items were removed. Raykov's rho (*ρ*) coefficient (also known as coefficient omega [*ω*] or composite reliability coefficient) was also computed in addition to the Rasch reliability coefficient and the Cronbach alpha coefficients because confirmatory factor analysis (a form of structural equation modelling [SEM]) is relevant to the research. Recently the value of the alpha coefficient in psychological research has been criticised, especially when SEM is of relevance. Cronbach's alpha coefficient is seen to tend to over- or underestimate reliability (Raykov, 2012). Table 5.6 summarises the Rasch fit and reliability statistics and the composite (omega) reliabilities (Raykov's rho) for the scale and its subscales.

Table 5.6

Descriptive Statistics: Rasch Summary Statistics and Internal Consistency Reliability Coefficients for the Positive Coping Behavioural Inventory.

Scale dimension	Average measure (*SD*)	Infit (*SD*)	Outfit (*SD*)	Separation	Reliability	Alpha	Omega (Raykov's rho) ω
Cognitive coping behaviour							
Person	-1.18(1.23)	.98(.82)	-.100(1.3)	1.62	.76	.78	.82
Item	.00(.13)	1.00(.09)	-.40(.90)	2.21	.84		
Affective coping behaviour							
Person	-.92 (1.16)	1.00(.85)	1.00(.87)	2.40	.85	.87	.86
Item	.00 (.19)	1.01(.21)	1.00(.23)	3.68	.93		
Conative coping behaviour							
Person	-1.15 (1.16)	1.01(.77)	1.00(.75)	3.38	.92	.93	.93
Item	.00(.27)	1.02(.10)	1.00(.12)	5.44	.97		
Social coping behaviour							
Person	-.88 (1.20)	.99(1.05)	.99(1.06)	1.88	.78	.79	.80
Item	.00(.15)	1.00(.20)	.99(.21)	2.95	.90		
Overall scale							
Person	-.88 (.83)	1.04 (.63)	1.04 (.63)	4.95	.96	.96	.95
Item	-.89 (.87)	1.02 (.18)	1.04 (.24)	5.72	.97		

Notes: n = 525

Overall, the Rasch analysis provided evidence of the reliability and unidimensionality of the PCBI. The ideal value for the infit and outfit statistics should be 1.0 (Cervellione et al., 2009)

to indicate unidimensionality or homogeneity (that is, that the items of the respective dimension measures the intended underlying construct adequately). Table 5.6 shows that the infit and outfit statistics were either close to 1.0 or greater than 1.0, indicating homogeneity of the PCBI.

Table 5.6 indicates acceptable Rasch item reliability (≥ .97) for the overall PCBI scale and the four subscales (>.90), indicating that the difficulty levels of the items were well distributed among the measured latent variables and that the items differentiated well among the measured variables. The person reliability coefficient is comparable to the traditional internal consistency reliability coefficient. The Cronbach's alpha coefficient for the overall PCBI scale was (α = .96 – very high) and the four subscales (>.78 - high). Similarly, the composite (omega) reliabilities for the overall PCBI scale were high (ω = .95) including the four subscales (ω > .80).

The item separation (≥ 5.72) and person separation (≥ 4.95) for the overall PCBI were adequate compared to the guideline of at least 2.00 (Bond & Fox, 2007), which means that participants would probably have indicated similar responses in other contexts. The mean item infit and person infit for the overall PCBI scale were acceptable, showing that the responses neither underfitted (≥ 1.30) nor overfitted (≤ .70). This indicates that individuals responded to the items in a consistent manner. The outfit statistics were all below 2.00, indicating that the scale provided useful information.

The item and person separation of the four subscale dimensions was also adequate (at least or close to 2.00). The person separation of the cognitive and social coping subscales was somewhat lower but close to 2.00. Overall, the item and person infit statistics of the four subscale dimensions were acceptable, not showing any concerns of underfit or overfit. The outfit statistics for the the four subscale dimensions were all below 2.00, indicating that each of the four subscale dimensions provided useful information.

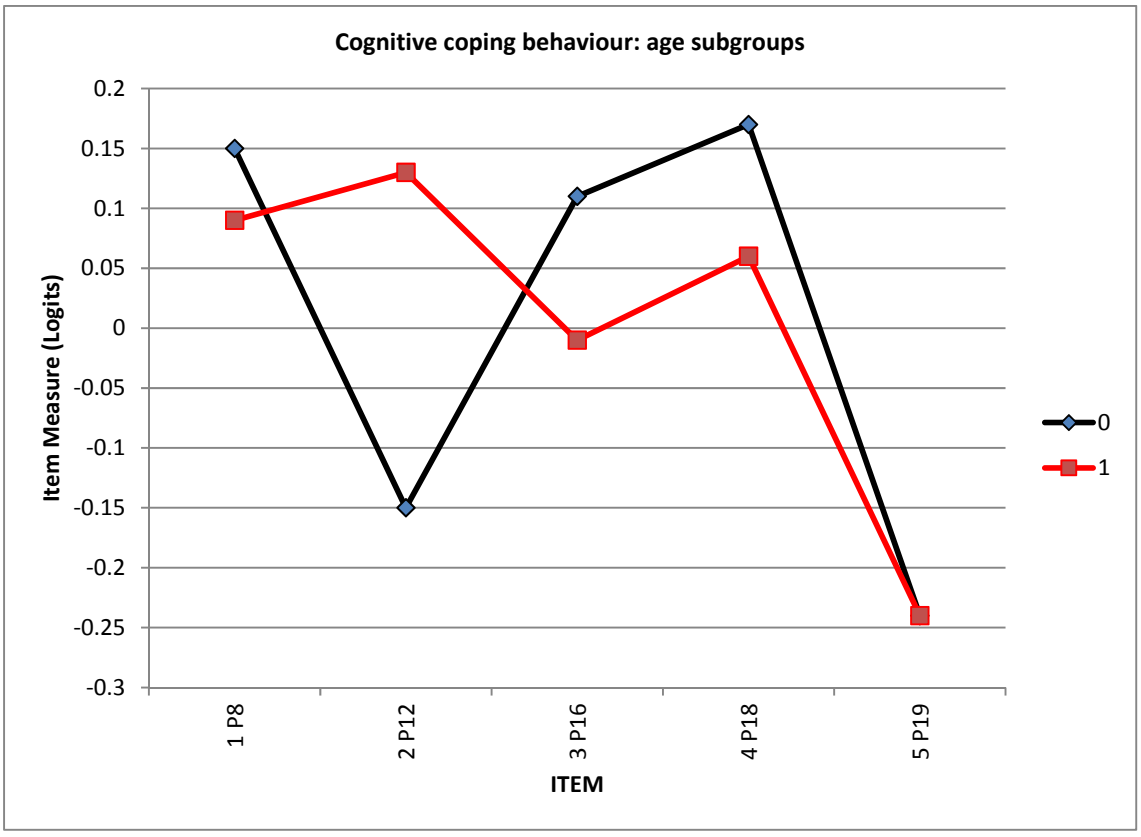
5.1.6 RASCH: Differential item functioning

Differential item functioning (DIF) was used to assess the presence of bias among respondents on each of the four subscales of the PCBI. DIF concerns the expectation that respondents who belong to different subgroups (age: <35 years; >35 years; gender: male; female; race: black participants; white participants) but have equal levels of ability would have the same probability of selecting a particular response to an item. DIF allows each item calibration to be compared between two or more groups in order to assess whether group

membership affects responses to the items (Kritikou, et al., 2013). The following parameters of magnitude were used: insignificant DIF: <.50 logits; mild (probably inconsequential): between .50 and 1.00 logits and notable: >1.00 logits. A negative DIF index shows that the item is easily agreed upon by a certain group while a positive DIF index means that an item is more unlikely to be agreed upon by a group that has similar abilities but different levels of probability of responding to the item correctly. The criteria used for the DIF analysis were: DIF contrast ≥ .5 < 1 ($p \leq .05$) and DIF contrast ≥ 1 ($p \leq .01$).

5.1.6.1 Differential item functioning: Cognitive coping behaviour subscale

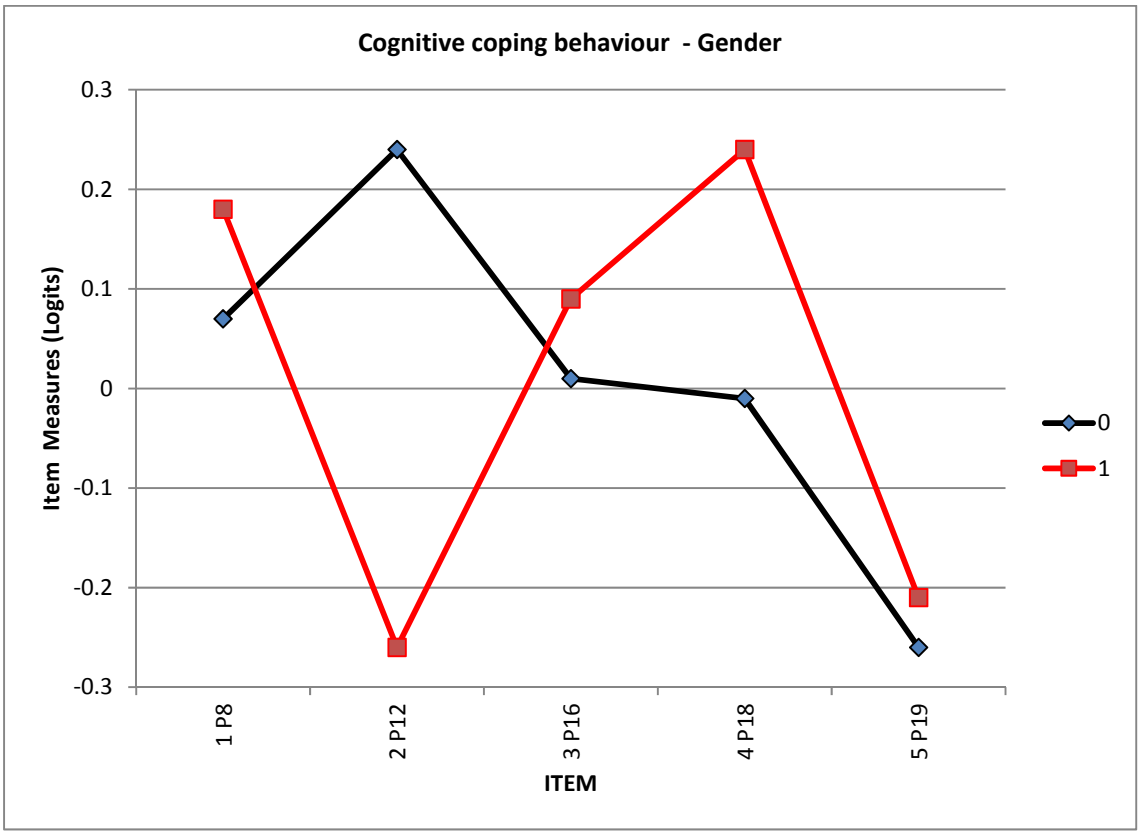
The age contrast DIF results are presented in figure 5.2. No significant level of difficulty was observed for the two age groups in terms of the cognitive coping behaviour items. The age group <35 years found item P12 *(I usually devise a plan to deal positively with stressful events)* relatively easy to endorse, in contrast to the older age group. Both age groups found it relatively easy to endorse item P19 *(I find positive meaning in most difficult situations)*. The other items appear to have presented more difficulty. However, the magnitude of disagreement was small (DIF logits <.50).



Notes: DIF parameters: <.50 Logits = insignificant; .50-1.00 logits = mild/probably inconsequential ; >1.00 logits = notable and significant.
Coding: 0 = <35 years; 1 = >35 years

Figure 5.2: Age subgroup contract plot for the cognitive coping behaviour subscale

The gender contrast DIF results are presented in figure 5.3. No significant level of difficulty was observed for males and females in terms of the cognitive coping behaviour items. The female participants found item P12 *(I usually devise a plan to deal positively with stressful events)* relatively easy to endorse, in contrast to the male participants. Both males and females found it relatively easy to endorse item P19 *(I find positive meaning in most difficult situations)*. The other items appear to have presented more difficulty. However, the magnitude of disagreement was small (DIF logits <.50).

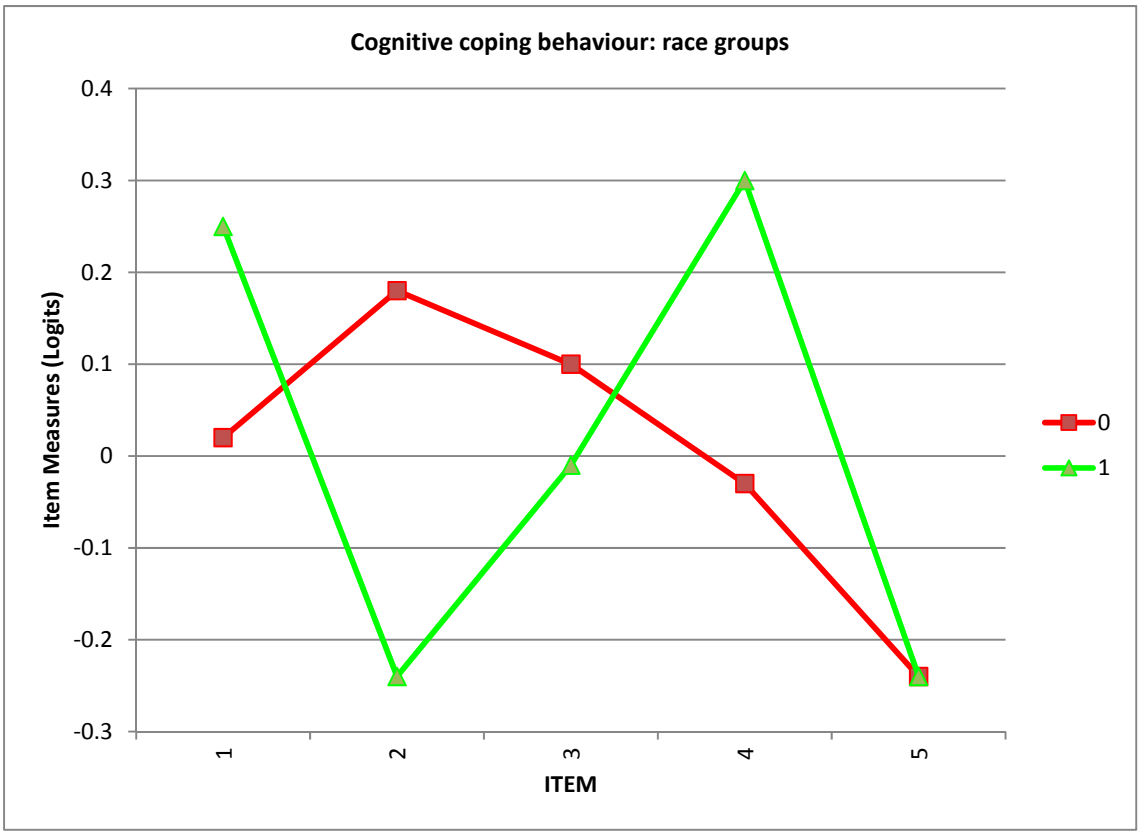


Notes: DIF parameters: <.50 Logits = insignificant; .50-1.00 logits = mild/probably inconsequential ; >1.00 logits = notable and significant.
Coding: 0 = male participants; 1 = female participants

Figure 5.3: Gender subgroup contract plot for the cognitive coping behaviour subscale

The race contrast DIF results are presented in figure 5.4. No significant level of difficulty was observed for the two race groups in terms of the cognitive coping behaviour items. The white participants found item P12 *(I usually devise a plan to deal positively with stressful events)* relatively easy to endorse, in contrast to the black participants. Both black and white participants found it relatively easy to endorse item P19 *(I find positive meaning in most difficult*

situations). The other items appear to have presented more difficulty. However, the magnitude of disagreement was small (DIF logits <.50).



Notes: DIF parameters: <.50 Logits = insignificant; .50-1.00 logits = mild/probably inconsequential ; >1.00 logits = notable and significant.
Coding: 0 = black participants; 1 = white participants

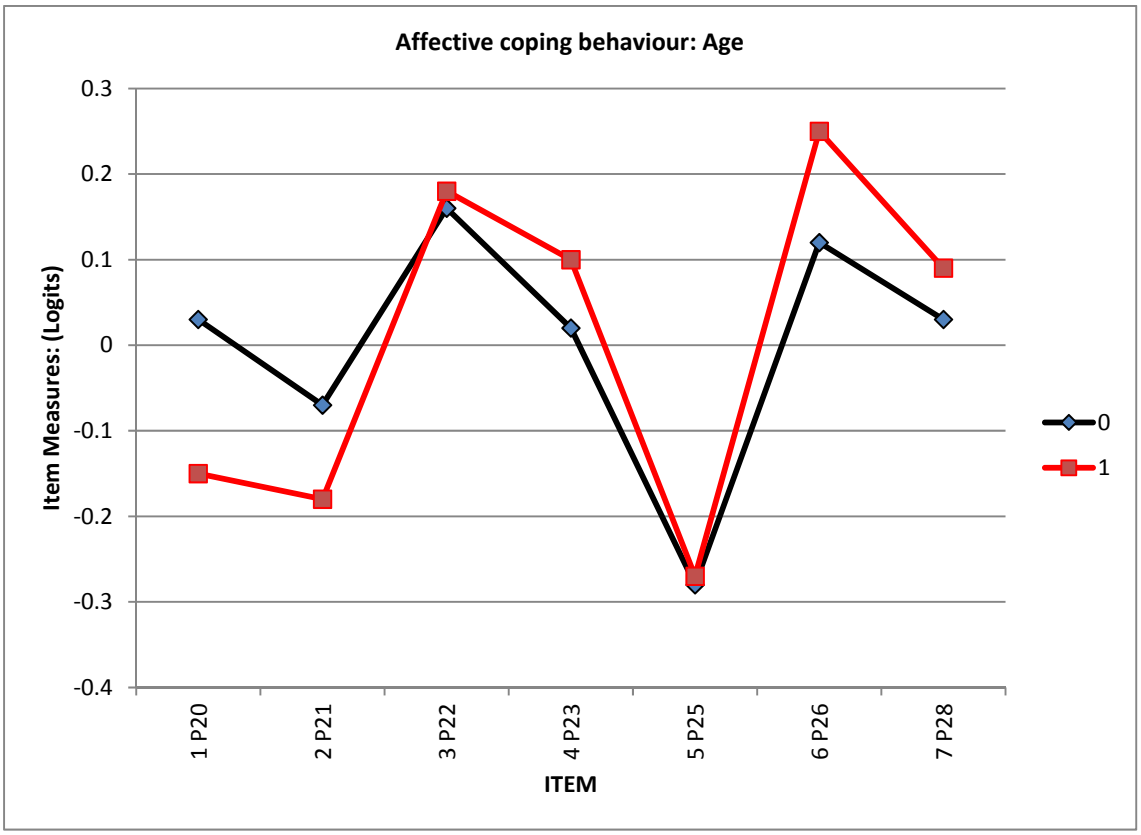
Figure 5.4: Race subgroup contract plot for the cognitive coping behaviour subscale

In summary, item P12 (*I usually devise a plan to deal positively with stressful events*) and item P19 (*I find positive meaning in most difficult situations*) appear to have been the easiest to endorse.

5.1.6.2 Differential item functioning: Affective coping behaviour subscale

The age contrast DIF results are presented in figure 5.5. No significant level of difficulty was observed for the two age groups in terms of the affective coping behaviour items. The age group >35 years found item P20 (*I feel happy, joyful and excited most of the time*) and item P21 (*I usually feel positive and hopeful, no matter what the situation and circumstances are*) relatively easy to endorse, in contrast to the younger age group. Both age groups found it relatively easy to endorse item P25 *(Nothing will bring me down).* The other items appear to

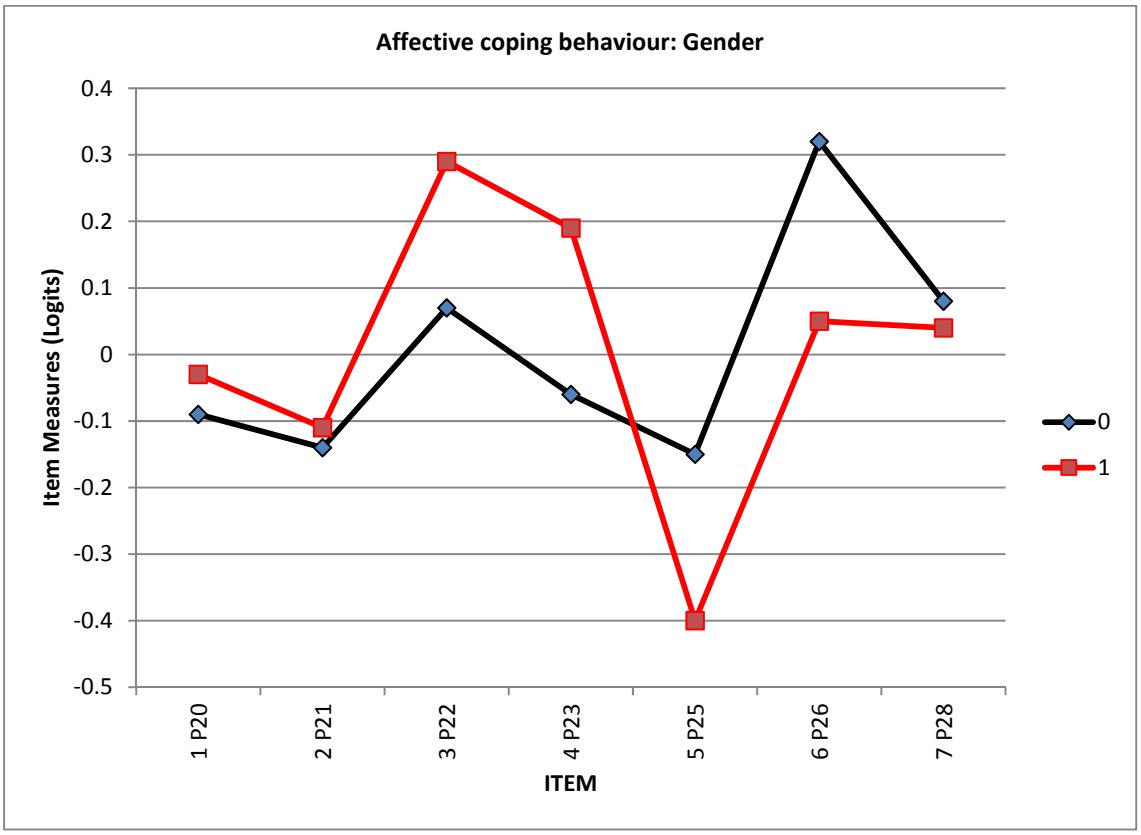
have presented more difficulty. However, the magnitude of disagreement was small (DIF logits <.50).



Notes: DIF parameters: <.50 Logits = insignificant; .50-1.00 logits = mild/probably inconsequential ; >1.00 logits = notable and significant.
Coding: 0 = <35 years; 1 = >35 years

Figure 5.5: Age subgroup contract plot for the affective coping behaviour subscale

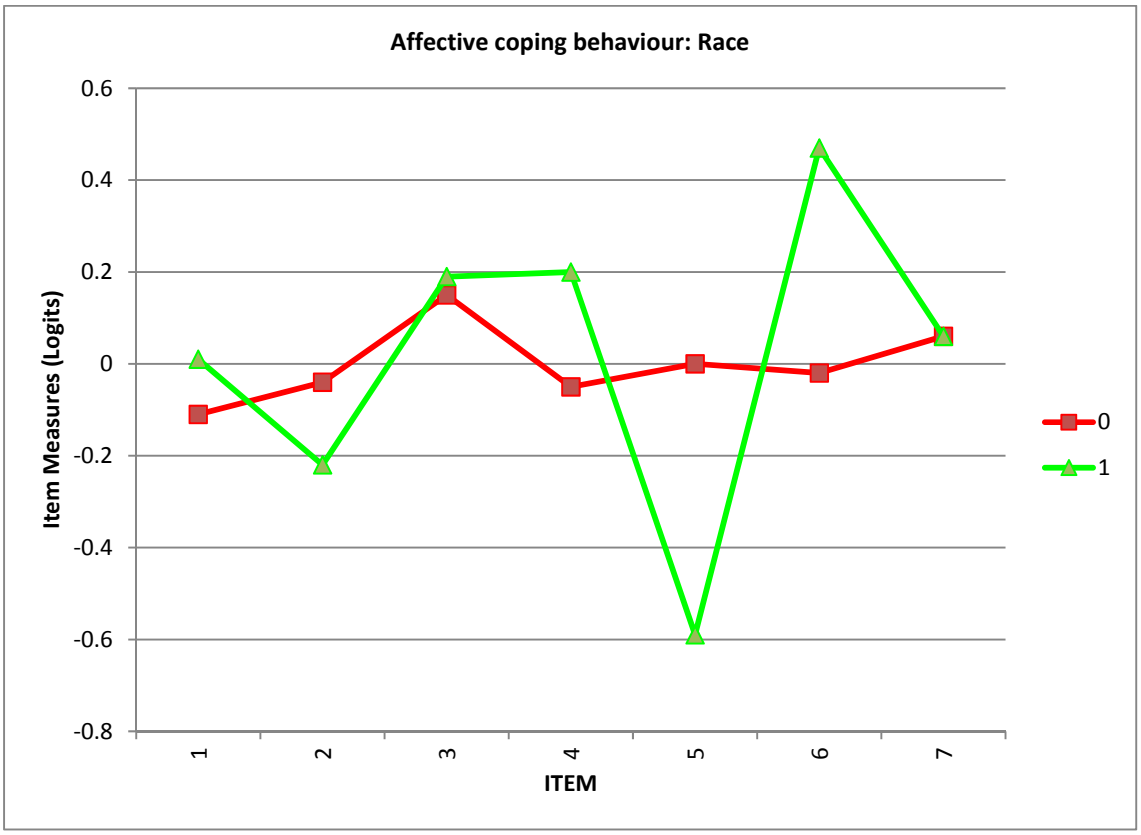
The gender contrast DIF results are presented in figure 5.6. No significant level of difficulty was observed for the males and females in terms of the affective coping behaviour items. The male participants found item P21 (*I usually feel positive and hopeful, no matter what the situation and circumstances are*) relatively easier to endorse than the female participants. The females found it relatively easier than the males to endorse item P25 *(Nothing will bring me down)*. The other items appear to have presented more difficulty for both males and females. However, the magnitude of disagreement was small (DIF logits <.50).



Notes: DIF parameters: <.50 Logits = insignificant; .50-1.00 logits = mild/probably inconsequential ; >1.00 logits = notable and significant.
Coding: 0 = male participants; 1 = female participants

Figure 5.6: Gender subgroup contract plot for the affective coping behaviour subscale

The race contrast DIF results are presented in figure 5.7. No significant level of difficulty was observed for the two race groups in terms of the cognitive coping behaviour items. The white participants found item P21 (*I usually feel positive and hopeful, no matter what the situation and circumstances are*) and item P25 *(Nothing will bring me down)* relatively easy to endorse, in contrast to the black participants, who found item P20 (*I feel happy, joyful and excited most of the time*) relatively easier than the white participants to endorse. The other items appear to have presented more difficulty for both the black and white participants. However, the magnitude of disagreement was small (DIF logits <.50).



Notes: DIF parameters: <.50 Logits = insignificant; .50-1.00 logits = mild/probably inconsequential ; >1.00 logits = notable and significant.
Coding: 0 = black participants; 1 = white participants

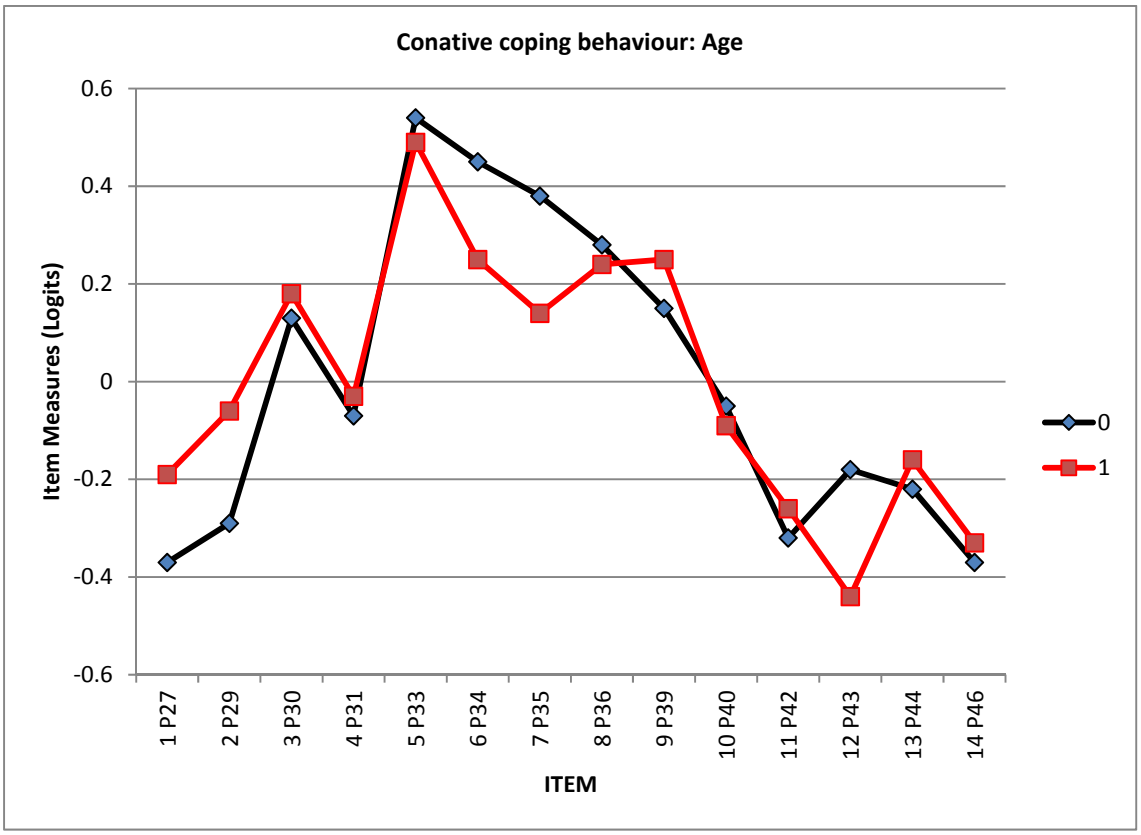
Figure 5.7: Race subgroup contract plot for the affective coping behaviour subscale

In summary, item P20 (*I feel happy, joyful and excited most of the time*), item P21 (*I usually feel positive and hopeful, no matter what the situation and circumstances are*) and item P25 (*Nothing will bring me down*) appear to have been the easiest to endorse.

5.1.6.3 Differential item functioning: Conative coping behaviour subscale

The age contrast DIF results are presented in figure 5.8. No significant level of difficulty was observed for the two age groups in terms of the conative coping behaviour items. The age group <35 years found item P27 *(I am able to persevere no matter what the situation is)* and item P29 *(I am able to bounce back from adversity)* relatively easy to endorse, in contrast to the older age group. Both age groups found it relatively easy to endorse item P31 *(I can overcome difficult situations),* item P40 *(I constantly strive to improve my ability to deal with difficult situations)*, item P42 *(I am creative when I solve problems)*, item P44 *(I have endurance during difficult situations)* and item P46 *(I usually adjust positively to any kind of situation)*. The older age group (>35 years) found item P43 *(I see difficult situations as a challenge)* relatively easier to endorse than those <35 years. The other items appear to have

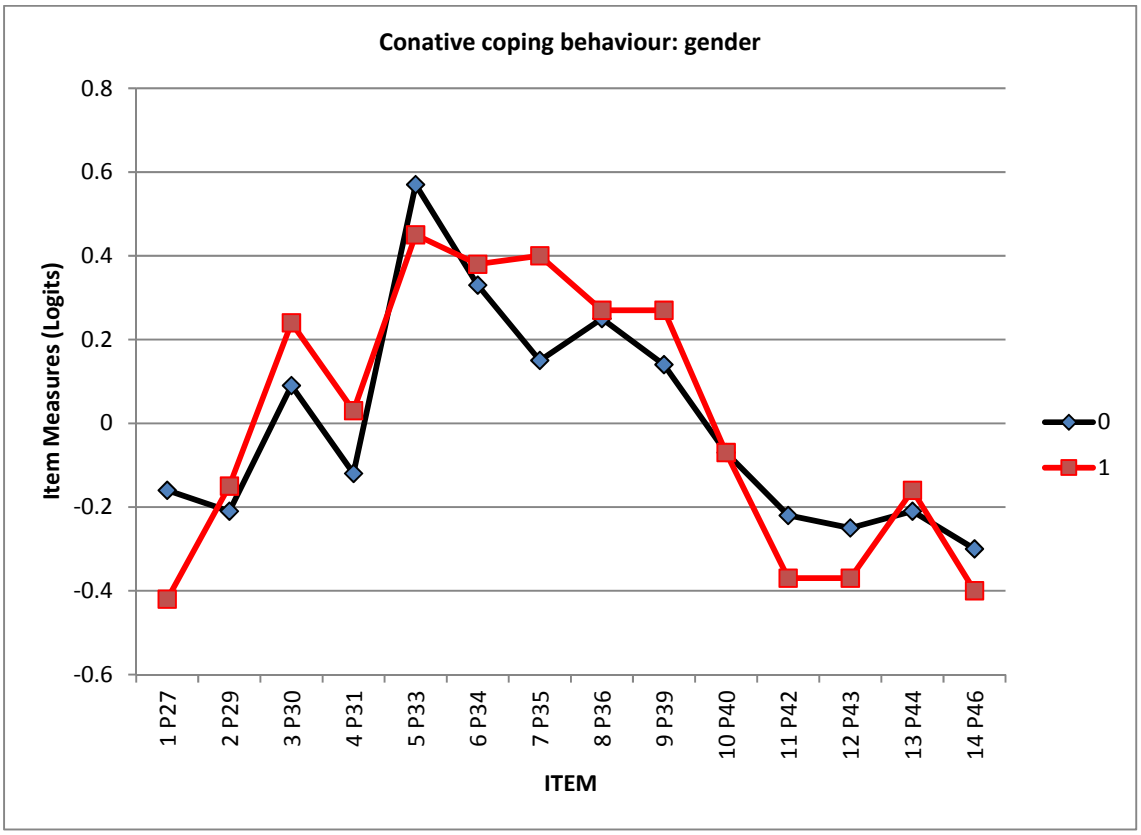
presented more difficulty. However, the magnitude of disagreement was small (DIF logits <.50).



Notes: DIF parameters: <.50 Logits = insignificant; .50-1.00 logits = mild/probably inconsequential ; >1.00 logits = notable and significant.
Coding: 0 = <35 years; 1 = >35 years

Figure 5.8: Age subgroup contract plot for the conative coping behaviour subscale

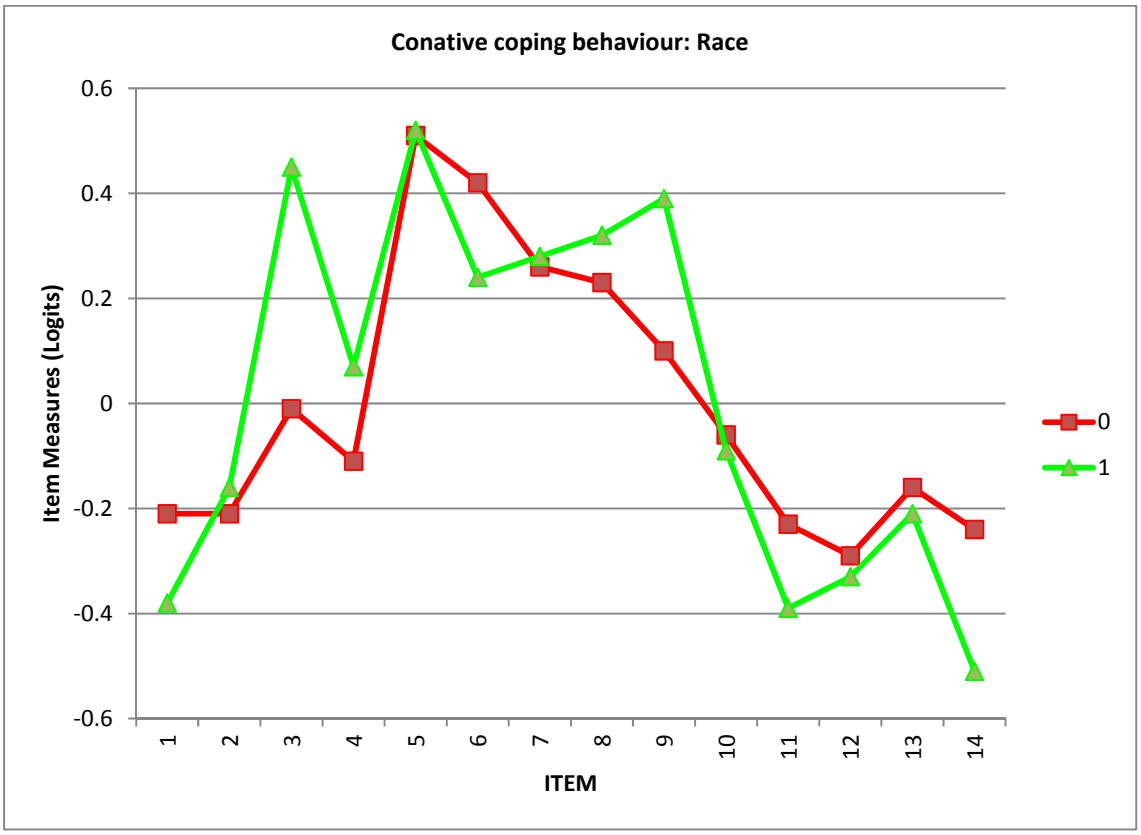
The gender contrast DIF results are presented in figure 5.9. No significant level of difficulty was observed for the two gender groups in terms of the conative coping behaviour items. The female gender group found item P27 *(I am able to persevere no matter what the situation is)*, item P42 *(I am creative when I solve problems)*, item P43 *(I see difficult situations as a challenge)* and item P46 *(I usually adjust positively to any kind of situation)* relatively easy to endorse, in contrast to the male gender group. Both gender groups found it relatively easy to endorse item P29 *(I am able to bounce back from adversity)* and item P44 *(I have endurance during difficult situations)*. The other items appear to have presented more difficulty. However, the magnitude of disagreement was small (DIF logits <.50).



Notes: DIF parameters: <.50 Logits = insignificant; .50-1.00 logits = mild/probably inconsequential ; >1.00 logits = notable and significant.
Coding: 0 = male participants; 1 = female participants

Figure 5.9: Gender subgroup contract plot for the conative coping behaviour subscale

The race contrast DIF results are presented in figure 5.10. No significant level of difficulty was observed for the two race groups in terms of the cognitive coping behaviour items. The white participants found item P27 *(I am able to persevere no matter what the situation is)*, item P42 *(I am creative when I solve problems)* and item P46 *(I usually adjust positively to any kind of situation)* relatively easy to endorse, in contrast to the black participants. Both black and white participants found it relatively easy to endorse item P29 *(I am able to bounce back from adversity)*, item P40 *(I constantly strive to improve my ability to deal with difficult situations)*, item P43 *(I see difficult situations as a challenge)* and item P44 *(I have endurance during difficult situations)*. The other items appear to have presented more difficulty. However, the magnitude of disagreement was mild (DIF logits <.50).



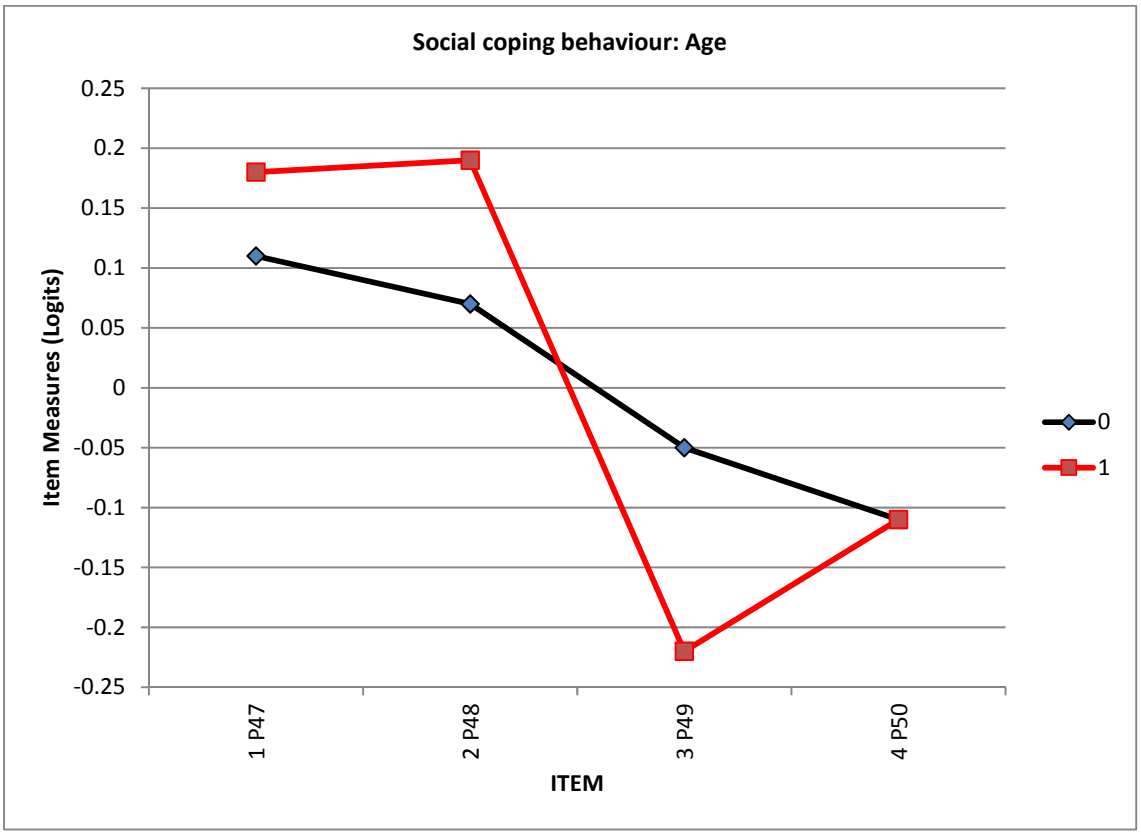
Notes: DIF parameters: <.50 Logits = insignificant; .50-1.00 logits = mild/probably inconsequential ; >1.00 logits = notable and significant.
Coding: 0 = black participants; 1 = white participants

Figure 5.10: Race subgroup contract plot for the conative coping behaviour subscale

In summary, items P27 (*I am able to persevere no matter what the situation is*) item P29 *(I am able to bounce back from adversity)*, item P40 *(I constantly strive to improve my ability to deal with difficult situations)*, item P42 *(I am creative when I solve problems)*, item P43 *(I see difficult situations as a challenge)*, item P44 *(I have endurance during difficult situations)* and item P46 (*I usually adjust positively to any kind of situation*) appear to have been the easiest to endorse.

5.1.6.4 Differential item functioning: Social coping behaviour subscale

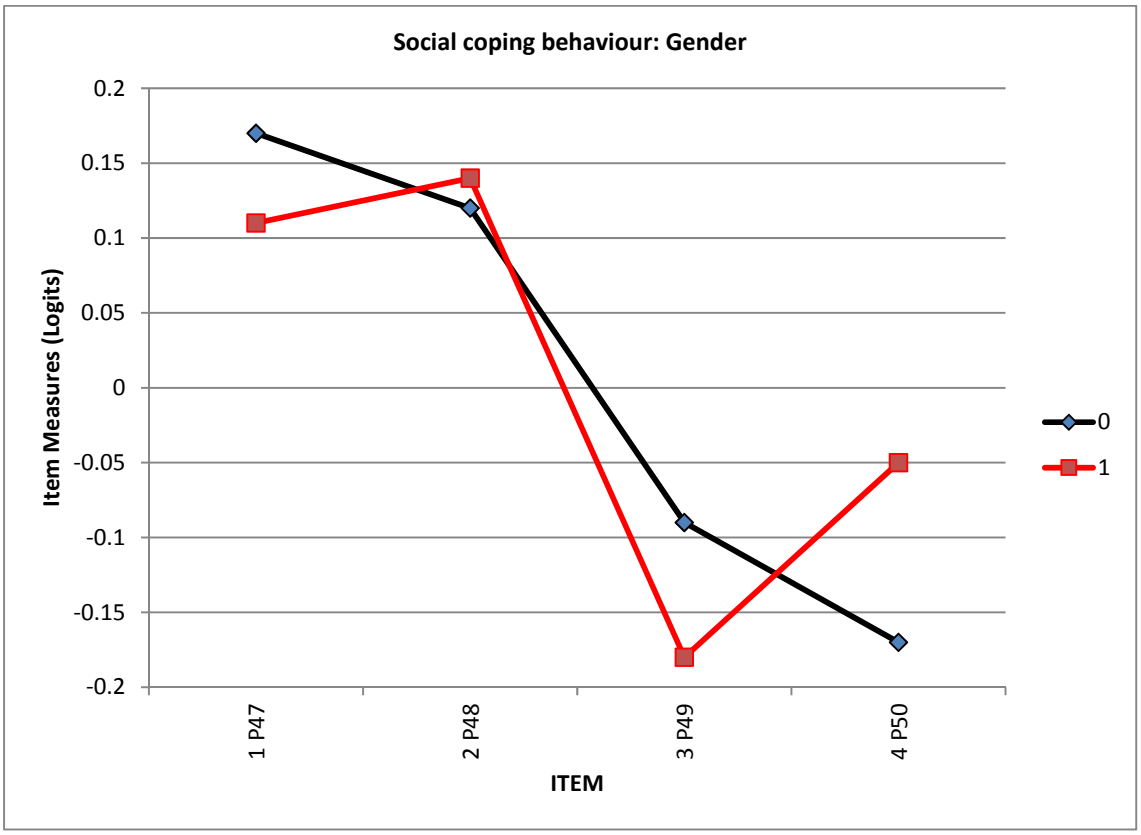
The age contrast DIF results are presented in figure 5.11. No significant level of difficulty was observed for the two age groups in terms of the social coping behaviour items. The age group >35 years found item P49 *(I am not afraid to expose myself to risks)* relatively easy to endorse, in contrast to the younger age group. Both age groups found it relatively easy to endorse item P50 *(I have sufficient social support)*. The other items appear to have presented more difficulty. However, the magnitude of disagreement was small (DIF logits <.50).



Notes: DIF parameters: <.50 Logits = insignificant; .50-1.00 logits = mild/probably inconsequential ; >1.00 logits = notable and significant.
Coding: 0 = <35 years; 1 = >35 years

Figure 5.11: Age subgroup contract plot for the social coping behaviour subscale

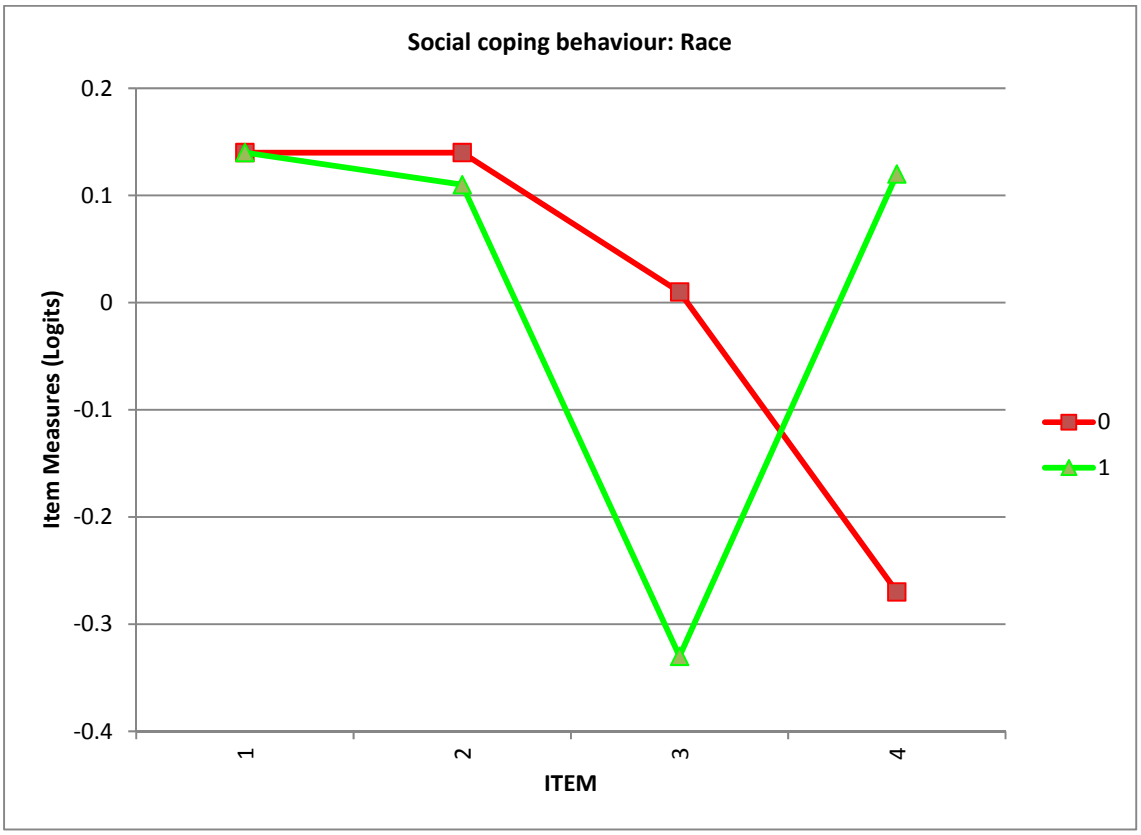
The gender contrast DIF results are presented in figure 5.12. No significant level of difficulty was observed for males and females in terms of the social coping behaviour items. The female participants found item P49 *(I am not afraid to expose myself to risks)* relatively easy to endorse, in contrast to the male participants who found it easier to endorse item P50 *(I have sufficient social support)*. The other items appear to have presented more difficulty. However, the magnitude of disagreement was small (DIF logits <.50).



Notes: DIF parameters: <.50 Logits = insignificant; .50-1.00 logits = mild/probably inconsequential ; >1.00 logits = notable and significant.
Coding: 0 = male participants; 1 = female participants

Figure 5.12: Gender subgroup contract plot for the social coping behaviour subscale

The race contrast DIF results are presented in figure 5.13. No significant level of difficulty was observed for the two age groups in terms of the social coping behaviour items. The white participants found item P49 *(I am not afraid to expose myself to risks)* relatively easy to endorse, in contrast to the black participants who found item P50 *(I have sufficient social support)* easier to endorse. The other items appear to have presented more difficulty. However, the magnitude of disagreement was small (DIF logits <.50).



Notes: DIF parameters: <.50 Logits = insignificant; .50-1.00 logits = mild/probably inconsequential ; >1.00 logits = notable and significant.
Coding: 0 = black participants; 1 = white participants

Figure 5.13: Race subgroup contract plot for the social coping behaviour subscale

Item P49 (*I am not afraid to expose myself to risks*) and item P50 *(I have sufficient social support)* appeared to have been the easiest to endorse.

In summary, the EFA provided evidence of the multidimensionality of the PCBI while the Rasch analysis provided evidence of the internal consistency reliability, usefulness and unidimensionality (homogeneity) of the four dimensions of the revised PCBI. The DIF results indicated minimal (inconsequential) bias concerns among the age, gender and race group respondents on the PCBI items.

5.2 EVALUATING THE MEASUREMENT MODEL: ASSESSING STRUCTURAL VALIDITY

This section reports on study 2 that involved a randomly selected sample (n = 325) of the full data set (N = 525) to test the measurement model fit and initial structural validity of the PCBI. Confirmatory factor analysis (CFA) was conducted within the framework of SEM to empirically

assess the structural validity of the PCBI and whether the hypothesised theoretical and EFA four-factor measurement model underlying the PCBI scale has a good fit with the empirically derived model data. The four hypothesised factorial dimensions are cognitive coping behaviour, affective coping behaviour, conative coping behaviour and social coping behaviour.

A measurement model is usually part of a larger network/model, which consists of dependence relationships among constructs. The constructs represent different variables, which are germane to understanding the phenomenon. This larger network is known as a path diagram or a structural model (Kline, 2015). There can be two types of constructs in a structural model: exogenous and endogenous (Bertanha & Moser, 2016). Exogenous constructs are independent, that is, they act only as a predictor or cause for other constructs in the model. They thus cause fluctuations or variations in the values of other constructs in the model (Al-Gahtani, 2016). Endogenous constructs are dependent on other variables in at least one causal relationship in the model. In a given structural model, exogenous constructs are identified by one or more arrows (signifying causal relationships) coming out of (but not going into) them. Endogenous constructs have at least one arrow going into them (Fontenot et al., 2015). The four factorial dimensions were treated as exogenous variables while the overall PCBI construct was treated as endogenous variable.

5.2.1 Measurement model for the Positive Coping Behaviour Inventory

The measurement model provides the basis upon which the initial hypothesised SEM model was computed. Theoretically it was hypothesised that positive coping behaviour as a latent variable (construct or factor) is dependent upon four observed variables that explain positive coping behaviour (i.e. cognitive coping behaviour, affective coping behaviour, conative/motivational coping behaviour and social coping behaviour). Each of these four observed variables is measured by multiple indicators (items). The measurement model tested how well the latent construct (positive coping behaviour) was measured by its indicators (items and their respective subscale dimensions). The hypothesised structural model was tested by examining both overall model fit and the contribution of each indicator to the latent construct. The model was tested to assess whether the expected linear relationships existed between the latent construct and its indicators of interest. Competing models were also tested in order to evaluate the best fit model data.

A marginal value of RMSEA and SRMR for model acceptance is .10 and a value of .08 and lower and a CFI value close to .90 and higher are considered an acceptable fit (Hamtiaux et al., 2013; Park et al., 2012). Table 5.7 reports the model fit statistics of the initial hypothesized

measurement model and competing models. The PRO CALIS procedure (SAS, 2013) was used for the statistical analysis.

Model 1: Initial measurement model: This model contained all items as derived from the EFA. Each item loaded onto its respective dimension and each of the four dimensions was allowed to load onto the overall positive coping behaviour construct.

Model 2: This measurement model excluded two potential redundant items COG1 (P1) and COG4 (P10) - as indicated by the Rasch analysis - and correlating error terms. Each item loaded onto its respective dimension and each of the four dimensions was allowed to load onto the overall positive coping behaviour construct.

Model 3: This measurement model excluded the social coping factor dimension. Each item loaded onto its respective dimension and each of the remaining three dimensions was allowed to load onto the overall positive coping behaviour construct.

Model 4: This measurement model combined cognitive coping behaviour and social coping behaviour into one factor. Each item loaded onto its respective dimension and each of the three dimensions was allowed to load onto the overall positive coping behaviour construct.

Table 5.7 shows that model 2 and model 3 provided the best fit model data with the AIC values being lower than for the other models and the CFI showing an improvement from the initial measurement model.

Table 5.7

Model Fit Statistics: Competing Measurement Models

Model	Chi-square/df	RMSEA	SRMR	CFI	NNFI/TLI	AIC
1	3.84***	.07	.06	.80	.80	3148.7226
2	2.43***	.04	.05	.91	.90	1849.9363
3	2.48***	.05	.04	.91	.90	1429.5063
4	4.01***	.08	.06	.79	.78	3278.7626

Note: n = 325; ***$p \leq .0001$

In model 2, error terms were allowed to correlate owing to the observed statistical significance between the observed variables and between the residual errors. Although the AIC value for model 3 (excluding the social coping behaviour dimension) was lower than the AIC value for

model 2, it was decided to retain model 2 as the best fit measurement model because the model made more theoretical sense and supported the theoretically hypothesised structural model. Once the best fit structural model was obtained, intra-test construct validity was assessed.

5.2.2 Convergent validity of the structural equation model

Next, the path coefficients were evaluated in order to assess the convergent validity of the factor structure of the best fit measurement model (model 2). A significant standardised regression estimate (path coefficient from an indicator to its construct) of .30 or above indicates that a variable adequately contributes to the construct it was intended to measure (Kline, 2005). Significant path estimates (factor loadings) exceeding the threshold value of .50 indicate convergent validity (Lee, Shiue, & Chen, 2016). Table 5.8 reports the results of the standardised path coefficients (regression estimates) of the final best fit structural equation model. All path coefficients were significant at $p \leq .01$ ($t > 2.56$).

Table 5.8

Standardised Path Coefficients for the Final Hypothesised Structural Equation Model

Observed variables	Latent variable	Estimate	Standard error	t-value
Subscale dimension :Cognitive coping behaviour				
COG2 (P6) Wisdom	Cognitive coping behaviour	.54	.03	16.32
COG3 (P8) Self-esteem	Cognitive coping behaviour	.70	.02	28.26
COG5 (P12) Optimism	Cognitive coping behaviour	.57	.03	18.06
COG6 (P13) Humour	Cognitive coping behaviour	.52	.03	15.69
COG7 (P14) Humour	Cognitive coping behaviour	.52	.03	15.43
COG8 (P16) Locus of control	Cognitive coping behaviour	.67	.02	25.74
COG9 (P18) Openess to experience	Cognitive coping behaviour	.67	.02	25.73
COG10 (P19)Positive reframing	Cognitive coping behaviour	.61	.02	20.63
Subscale dimension : Affective coping behaviour				
AFF1 (P20) Positive affect	Affective coping behaviour	.69	.02	27.61
AFF2 (P21) Emotional granularity	Affective coping behaviour	.63	.02	22.64

Observed variables	Latent variable	Estimate	Standard error	t-value
Subscale dimension : Affective coping behaviour				
AFF3 (P22) Happiness	Affective coping behaviour	.67	.02	26.48
AFF4 (P23) Happiness	Affective coping behaviour	.61	.02	21.03
AFF5 (P24) Happiness	Affective coping behaviour	.54	.03	16.93
AFF6 (P25) Happiness	Affective coping behaviour	.64	.02	23.58
AFF7 (P26) Happiness	Affective coping behaviour	.79	.01	43.86
AFF8 (P28) Self-efficacy	Affective coping behaviour	.68	.02	26.68
Subscale dimension : Conative coping behaviour				
CON1 (P27) Self-efficacy	Conative coping behaviour	.70	.02	30.09
CON2 (P29) Self-efficacy	Conative coping behaviour	.69	.02	28.76
CON3 (P30) Resilience	Conative coping behaviour	.70	.02	30.07
CON4 (P31) Resilience	Conative coping behaviour	.75	.02	36.69
CON5 (P33) Flourish	Conative coping behaviour	.60	.02	20.55
CON6 (P34) Flourish	Conative coping behaviour	.60	.02	20.55
CON7 (P35) Flourish	Conative coping behaviour	.66	.02	26.05
CON8 (P36) Flourish	Conative coping behaviour	.60	.02	20.83
CON9 (P37) Flourish	Conative coping behaviour	.52	.03	16.03
CON10 (P38) Intention for positive health	Conative coping behaviour	.59	.02	19.90
CON11 (P39) Proactive coping	Conative coping behaviour	.64	.02	24.33
CON12 (P40) Proactive coping	Conative coping behaviour	.67	.02	26.51
CON13 (P41) Proactive coping	Conative coping behaviour	.54	.03	16.88
CON14 (P42) Conscientiousness	Conative coping behaviour	.64	.02	24.08
CON15 (P43) Conscientiousness	Conative coping behaviour	.68	.02	27.45
CON16 (P44) Conscientiousness	Conative coping behaviour	.62	.02	22.30
CON17 (P45) Conscientiousness	Conative coping behaviour	.56	.03	17.80
CON18 (P46) Adaptability	Conative coping behaviour	.64	.02	23.86
Subscale dimension : Social coping behaviour				
SOC1 (P47) Extroversion	Social coping behaviour	.75	.02	30.63
SOC2 (P48) Extroversion	Social coping behaviour	.71	.02	28.88
SOC3 (P49) Extroversion	Social coping behaviour	.60	.03	19.18
SOC4 (P50) Social support	Social coping behaviour	.66	.02	22.43

Observed variables	Latent variable	Estimate	Standard error	t-value
Subscale dimension : Social coping behaviour				
SOC5 (P51) Agreeableness	Social coping behaviour	.54	.03	16.44
Overall construct: positive coping behaviour				
Cognitive coping behaviour	Positive coping behaviour	.96	.01	78.94
Affective coping behaviour	Positive coping behaviour	.95	.01	88.53
Conative coping behaviour	Positive coping behaviour	.97	.01	113.40
Social coping behaviour	Positive coping behaviour	.87	.02	48.24

Notes: n = 325. P = original PCBI item; t-values > 2.56 ($p \leq .01$); t-values > 1.96 ($p \leq .05$).

All the variables adequately contribute to the construct they were intended to measure. Table 5.8 shows that the factor loadings (path coefficients) were all larger than the threshold value of .50, indicating the convergent validity of each dimension and the overall construct. All items adequately converged onto their respective dimensions and each of the four dimensions adequately converged onto the overall positive coping behaviour construct. This finding indicates evidence of intra-test construct validity and structural validity for the PCBI scale.

5.2.3 Discriminant validity of the measurement model

Divergence (discriminant validity) in the context of this study related to assessing whether the PCBI indicators were better associated with their respective latent variables than with other latent variables (intra-test validity). In cross-validation studies this would imply that the four PCBI dimensions should be evaluated in terms of the strength of their respective associations with each other versus their associations with similar constructs measured by other measurement scales. It was expected that the four PCBI dimensions would correlate highly with one another and the overall PCBI construct (see Table 5.9 - bi-variate correlations). The bi-variate correlations showed that although the correlations among the four dimensions were significant and positive (large practical effect), their respective association with the overall PCBI construct was higher. This finding is an indication of discriminant validity. Another measure of divergent validity is comparing the best fitting measurement model with a one-factor model of the PCBI. As shown in Table 5.4, the one-factor solution of the PCBI had poor data fit (CMIN/df = 4.24***; RMSEA = .08; SRMR = .06; CFI = .77; AIC = 3467.1523) in comparison with the best model fit data shown in Table 5.7: CMIN/df = 2.43***; RMSEA = .04; SRMR = .05; CFI = .91; AIC = 1849.9363, which suggested that the four-factor solution provided a better fit.

To establish the intra-dimensional discriminant validity of the PCBI, the average variance extracted (AVE) estimates were compared with the squared interconstruct correlations (SIC) associated with each of the four PCBI factors. The results reported in Table 5.9 show that the SIC values are larger than the AVE values, indicating a lack of intra-dimensional discriminant validity among the PCBI sub-dimensions. This finding could be attributed to the fact that the four dimensions measure aspects of the overall positive coping behaviour construct and that the four dimensions are not uniquely different syndromes, but rather complementary psychological constructs that form a holistic manifestation of positive coping behaviour.

Table 5.9
Average Variance Extracted Estimates for Each PCBI Factor vs the Squared Interconstruct Correlations Associated with the Relevant Factor

	PCBI dimension (factor)	**AVE**	**SIC**			
			1	**2**	**3**	**4**
1	Cognitive coping behaviour	.37	-			
2	Affective coping behaviour	.44	.91	-		
3	Conative coping behaviour	.41	.85	.83	-	
4	Social coping behaviour	.44	.65	.65	.78	-

Notes: AVE: Average variance extracted. SIC: Squared interconstruct correlations

This section related to research sub-aim 1.1: To assess the psychometric properties (reliability and validity) of the newly developed PCBI. In summary, linear relationships existed between the latent construct and its indicators of interest. The measurement model (model 2) was retained because the model supported the theoretically hypothesised structural model. In this regard one aspect of validity, namely convergent validity, has been established. The lack of discriminant validity suggests that positive coping behaviour should be assessed as a holistic construct and the four sub-dimensions only provide a valid categorisation that may prove to be useful for practical operationalisation and developmental purposes. However, as stated previously, discriminant or divergent validity should be assessed in future cross-validation studies for a better evaluation of this aspect of the construct validity of the PCBI.

The next section relates to sub-aim 1.2: To assess the nature of the interrelationships between the sub-scale dimensions of the PCBI.

5.3 DESCRIPTIVE AND CORRELATIONAL STATISTICS

Descriptive and correlational statistics pertain to the best fit structural equation model of the PCBI. The statistical analysis involved the total sample (N = 525).

5.3.1 Descriptive statistics: means and standard deviations

This section provides the descriptive information on each of the four subscale dimensions of the PCBI and the overall PCBI scale. Table 5.10 provides a summary of the results.

Table 5.10

Descriptive Statistics: Mean Scores, Standard Deviations, Skewness and Kurtosis for the Positive Coping Behavioural Inventory

	Minimum	**Maximum**	**Mean**	***SD***	**Skewness**	**Kurtosis**
Cognitive coping behaviour	1.00	5.50	2.33	.81	.59	.15
Affective coping behaviour	1.00	5.63	2.55	.92	.51	-.15
Conative coping behaviour	1.00	5.11	2.35	.81	.51	-.24
Social Coping behaviour	1.00	5.40	2.59	.96	.45	-.52
Overall PCBI scale	1.00	5.13	2.42	.78	.39	-.43
Age	19.00	65.00	37.92	10.94	.42	-.68
Health	1.00	4.00	3.07	.95	-.97	-.97
Mood	1.00	4.00	3.23	.89	-.98	.14

Notes: N = 525

The rating scale categories measured responses as follows: 1: Definitely agree; 6: Definitely disagree (that is, the lower the mean score, the more positive the self-evaluation). Overall, Table 5.10 indicates that the respondents had positive self-evaluations regarding their coping behavioural traits. Table 5.10 shows that the mean scores ranged from 2.33 to 2.59, indicating

mid-range to high scores. As shown in figure 5.14, the participants obtained the highest mean scores (mid-range) on social coping behaviour (*M* = 2.59; *SD* = .96) and affective coping behaviour (*M* = 2.55; *SD* = .92). The lowest mean scores were obtained on cognitive (*M* = 2.33) and conative (*M* = 2.35). The low mean scores imply that these two dimensions obtained the most positive self-evaluations.The overall PCBI mean score (*M* = 2.42; *SD* = .78) indicates above average positive coping. The standard deviations ranged from .78 to .96. The skewness values for the PCBI ranged from .39 to .59, thus falling within the -1 and +1 normality range suggested for these coefficients (Pallant, 2013). The kurtosis values ranged from -.52 to .15, thus not falling within the -1 and above 1 normality range suggested for these coefficients (von Eye & Wiedermann, 2014).

The mean age of the participants was 37.92 years. This age group falls in the middle adulthood life stage and established career stage. One would have expected higher levels of positive coping behaviour based on life experience.

Mood and health were included in the PCBI because research indicated that these aspects could influence respondents' responses (Gilbert, Colley, & Roberts, 2016; Modie-Moroka, 2014). The mean scores reported in Table 5.10 indicated relatively neutral (neither negative nor positive) perceptions of mood *M* = 3.23; *SD* = .89) and health (*M* = 3.07; *SD* = .95), during the time of completing the PCBI.

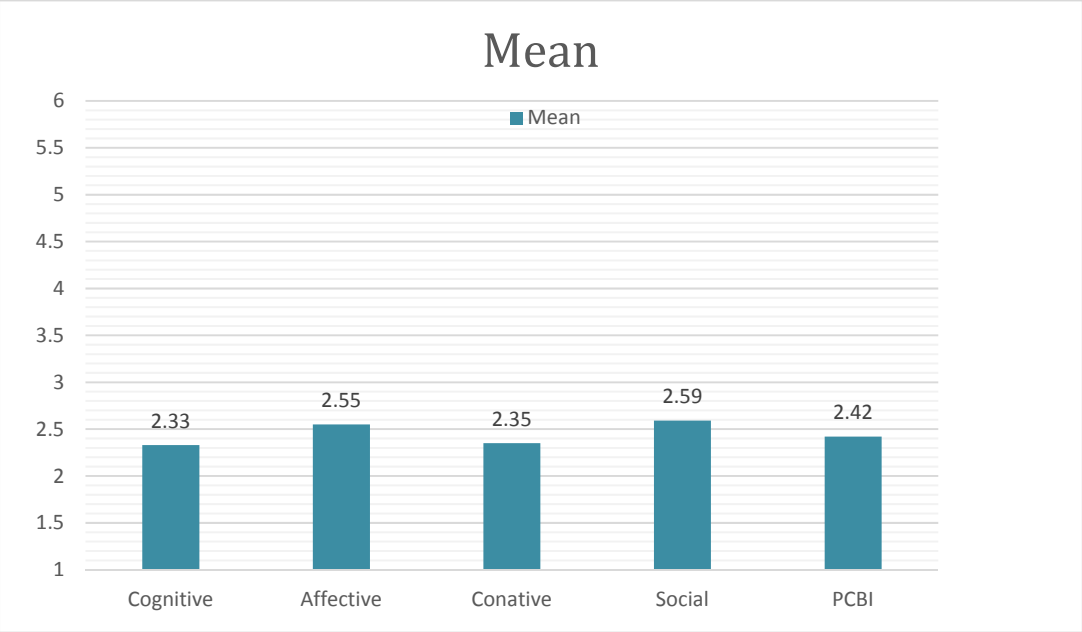


Figure 5.14: Mean scores for the Positive Coping Behaviour Inventory

5.3.2 Correlation statistics

The correlational statistics are used to investigate the magnitude and direction of the association between the research variables. Table 5.11 reports the bi-variate correlations obtained among age, gender and race, the four sub-scales and overall PCBI scale, and health and mood at the stage of completing the questionnaire and the variables.

Table 5.11

Bi-variate correlations: PCBI Scale and Biographical Variables

Variable		1	2	3	4	5	6	7	8	9	10
1	Age	-									
2	Gender	-.08	-								
3	Race	.33***	.17***	-							
4	Mood	.01	-.16***	-.13**	-						
5	Health	-.05	-.08	.07	.38***	-					
6	Cognitive coping behaviour	-.10*	.05	-.23***	-.25***	-.26***	-				
7	Affective coping behaviour	-.10*	.01	-.25***	-.22***	-.22***	.78***	-			
8	Conative coping behaviour	-.16***	-.03	-.40***	-.13**	-.21***	.77***	.77***	-		
9	Social coping behaviour	-.12*	.03	-.31***	-.13**	-.16***	.63***	.63***	.72***	-	
10	Overall PCBI	-.14***	.002	-.35***	-.19***	-.23***	.87***	.89***	.96***	.80***	-

Notes: N = 525. *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$

In terms of the bi-variate correlations, Table 5.11 shows that the correlations among the four subscale dimensions of the PCBI ranged between $r \geq .63 \leq .78$ ($r \geq .50$; $p < .001$; large practical effect size). The correlations were positive and significant and below the threshold value of $r > .80$ for multi-collinearity concerns. The correlation values suggest construct validity of the four subdimensions. The four subscale dimensions also had significant and positive correlations with the overall construct ($r \geq .87$; $p < .001$; large practical efect), implying construct validity of the overall construct of psychological positive coping behaviour.

Mood and health had significant correlations with the four and overall PCBI variables indicating that mood and health need to be considered when applying the PCBI. Mood and health showed significant negative associations ($r \geq -.13 \leq -.26$; $p < .01$; small to large practical effect size), implying that negative mood (feelings of despondency and stress) and health concerns and chronic illness may likely be associated with higher levels of positive coping behaviour.

The biographical variables age and race showed significant and negative associations with the PCBI variables ($r \geq -.10 \leq -.35$; $p < .01$; small to large practical effect size), suggesting significant differences among these subgroups regarding their mean scores. Gender did not show any significant associations with the PCBI variables.

5.4 MULTI-GROUP STRUCTURAL EQUIVALENCE

After confirming the measurement model fit and structural validity of the PCBI, study 3 involved multi-group structural equivalence testing (metric invariance, configural invariance and scalar invariance) for age, gender and race groups on the full sample (N = 525) through multi-group confirmatory factor analysis. This stage (stage 3) addressed research sub-aim 1.3: To assess whether the factorial structure of the PCBI is equivalent for age, gender and race groups.

The best fit structural (CFA) model was used as a framework for the multi-group confirmatory factor analysis. The PRO CALIS procedure (SAS, 2013) was used for the statistical analysis. Table 5.12 reports the model fit statistics of the best fit model for each of the respective sub-groups.

Table 5.12

Model Fit Statistics for the Various Sub-groups

Biographical sub-group	Chi-square/df	RMSEA	SRMR	CFI	NNFI/TLI	AIC
Age						
<35 years	1.91***	.06	.06	.90	.90	1502.5862
>35 years	1.88***	.06	.05	.90	.90	1489.5026
Gender						
Males	1.83***	.05	.05	.90	.90	1448.9204
Females	2.16***	.07	.06	.81	.82	1662.9313
Race						
Black participants	1.51***	.04	.05	.91	.91	1239.7417
White participants	2.40***	.08	.06	.80	.81	1822.3229

Note: N = 525; ****p* ≤ .0001. Black participants denote people of African, coloured and Indian origin.

Overall, the RMSEA and SRMR values in Table 5.12 indicate good model fit, with somewhat lower CFI (< .90) values for the females and white participants suggesting model misspecification.

The multi-group confirmatory factor analysis compared the age, gender and race groups in terms of three levels of structural equivalence, namely (1) measurement unit equivalence, (2) construct equivalence and (3) full-score equivalence.

- Measurement unit equivalence was obtained by means of metric invariance testing. This form of equivalence testing assessed whether the factor loadings of each item on each factor are the same for all the respective sub-groups. Factor loadings were equal across the respective sub-groups, but the intercepts were allowed to differ. Table 5.13 shows good model fit for the age and gender groups but not for the race groups, suggesting that the factor loadings were not the same for the black and white participants.
- Construct equivalence (configural invariance) was done by determining whether the factor structure of the PCBI is the same for each of the respective biographical sub-groups. The model fit statistics reported in Table 5.13 shows good model fit, indicating that the factor structure of the PCBI is equivalent for the age, gender and race subgroups respectively.
- Full-score equivalence (scalar invariance) examined whether the item intercepts and factor loadings are equal across sub-groups, implying that meaningful mean comparisons can be made. Both loadings and intercepts were constrained to be equal in this analysis. Table 5.13 shows lack of good model fit for the age, gender and race subgroups resopectively, indicating lack of full-score equivalence. Meaningful comparisons between the respective subgroups may be problematic in the sample group of participants. Table 5.13 reports the results for each of the biographical groups.

Table 5.13

Fit Statistics for the Multi-group Equivalence Models

Equivalence testing	Biographical group	Chi-square/df	RMSEA	SRMR	CFI	NNFI	AIC
Metric invariance (measurement unit equivalence)	Age	1.91***	.06	.05	.90	.90	3000.0887
	Gender	1.99***	.06	.05	.90	.90	3119.8518
	Race	1.98***	.06	.06	.80	.80	5457.0652
Configural invariance (construct equivalence)	Age	1.90***	.06	.05	.90	.90	2992.0887
	Gender	1.99***	.06	.05	.90	.90	3111.8518
	Race	1.96***	.06	.06	.90	.90	3062.0646
Scalar invariance (full-score equivalence)	Age	1.97***	.06	.09	.81	.81	5449.0163
	Gender	2.02***	.07	.06	.80	.80	5559.7972
	Race	1.98***	.06	.06	.80	.80	5456.0652

Note: N = 525; ***$p \leq .0001$.

In summary, the multi-group equivalence models indicated metric invariance for the age and gender subgroups and construct equivalence of the PCBI for the age, gender and race subgroups. Full-score equivalence (scalar invariance) was not evident for the age, gender and race subgroups. These results were considered in the interpretation of the findings.

The empirical results obtained from the statistical analysis (EFA, CFA, RASCH, correlations and structural equivalence) provided supportive evidence for accepting research hypothesis H1a: The elements of the theoretical framework for positive coping behaviour can be operationalised into a valid and reliable Positive Coping Behaviour Inventory (PCBI).

5.5 AGE, GENDER AND RACE AS PREDICTORS OF POSITIVE COPING BEHAVIOUR

The biographical variables of age, gender and race were treated as control variables. Stage 4 therefore involved assessing whether age, gender and race significantly predict positive coping behaviour. This stage addressed research aim 2 (to explore whether age, gender and race significantly predict positive coping behaviour). Regression analysis was performed to test the research hypothesis: H2a: Age, gender and race significantly predict positive coping behaviour. The results of the regression analysis are reported in Table 5.14.

Table 5.14

Regression Analysis Results

Predictor variable	**Cognitive coping behaviour**		**Affective coping behaviour**		**Conative coping behaviour**		**Social coping behaviour**		**Overall positive coping behaviour**	
	ß	**t**	***ß***	**t**	***ß***	**t**	***ß***	**t**	***ß***	**t**
Age	.16	2.56*	.18	2.58*	.06	.98	.09	1.25	.07	1.34
Gender	.10	1.60	.06	.93	.09	1.56	.14	1.98*	.11	2.05*
Race	-.08	-1.13	-.06	-.71	-.20	-3.05**	-.27	-3.22**	-.16	-2.51*
Model										
Fp	27.14***		30.70***		41.53***		27.35***		70.52***	
Adjusted R^2	.33		.36		.44		.34		.40	

Notes: N = 525. ****p* ≤ .001 ***p* ≤ .01 **p* ≤ 0.05. Standardised beta coefficients (*ß)* reported.

Table 5.14 shows that all five regression models were significant (*Fp* ≤ .001). Table 5.14 further indicates that age, gender and race explained a large ($R^2 \geq .33$ [33%] to $R^2 \leq .40$ [40%]) practical percentage of variance in the PCBI construct variables. As shown in Table 5.14, age acted as significant positive predictor of cognitive coping behaviour (*ß* = .16; *t* = 2.56; *p* ≤.05) and affective coping behaviour (*ß* = .18; *t* = 2.58; *p* ≤.05). Gender acted as significant positive predictor of social coping behaviour (*ß* = .14; *t* = 1.98; *p* ≤.05) and race acted as significant positive predictor of conative coping behaviour (*ß* = -.20; *t* = -3.05; *p* ≤.05) and social coping behaviour (*ß* = -.27; *t* = -3.22; *p* ≤.05). Gender and race also significantly predicted overall positive coping behaviour.

The empirical results obtained from the regression analysis provided supportive evidence for accepting research hypothesis H2a: Age, gender and race significantly predict positive coping behaviour.

5.6 TESTS FOR SIGNIFICANT MEAN DIFFERENCES

Stage 5 of the statistical analysis involved performing tests for significant mean differences among the age, gender and race groups in order to achieve research aim 3 (to assess whether age, gender and race groups differ significantly regarding the sub-scale dimensions of the PCBI scale). The biographical groups were clustered as follows:

- Age: <35 years (early career stage) and > 35 years (establishment career stage)
- Gender: males and females
- Race: Black participants (African, coloured, and Indian) and white participants.

Although the multi-group equivalence results indicated lack of full-score equivalence among the subgroups, it was decided to explore possible differences in mean scores among the age, gender and race subgroups due to the exploratory nature of the research. However, the lack of scalar invariance was considered in the interpretation of the findings.

The independent samples T-test was used to assess whether the age, gender and race groups differed significantly regarding their mean scores on the PCBI scale variables. Only the significant results are reported in Table 5.15.

Table 5.15

Results of Independent Samples t-Tests

Biographical variable	Group category	Cognitive coping behaviour			Affective coping behaviour			Conative coping behaviour			Social coping behaviour			Overall positive coping behaviour		
		M (SD)	*F*	*t*	*M (SD)*	*F*	*t*	*M (SD)*	*F*	*t*	*M (SD)*	*F*	*t*	*M (SD)*	*F*	*t*
Age	<35 years	2.33 (.78)	1.16	.06	2.57 (.90)	1.12	.38	2.42 (.79)	1.08	1.92*	2.66 (.94)	1.08	1.48	2.46 (.74)	1.16	1.26
	>35 years	2.33 (.84)			2.54 (.94)			2.28 (.82)			2.53 (.97)			2.38 (.80)		
Cohen *d*		-			-			.17			-			-		
Race	Black	2.53 (.88)	1.72***	6.10***	2.79 (.98)	1.56	6.22***	2.64 (.87)	2.08***	9.10***	2.91 (1.03)	1.93***	8.27***	2.69 (.83)	1.88***	8.56***
	White	2.12 (.67)			2.30 (.78)			2.04 (.60)			2.26 (.74)			2.14 (.73)		
Cohen *d*		.52			.55			.80			.73			.70		

Notes: N = 525. ***$p \leq .001$ **$p \leq .01$ *$p \leq 0.05$.

As shown in Table 5.15, significant differences were only detected for the age groups on conative coping behaviour (t = 1.92; $p \leq .05$; Cohen d = .17; small practical effect) and for the race groups on cognitive coping behaviour (t = 6.10; $p \leq .001$; Cohen d = .52; moderate practical effect), affective coping behaviour (t = 6.22; $p \leq .001$; Cohen d = .55; moderate practical effect), conative coping behaviour (t = 9.10; $p \leq .001$; Cohen d = .80; large practical practical effect) and social coping behaviour (t = 8.27; $p \leq .001$; Cohen d = .70; moderate practical effect).

In terms of age, Table 5.15 shows that the participants in the early career stage (< 35 years) obtained significantly higher mean scores (M = 2.66 versus M = 2.53) on conative coping behaviour than the participants in the established career stage (>35 years). The participants in the black race group obtained significantly higher mean scores (M = 2.91 versus M = 2.26) on social coping behaviour than the white race group.

The black participants obtained significantly higher mean scores on all four the PCBI subscale dimensions and the overall scale than the white participants. However, the lack of scalar invariance of the PCBI for the race subgroups somewhat limits the interpretability of the results.

The empirical results obtained from the t-test analysis provided supportive evidence for accepting research hypothesis H3 in terms of age and race groups: Individuals from various biographical groups (age, gender and race) differ significantly regarding the variables.

5.7 DISCUSSION

The literature review indicated that the shift towards positive organisational and individual behaviour calls for the re-evaluation of current measures of coping and the development of scales that measure coping from a positive behavioural perspective (Frydenberg, 2014). Although coping research emanated directly from stress research, over the past decades coping has moved closer to the realm of positive psychology, dealing with positive emotions, health and well-being and issues concerning being proactive (Boyatzis et al., 2015). In this regard, Folkman (2010) stated that continuous and rapid development of new technologies and the concurrent development of multidisciplinary fields of enquiry open the way to new theoretical models, new hypotheses and new discoveries. The general aim of this research was therefore to determine the theoretical behavioural trait elements of positive coping behaviour and operationalise these into a reliable and valid measurement scale, the Positive Coping Behaviour Inventory (PCBI). In the context of the present research, it was

hypothesised that positive coping behaviour is multidimensional in nature and will constitute a range of psychosocial dimensions (cognitive, affective, conative and interpersonal) that can be measured in a valid and reliable manner. As outlined in chapter 4, subject matter experts confirmed the face validity of the PCBI as an indicator of the scale's content validity.

Overall, the empirical research provided evidence of the factorial (multidimensional) validity, unidimensionality, internal consistency reliability and structural and intra-test construct validity of the PCBI. Construct equivalence of the PCBI across age, gender and race groups was also confirmed. The findings regarding the various research aims will be discussed in the next section.

5.7.1 Biographical profile of the sample

The sample was predominantly represented by individuals in the establishment career stage (middle adulthood life stage: > 35 years), and more or less equally represented by males and females, and Black and White people. The overall mood was equally represented by those feeling positive and those feeling less positive at the day of completing the questionnaire. The majority of participants did not feel overly confident about their state of health.

The psychological life task challenges of **middle adulthood** (establishment career stage**)** (35 years – 64 years) amongst other are:

- This is a time of external and internal physical changes. Changes occur in sensory capacities. Farsightedness may develop in response to progressive changes in the shape of the lens of the eye. Hearing, particularly sensitivity to higher frequency sounds, is also prone to weaken during middle age may lead to higher concerns about health (Angelelli, 2016).
- In terms of mental abilities, research has shown that middle-aged adults perform as well as or slightly better than younger adults (Tinker, 2014).
- Important reorganisation of thinking occurs in middle adulthood as people achieve integration of information processing and emotional self-regulation (Hittner, Warner, & Swickert, 2016).
- In their personal and occupational lives many different options may have been chosen and many different events and circumstances will have affected their progress (Capuzzi & Stauffer, 2016).

The mean age of the group (*Mean* = 37.92) falls into the established career stage (>35 years), where one would have expected higher levels of positive coping behaviour to deal with life experiences. This could indicate that more life changing occur in middle adulthood. Furthermore, psychological challenges should not have influenced responses to the PCBI because of the individuals' positive coping behaviour. Positive self-evaluation occurs if individuals have positive coping behavioural capacity repertoires.

The PCBI used a six-point likert-type scale (1 = definitely agree; 6 = definitely disagree) to measure respondents' self-perceptions regarding their positive coping behaviour. The descriptive statistics revealed that the participants had positive self-perceptions regarding their positive coping behaviour. Moreover, mood and health were significantly associated with positive coping behaviour, implying that these aspects should be considered when applying the PCBI. The descriptive and correlation statistics showed that the participants obtained low to mid-range mean scores on the aspects of mood and health, and relatively high positive coping behaviour mean scores, suggesting that the correlation observations (negative mood and health concerns associated with higher levels of efficacious positive coping behaviour) may be accurate. On the one hand, this is a counter-intuitive finding as one would expect that positive mood and health would significantly increase efficacious positive coping behaviour. On the other hand, these findings could suggest that individuals who feel less positive (negative mood) and have concerns about their health are likely to engage in positive coping behaviour as a means of coping. Previous research also seems to corroborate this finding. Generally, coping behaviour refers to people's perceptions of both the stressfulness of their lives and their ability to deal with the stressful situation successfully (Trouillet et al., 2011). Individuals who have a well-developed positive behavioural capacity repertoire tend to have more positive life attitudes, better coping mechanisms, less perceived stress and a better quality of life and they experience benefits as a result of exposure to traumatic events (Natti & Dana, 2015).

The participants' positive self-evaluations on especially the cognitive coping and conative coping behavioural aspects of positive coping suggest that they felt confident about their problem-solving capacities and the use of humour to deal with painful situations (cognitive coping). In addition, they seemed to be self-efficacious in deliberately applying behaviour associated with flourishing, resilience, conscientiousness, adaptability and positive coping (conative coping).

Cognitive coping behaviour relates to individuals' problem-solving and mental orientations to stress experiences while conative (motivational) coping behaviour provides a powerful initial spur to the process of coping and enactment of positive mechanisms of coping, such as:

- self-efficacy to perform a specific task to influence behaviour (Michael, Hou, & Fan, 2011),
- resilience to detach actively from unhealthy attachments (Shek & Leung, 2016),
- flourishing to deliberately achieve optimal well-being and build strengths (Gilbert et al., 2016),
- proactive coping to increase resources and build up resistance against crises (Sawyer & Burton, 2016),
- conscientiousness to be goal-orientated and highly self-motivated (Michael, Hou, & Fan, 2011) and
- adaptability to adjust proactively to a situation (Laes & Schmidt, 2016).

The participants appeared to feel rather less confident about their affective and social coping behaviour (Wang & Jenkins, 2016). Affective (emotional) coping behaviour involves positive emotions to build resources that support coping with the focus on the here and now and the alleviation of stress. Emotions that assist in this coping process are positive affect (which mediates the relationship between positive coping and the stressor), emotional granularity (which enhances coping resources in the face of negative events), and happiness (which resets an individuals' capacity to distinguish between good and bad stimuli) (Petrunyk & Pfeifer, 2016; Trejo, Richard, van Driel, & McDonald, 2015).

Interpersonal (social) coping behaviour enables the individual to perform a specific task and has an influence on behaviour through extroversion (implying that the person is energetic, enthusiastic, ambitious, accommodative and focuses on the positive), social support (which influences the person to have higher self-esteem, effective coping, optimism and control), and agreeableness, since agreeable individuals are associated with better functioning (Corradi-Dell'Acqua, Koban, Leiberg, & Vuilleumier, 2016).

5.7.2 Psychometric properties of the Positive Coping Behaviour Inventory

This section discusses the findings of research aim 1: To operationalise the elements of the theoretical framework for positive coping behaviour into a valid and reliable measure the PCBI.

Study 1 involved a randomly selected sample (n = 200) of the full data set (N = 525) to test the dimensionality, factorial validity and reliability of the PCBI. Study 2 involved a randomly selected sample (n = 325) of the full data set (N = 525) to test the measurement model fit and construct validity of the PCBI. After confirming the measurement model fit and construct validity of the PCBI, study 3 involved multi-group structural equivalence testing (metric invariance, configural invariance and scalar invariance) for age, gender and race groups on the full sample (N = 525).

Overall, the results provided evidence that the elements of the theoretical framework for positive coping behaviour could empirically be operationalised into a valid and reliable PCBI.

The following section relates to research sub-aim 1.1 (to assess the psychometric properties (reliability and validity) of the newly developed PCBI) and sub-aim 1.2 (to empirically assess the nature of the interrelationships between the sub-scale dimensions of the PCBI). The findings pertaining to Research aim 2 (to empirically assess whether the factorial structure of the PCBI are equivalent for age, gender and race groups) are also discussed.

5.7.2.1 Evidence of dimensionality and factorial validity

The current study proposed a definition of positive coping behaviour and provided a theoretical framework for understanding positive coping. The literature review operationalised the definition of positive psychological behaviour, building on previous research regarding positive coping and coping behaviour in general (Lewis, 2011; Moore, 2002; Slade, 2010; Snyder et al., 2011). Positive coping behaviour was described as positive coping behaviour entailing the use of a range of psychosocial personal resources or capacities in dealing meaningfully with stressful events and situations (Furnes & Dysvik, 2012) and positive coping behaviour reduces the effect of stress on the individual and the individual's perception of the burden (Au et al., 2013; Lin et al., 2010). Based on a thorough, in-depth literature review, the theoretical framework for positive coping behaviour postulated four dimensions of positive coping behaviour constituting (1) *cognitive* (cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing); (2) *affective/emotional* (positive affect, emotional granularity and happiness); (3) *conative/motivational* (self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability); and (4) *interpersonal* (extroversion, social support and agreeableness) capacities.

Following the guidelines for scale development procedures suggested by DeVellis (2011), specific attention was paid to the conceptualisation of the different dimensions and the relevant constructs, item generation and evaluation for each dimension, item development, refinement and wording. Items were generated for each of the sub-constructs. A definition for each of the dimensional constructs was then formulated. Subject matter experts evaluated the pool of items and based on their feedback, the final list of 51 PCBI items was included in the research instrument.

Subject matter experts confirmed the face validity of the PCBI as an indicator of the scale's content validity. The PCBI also displayed logical validity which required a careful definition in behavioural terms of the positive coping behavioural traits, analyses of each behavioural trait and the evaluation of item differential functioning.

The multi-dimensionality and factorial validity of the PCBI was established in Study 1. The EFA confirmed the theoretical dimensional structure of the PCBI by identifying an understandable and interpretable parsimonious factor structure and the related item loadings associated with each of the four latent variables (cognitive coping behaviour, affective coping behaviour, conative coping behaviour and social coping behaviour). Although the EFA provided some evidence of the multi-dimensionality and homogeneity of the original 51-item scale, the procedure assisted in refining the factor structure by removing 10 items that were indicated as redundant.

Evaluation of the factorial validity of the 41-item PCBI resulted in a redefinition of the initial conceptualisation and labelling of each of the four factors for the purpose of using the scale in future research and practice. Table 5.16 provides an overview of the revised labels and definitions of the PCBI based on the best item loadings on each factor.

Table 5.16

Revised Labels and Definitions of the 41-Item PCBI

Initial theoretical PCBI label	**Revised label**	**Revised definition**	**Positive coping constructs**	**Number of items**
Cognitive coping behaviour	Positive problem-solving behaviour (Inventive coping behaviour)	Positive problem-solving behaviour relates to cognitive strengths anchored in the individual's self-esteem and internal locus of control. The individual is open to life experiences and applies wisdom, optimism, humour and positive reframing in dealing with stressful or painful life events.	Cognitive attributes (innovative speciality), wisdom, self-esteem (worthiness), optimism, humour (amusement), locus of control, openness to experience (broad-minded practice), positive reframing (resolute review)	n = 10
Affective coping behaviour	Positive emotional behaviour (Engaging coping behaviour)	Positive emotional behaviour relates to the capacity to generate and maintain positive emotions and feelings even in difficult or stressful circumstances. The individual feels self-efficacious in alleviating the stressful situation by demonstrating a happy and engaged attitude toward the self, the situation and others.	Positive affect, emotional granularity, happiness (euphoria), self-efficacy.	n = 8
Conative coping behaviour	Positive motivational behaviour (Intentional coping behaviour)	Positive motivational behaviour relates to the self-efficacious capacity to intentionally and conscientiously engage in positive goal-directed behaviours that encompass active detachment from unhealthy attachments, the deliberate achievement of optimal well-being and the building of strengths and resources to adjust proactively to stressful situations	Self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness, adaptability	n = 18

Initial theoretical PCBI label	Revised label	Revised definition	Positive coping constructs	Number of items
Social coping behaviour	Positive social behaviour (Influential coping behaviour)	Positive social behaviour relates to extroverted behaviour that facilitates positive interaction with others through positive self-other evaluations	Extroversion, social support, agreeableness	n = 5
Positive coping behaviour	Positive coping behaviour	Positive coping behaviour denotes individuals' positive self-evaluations regarding their problem-solving and cognitive strengths, self-efficacious capacity to intentionally and conscientiously generate and maintain positive emotions, and engage in positive goal-directed and extroverted behaviour in adjusting successfully to stressful situations	Positive problem-solving behaviour, positive emotional behaviour, positive motivational behaviour, positive social behaviour	n = 41

5.7.2.2 Evidence of rating scale functionality

Rasch analysis was used to assess the functionality of the six-point rating scale (1 = definitely agree; 6 = definitely disagree). The findings provided evidence that the six-point frequency-based scale functioned satisfactorily for all four the PCBI dimensions and was not too complex for the respondents. Of some concern was that certain categories (4, 5 and 6) were underutilised. These categories relate to disagreement with the item statement. The findings could be attributed to the sample being from a single setting, which could have influenced the ratings being oriented toward the positive self-evaluation rating frequency (agreement statements). Future research in different occupational settings should investigate the rating scale functionality further. It is also recommended that the direction of the rating scale frequency be changed to 1: definitely disagree; 6: definitely agree, especially when the instrument is used in practice, so that strong, positive agreement reflects as higher mean scores on the respondent's profile. The current direction of the rating scale frequency tends to reflect low scores on the dimensions that actually imply positive self-evaluations.

5.7.2.3 Evidence of unidimensionality and internal consistency reliability

Rasch modelling was used to assess the unidimensionality and internal consistency reliability of the EFA factorial and item structure that emerged for the 41-item PCBI. The Rasch measurement model was used to evaluate the PCBI items and to eliminate poorly functioning items. As a function of the item response theory, the Rasch measuring model has become very popular in the evaluation of scales in various settings (Brügger et al., 2015). The Rasch measurement model assumes that all items are part of a unidimensional scale and these items are examined across an entire continuum of a specific latent trait (Templin & Bradshaw, 2014). The Rasch model assumes that the relationship between the respondent's (person) ability and item difficulty can be modelled as a probabilistic function. The assumption is that if the ability level of a person increases on a specific latent trait, the probability of scoring higher on each item increases as well (Fox & Jones, 1998).

Item fit MNSQ were utilised to evaluate the unidimensionality of the the scale dimensions. The results indicated that the items adequately measured the intended underlying construct for each dimension. The item fit statistics further indicated that the items for each dimension provided useful and logical information for all participants, implying that the items would most probably evoke the same answers from participants in another setting. In addition, the person fit statistics indicated that the respondents responded to the items in a consistent

manner. No problems regarding misfit or underfit were detected. Overall, the fit statistics provided evidence of the validity of each dimension of the scale and that the PCBI dimensions and items provided useful information.

The reliability of the rating scale was assessed by both the Rasch item and person separation and reliability indexes. The reliability of each subdimension construct was evaluated by means of the internal consistency reliability coefficient and person separation index. The alpha coefficients, including the coefficient omega, which was also calculated separately using Raykov's rho, indicated that the reliability of the PCBI was adequate (high). The item reliability coefficients were high, indicating that the PCBI item placement could be replicated in other samples as per the guidelines of Bond and Fox (2007). The results indicated that the items were able to discriminate well across the investigated variables and would probably be stable if conducted in another sample or research setting. Similarly, the results of the person separation indexes indicated that the dimensions discriminated adequately among respondents with different abilities and that no problems regarding misunderstanding of items occurred.

5.7.2.4 Evidence of differential item functioning

Rasch DIF analysis (Pett, 2015) was utilised to investigate whether the scale items function in the same way for different groups (age, gender and race) of test-takers and whether uniform and non-uniform item bias was present. Because the PCBI is expected to affect all ability levels in the same way across the subgroups of age (<35 years; > 35 years), gender (males and females) and race (black and white people) respondent groups, uniform DIF analysis was run to investigate the interaction of the person-groups with each item, controlling for all other item and person measures.

The difficulty level of items for respondents in the respective subgroups was measured by determining whether the performance of a test item on a PCBI dimension was significantly different for age, gender and race subgroups. Overall, the results provided evidence that the difficulty of each item for the respective subgroups was remarkably similar on each PCBI dimension, with a few discrepancies of insignificant or mild/inconsequential magnitude. This finding indicates that the PCBI items functioned adequately similarly for the different age, gender and race subgroups of respondents and that no item bias was present. This suggests that the PCBI scores are relatively free of construct irrelevant variance, which supports the argument for construct validity. DIF analysis plays a pivotal role in ensuring the equity and

fairness of measuring instruments because tests that are free from DIF are considered equitable and fair to all respondents (Wyse & Mapuranga, 2009).

In South Africa, psychometric tests are controlled by law. The Employment Equity Amendment Act became effective in August 2014. Psychometric tests and related techniques must be classified and certified by the Health Professions Council of South Africa, or by another body that may be legally established to do this (Donald, Thatcher, & Milner, 2014). The Act determines that before the employer can carry out a psychometric test, or any other similar assessment of an employee, the test or assessment:

- Must be scientifically valid and reliable,
- Must not be biased against any employee or group, and
- Must be certified by the Health Professions Council of South Africa.
- In addition, one must apply the test fairly to employees (Tomu, 2013).

In the light of the multi-culturally diverse workforce of the South African workplace, DIF analysis of the performance of respondents across age, gender and cultural or race groups is regarded as essential in scale development.

5.7.2.5 Evidence of measurement model fit and structural validity

Study 2 involved a randomly selected sample (n = 325) of the full data set (N = 525) to test the measurement model fit and structural validity of the PCBI. The overall model fit (four-factor solution) based on confirmatory factor analysis, the significant factor loadings larger than the threshold value of .50 (indicating convergent validity) and high composite reliability (coefficient omega) support the proposed psychometric character of the PCBI as a reliable and valid multidimensional scale with evidence of dimensional homogeneity.

Although the AVE/SIC analysis did not provide adequate evidence of intra-dimensional discriminant validity, the inadequate one-factor solution measurement model fit statistics and the bi-variate correlations among the four dimensions that were significant and positive with their respective association with the overall PCBI construct being higher, all indicated possible discriminant validity. However, it is recommended that the scale's convergent and discriminant validity (as aspects of its construct validity) be investigated further in future cross-validation studies.

5.7.2.6 Evidence of multi-group structural equivalence

This section relates to research aim 2 (to assess empirically whether the factorial structure of the PCBI is equivalent for age, gender and race groups). Study 3 therefore involved multi-group structural equivalence testing (metric invariance, configural invariance and scalar invariance) for age, gender and race groups on the full sample (N = 525).

The results provided evidence of construct equivalence, implying that the factor structure of the PCBI was the same for the relevant subgroups of the age, gender and race groups. However, metric invariance testing revealed that the factor loadings were not the same for black and white participants. Scalar invariance testing further revealed lack of full score equivalence across the age, gender and race subgroups, implying that meaningful comparisons between the respective subgroups may be problematic. It is recommended that future research in different occupational settings with a broader representation of age, gender and race groups should investigate the structural equivalence of the PCBI.

5.7.3 Age, gender and race as predictors of positive coping behaviour

This section relates to research aim 3 (to determine whether age, gender and race groups significantly predict positive coping behaviour). Forming part of study 3, the participants involved the full sample (N = 525) in the statistical analysis.

The results provided evidence that gender and race significantly predicted overall positive coping behaviour and social coping behaviour. Although previous research shows little support for gender differences in coping behaviours, Ong et al. (2013) found that stress has a significant influence on the way men and women prefer to cope with stressful events. The findings of the present research corroborate previous research showing that racial differences are apparent in coping behaviour (LaVeist et al., 2014). The findings showed that race also predicted conative coping behaviour. Previous research also reported a high prevalence of vigilant coping in black people (LaVeist et al., 2014). Vigilance is characterised by an approach to and intensified processing of threat-relevant information. Its general purpose is to gain control over the main threat-related aspects of a situation, thereby protecting the individual from the perception of threat, which would result from confrontation with unexpected dangers (LaVeist et al., 2014).

Age predicted cognitive coping behaviour and affective coping behaviour. Previous research found differences in coping mechanisms between age cohorts, confirming the link between

age and coping behaviour (Hortsmann et al., 2012). Patterns of coping were also found to become more diffentiated with age (Nicolai et al., 2012). Changes in neurophysiological, cognitive, emotional, attentional and/or social resources and processes across the lifespan seem to account for differences in abilities and ways of coping (Windsor et al., 2014). In a study older adults prepared for and coped with the aftermath of Hurricane Katrina through positive thinking and modified thinking (Henderson et al., 2010). It was found that older respondents consistently used more intrapersonal, emotion-focused coping responses (Agrawal & Jaiswal, 2013).

5.7.4 Significant mean differences among age, gender and race groups

This section relates to research aim 4 (to determine whether age, gender and race groups differ significantly regarding the sub-scale dimensions of the PCBI). Forming part of study 3, the participants involved the full sample (N = 525) in the statistical analysis. Overall, the results provided evidence of significant differences between the age and race groups, but not the gender groups. However, the results should be interpreted with caution when considering the lack of full-score equivalence detected through the multi-group equivalence analysis.

The results indicated that the participants < 35 years felt more confident about their conative coping behavioural capacities than the older age group. Literature research on age found that older respondents consistently used more passive, intrapersonal, emotion-focused coping responses, whereas younger respondents were more likely to use active, interpersonal and problem-focused coping (Agrawal & Jaiswal, 2013).

Overall, black participants made more positive self-evaluations about their cognitive, affective, conative, social and overall positive coping behavioural capacities than their white counterparts. Previous research showed that racial differences were noticeable between non-Hispanic white American and African-American coping strategies. African-Americans engaged in more positive coping strategies (Sun et al., 2010).

The findings corroborate previous research showing a general lack of differences between males and females on coping behaviour. Coping strategies are generally used at the same frequency by males and females; in other words, there are no significant gender differences in the use of positive approaches, avoidance/denial and confronting strategies (Papastavrou et al., 2011).

5.7.5 Implications for theory, research and practice

This section critically evaluates the implications of the findings for theory, research and practice.

5.7.5.1 Implications for theory

Overall, the statistical analyses provided evidence of the PCBI being anchored in a strong theoretical foundation with the scale having the potential to provide researchers and practitioners with a reliable instrument to measure the positive coping behaviour of adult workers. Furthermore, the PCBI contributes to the field of positive psychology and industrial and organisational psychology in terms of better understanding of the behavioural dimensions that constitute positive coping behaviour. As a valid theoretical framework, the PCBI dimensions provide useful information on measuring individuals' positive coping behaviour in a holistic manner by focusing on a broad spectrum of positive psychological constructs in terms of cognitive, affective, conative and social behavioural elements. Current measures of coping still emphasise coping styles or one or two constructs related to coping or stress and do not provide an integrated measure of positive coping behaviour (Frydenberg, 2014).

Numerous coping strategies are currently being assessed and are made up of the five basic types of strategies, namely problem-solving, support seeking, avoidance, distraction and positive cognitive restructuring (Lelorain et al., 2012). Currently the measuring of coping behaviour deals only with one or two behavioural constructs and there is no agreement on which behavioural construct is adequate (Fellows & Liu, 2015). There is inadequate knowledge of the multidimensional nature of coping, and more specifically positive psychological coping behaviour (Saarelainen, 2016).

The present research provided evidence that the PCBI is multidimensional in nature and constitutes a range of psychosocial dimensions (cognitive, affective, conative and interpersonal), which can be measured in a valid and reliable manner. Furthermore, the PCBI expands insight into humans from a positive functioning viewpoint. The scale explores people's strengths and focuses on the strengths to lessen the importance of and pain associated with human suffering. The various dimensions of the PCBI focus on positive behavioural traits that are seen to help individuals to make the best of difficult situations and find the positive in daily life through the power of positive emotions, human strengths and

healthy processes. The present research confirms research showing that positive coping behaviour entails the use of a range of psychosocial personal resources or capacities in dealing meaningfully with stressful events and situations. Life is filled with experiences that challenge people's repertoire of thinking, feeling and behaving (Furnes & Dysvik, 2012).

5.7.5.2 Implications for research

Overall, the initial investigation of the construct validity of the PCBI in this exploratory research showed promising evidence of the sound psychometric character of the PCBI. The results provided evidence that the latent variables (PCBI dimensions) were related to one another in a manner that supported conceptual relations and interactions among the dimensions that measured individuals' positive coping behaviour in a holistic manner, based on a theoretically sound foundation.

The results provided evidence of the psychometric character of the PCBI as a valid and reliable scale to measure the positive coping behaviour of adults. The PCBI appears to be free of bias and equitable for use across age, gender and race groups in the South African context. In the light of the psychometric soundness of the PCBI, researchers could potentially replicate the study by assessing the positive coping behaviour of individuals in other research settings. Such replication studies could assist in further refinement of the PCBI. Cross-validation studies are needed to assess the predictive (criterion-related) validity and discriminant validity of the PCBI in relation to similar measures of coping behaviour. Longitudinal studies are also recommended to assess the development of positive coping behavioural capacities over time in the light of life experience and psychological maturity that evolve over the lifespan. It is recommended that future research in different occupational settings with a broader representation of age, gender and race groups further investigate the structural equivalence of the PCBI.

Potential differences that could occur are in stress reactions and coping strategies, especially among race groups. Emphasis is placed on the uniqueness of each culture and how each culture translates interaction with stressful situations into coping strategies (Braun-Lewensohn, Sagy, & Roth, 2011). It is important to note that there are differences among the person-centered variables, for example age. There is a difference between the coping strategies employed in different age groups, which must be recognised and handled.

5.7.5.3 Implications for practice

The theoretical and empirical soundness of the PCBI suggests the potential to capture the multidimensional nature of positive coping behaviour relevant to optimal functioning in stressful circumstances. Practitioners may use the PCBI to assess individuals' self-evaluations of their positive coping behavioural capacities as aspects of their wellness in their work and lives. In terms of the sample of participants' positive coping behaviour profile, affective coping and social coping were indicated as potential areas for enrichment, for example. Based on the positive coping behaviour profile derived from the PCBI assessment, individual interventions can be planned with the help of a qualified and trained practitioner to develop the positive coping behavioural capacities relevant to positive emotional and motivational coping. Typical interventions may, for example, include aspects such as:

Affective coping behaviour:

- Positive affect: reappraisal after every stressful situation and finding meaning in ordinary events (Schueller & Parks, 2014).
- Emotional granularity: focus on a specific positive emotion and act to increase it (Quoidbach et al., 2015).
- Happiness: journal-keeping of daily positive emotions (Kaczmarek et al., 2015).

Interpersonal coping behaviour:

- Extroversion: look for situations that make a person feel excited or pleased when encountering new and stimulating experiences (Eltiami & Yazdani, 2015).
- Social support: support group. If one needs support for a highly specific problem, such as managing a health problem, a formal support group may be the best option (Schroevers et al., 2010).
- Agreeableness: develop an agreeable nature and make others feel good (Clark & Schroth, 2010).

Practical implications to consider about age, gender and race are:

Age: people of the same age view life events with a similar perspective and have similar ideals. In addition, major life concerns, such as growing older, divorce or health issues, may be dealt with uniquely based on age (Charles, Piazza, Mogle, Sliwinski, & Almeida, 2013).

Gender: the biggest difference between working with men and women is that women intend to discuss some of their concerns with friends, family or a counsellor at some point. Their reticence to share problems, fears andvulnerabilities lands men in difficulty before they identify and acknowledge it (Bryson, 2015).

Race: recognising and being sensitive to cultural differences is essential for establishing the trust necessary to conduct effective interventions (Van Deurzen & Adams, 2016).

Overall, the present study only provided an initial step towards extending research on the measurement of positive coping behaviour. Limitations of the research design should be considered in future replication studies. Chapter 6 elaborates on the limitations of the research design and presents recommendations for future research.

5.8 CHAPTER SUMMARY

This chapter provided the findings of the development of the new scale, namely the PCBI. The statistical procedures to explore the factorial validity, uni-dimensionality and construct validity of the PCBI were discussed. The results of the empirical study were also reported in this chapter. Findings of the literature review and the empirical research were interpreted and provided support for the research hypotheses.

The following research aims were achieved:

Research aim 1: Operationalisation of the elements of the theoretical framework for positive coping behaviour into a valid and reliable measure, the PCBI
Sub-aim 1.1 empirically assessed the psychometric properties (internal consistency, reliability and construct validity) of the newly developed PCBI.

Sub-aim 1.2 empirically assessed the nature of the interrelationships between the sub-scale dimensions of the PCBI.

*Research aim 2***:** Empirical assessment of whether the factorial structure of the PCBI are equivalent for age, gender and race groups.

Research aim 3: Determination that gender and race groups significantly predict positive coping behaviour.

Research aim 4: Determination that age, gender and race groups differ significantly regarding the sub-scale dimensions of the PCBI.

Chapter 6 will highlight research aim 5, to formulate conclusions and recommendations for employee wellness practices and future research.

CHAPTER 6: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter discusses research aim 5 and highlights recommendations for industrial and organisational psychologists, human resource professionals and future researchers. The chapter also addresses the limitations of the literature review and empirical study. Recommendations are made on the practical application of the findings and suggestions for future research in the field are provided.

6.1 CONCLUSIONS

This section highlights the conclusions based on the literature and empirical research according to the research aims, as outlined in chapter 1.

6.1.1 Conclusions relating to the literature review

The general aim of this research was to investigate and determine what constitutes the psychosocial dimensions of positive coping behaviour and how the relevant constructs can be operationalised in a reliable and valid scale. The research also aimed to conceptualise positive coping behaviour in the context of employee wellness in the contemporary world of work. The psychosocial dimensions constituted positive coping behaviour and the relevant constructs were conceptualised in the research literature. Furthermore, the research aimed to outline the implications of positive coping behaviour for employee wellness in a diverse South African organisational context.

Conclusions were drawn for each of the specific aims with regard to the relational dynamics of positive coping behaviour from a multidimensional and psychosocial perspective. The following psychosocial dimensions of positive coping behaviour were explored in this research: cognitive (*cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing*); affective/emotional (*positive affect, emotional granularity and happiness*), conative/motivational (*self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability*) and interpersonal (*extroversion, social support and agreeableness*).

The literature indicates that organisations are becoming more aware of issues relating to employee wellness and there is increased public interest in integrating wellness activities with employers' responsibilities (Cummings & Worley, 2014). Research also indicates a

move towards healthy workplaces and empowered employees, which mirrors trends in increased interest in positive psychological behavioural states and organisational well-being (Zwetsloot et al., 2010). On the basis of the literature review, the following conclusions can be drawn about positive coping behaviour in the context of employee wellness in the contemporary world of work:

6.1.1.1 Research aim 1: to conceptualise positive coping behaviour in the context of employee wellness in the contemporary world of work

(a) Characteristics of the contemporary employment environment

- Organisations' workforces and the nature of work are changing. Work is becoming increasingly technology-, knowledge- and information-driven and reliant on computer and information technology (Sengupta et al., 2013). The profile of the workforce is changing, since more women are entering the formal sector (Sweet & Moen, 2011).
- South Africa's economic growth has declined, leading to low productivity, strikes and stay-aways, all of which have a potentially detrimental influence on people's wellbeing (Theron, 2012).
- People live in a work-oriented era and work sometimes becomes a substitute for the fulfilment to be derived from family, friends, religion and the community (Castells, 2011). This substitution is risky, because the economy is unpredictable and organisations cannot be held accountable for employee wellness.
- Work stress is a reality for most people living and working in post-industrial societies/technology- and information-driven societies (Weis, 2013). Work stress manifests itself in real physical and psychological symptoms with serious consequences, such as counterproductive behaviour, behavioural changes or ill health, which may lead to early retirement on medical grounds (Giddens, 2013).
- Work stress may lead to coronary disease and hypertension (Mauno et al., 2013), repressed anger, alcohol and drug abuse, and/or maladaptive response syndromes that could manifest in stress-related illnesses (Karantzas et al., 2012).
- Organisations are facing numerous challenges and continuous changes in order to survive and to stay viable as a business in the market. Employees are an organisation's biggest asset and organisations have to look after their employees, since they are the one asset organisations cannot do without. Organisations have no choice but to adjust and adapt in order to keep their biggest asset.

- Work stress has an impact on employees, physically and emotionally. This tendency will force organisations and employees to look jointly at ways of creating a healthy workplace.

(a) Wellness in the organisational context

- Management of employee wellness in South Africa through employee wellness programmes should involve employer, service provider and union perspectives in order to manage wellness effectively (Permall, 2011).
- Management structures refer to the way in which management makes opportunities available to employees to access wellness programmes and the ways in which employees are encouraged to make use of wellness programmes (Mackay, 2013).
- The benefits organisations derive from focusing on wellness are reduced absenteeism, increased employee performance and productivity and reduced health care costs (Sieberhagen et al., 2011).
- Progressive organisations are implementing work-life balance programmes aimed at creating a worklife-friendly environment through training intervention site support, child support, flexible working hours and family-oriented work practices and policies (Rajadhyaksha, 2012).
- Learning to control and balance stress levels is an important life skill for all employees (Lewis & Humbert, 2010), since stress cannot be eliminated from one's life, but proactive or positive coping can assist in decreasing stress to more healthy levels, preventing harmful emotional and physical effects (Singh & Khanna, 2011).
- Wellness programmes, which are intervention strategies intended to promote the well-being of employees, can be curative or preventative in nature (Thorpe & Yang, 2011).
- The work environment is an ideal setting for health promotion because most employees spend one third of their time at work (Anshel et al., 2010). Worksite wellness programmes must be designed to engage those segments of the work force with the greatest health needs.
- Possible benefits from the wellness programme include an improvement in overall corporate image, the recruitment of premium employees, greater worker satisfaction with resultant gains in productivity, less absenteeism and employee turnover, lower healthcare costs and a reduced incidence of industrial injuries, with a likelihood of lower future medical costs resulting from a healthier personal lifestyle (Hojjat, 2015).

- Most institutions are not functioning optimally (Bosworth, 2012). The low level of awareness and perception about employee health and wellness programmes in institutions is believed to be one of the factors preventing programmes of this nature from contributing to work health, the organisational climate and ergonomics in a manner that will translate into improved performance and the attainment of objectives (Makala, 2012).
- Fewer than half of South Africa's top 100 organisations have employee wellness programmes, despite the important roles these programmes can play in promoting employee health and wellness and in assisting organisations and employees to adjust to rapidly changing contexts (Sieberhagen et al., 2011).
- The study also revealed that more effort should be focused on implementing employee health and wellness programmes as a preventative approach. Smit (2011) found that employers have to pay more attention to the well-being of their employees in the workplace. Both employers and employees have to be made aware of how work stress should be handled in order to create a supportive organisational culture (Clark et al., 2011).

It can be concluded that organisations have come to play an important role in employee wellness and enhancing employees' attitudes to coping proactively with the demands posed by the contemporary work environment. The employee will do whatever it takes to keep his/her work and this has consequences, of which work stress is the main concern. Work stress has an impact on employees, physically and emotionally. This tendency will force organisations and employees to look jointly at ways of creating a healthy workplace. Focusing on positive coping behaviour may potentially contribute to the endeavour of creating healthy workplaces within turbulent business contexts.

6.1.1.2 Research aim 2: To conceptualise the psychosocial dimensions that constitute positive coping behaviour and the relevant constructs in the research literature

The second aim, namely to conceptualise the psychosocial dimensions that constitute positive coping behaviour and the relevant constructs in the research literature, was attained in chapter 3 (Positive coping behaviour).

The following conclusions were drawn:

- Positive behaviour is connected to positive coping because positive behaviour stems from the ability to find positive meaning (Ghaye, 2010).
- Positive behaviour is the ability to behave positively in spite of what is happening (Rahimi & Karkami, 2015). Uys (2013) has found that positive behaviour can improve the way in which people cope. Positive emotions broaden a person's initial thought-action inventory by increasing thoughts and possible actions that come to mind when faced with an adverse situation (Lášticová & Findor, 2016).
- Positive coping is not only basic for survival, but also relates to the quality and ensuring constructive meaning of individual lives. This issue relates to what distinguishes the resilient person from the person who seldom copes effectively (Bonanno et al., 2011).
- An individual's capacity to cope with a challenge relies on behavioural resources as well as on the context in which stressors occur (Donnelly, 2002; Ferreira, 2006; Ungar, 2013). All people succeed or fail at some time. People differ not only regarding the life events they experience, but also in their vulnerability to them. A person's vulnerability to stress is influenced by his or her personality, coping skills and social support (Sarason & Sarason, 2000). There are different ways of coping, indicating that coping behaviour is part of the personality (Horstmann et al., 2012).
- Coping behaviour refers to people's perceptions of both the stressfulness of their lives and their ability to deal with the stressful situation successfully (Trouillet et al., 2011).
- Positive coping behaviour entails the use of a range of psychosocial personal resources or capacities in dealing meaningfully with stressful events and situations. Life is filled with experiences that challenge people's repertoire of thinking, feeling and behaving (Furnes & Dysvik, 2012).
- Some people are able to cope effectively and can mobilise their inner strength despite the intensity of the stressor. However, many other individuals need to learn about new resources and need to acquire effective coping skills to manage intense stressors effectively (Yeager & Roberts, 2015).
- Positive coping behaviour is approached from a multidimensional and psychosocial perspective. The psychosocial dimensions of positive coping behaviour relate to positive behavioural capacities embedded in individuals' (1) *cognitive* (cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing); (2) *affective/emotional* (positive affect, emotional granularity and happiness); (3) *conative/motivational* (self-

efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability); and (4) *interpersonal* (extroversion, social support and agreeableness) capacities.

(a) Cognitive coping behaviour

- Cognitive coping behaviour relates to individuals' problem-solving and mental orientations to stress experiences. Behavioural problem-solving refers to what one does in order to alter the immediate stressor (Ong et al., 2013). Positive behavioural capacities such as cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing relate to problem-solving capacities and mental orientations that serve as supportive personal resources in positive coping.
- Coping effectively with all demands is a big challenge. As an effect of coping, one reacts physically, psychologically and behaviourally, which affects both physical and mental well-being. Positive emotions encompass cognitive and behavioural efforts to reduce or eliminate stressful conditions. Research evidence showed that positive cognitive coping behavioural constructs have the ability to answer the research question on mental and cognitive aspects.

(b) Affective (emotional) coping behaviour

- Affective coping behaviour relates to individuals' general mood or state and emotional responses to stress. Coping resources consist of a complex and dynamic set of cognitive, affective, and behavioural responses that are aimed at regulating people's emotions, solving or improving the practical problems they face, and maintaining the psychological resistance and strength needed to remain productive for a prolonged period. (Papastavrou et al., 2011).
- For many decades, the stress process was described primarily in terms of negative emotions (Heo, 2014). However, robust evidence that positive emotions co-occurred with negative emotions during intensely stressful situations suggested the need to consider the possible roles of positive emotions in the stress process (Serena, 2013). Evidence has accumulated regarding the co-occurrence of positive and negative emotions during stressful periods (Moksnes et al., 2012). Positive emotions were associated with adaptive coping, which was then associated with engagement (Herman, 2013).

- Coping resources or capacities and positive emotions predict desirable life outcomes in many domains (Avey et al., 2010). In studies, positive emotions predicted increases in both resilience and life satisfaction. The effect of positive emotions on the outcome of the coping process in stressful contexts is an exciting new direction in research on the coping process (Folkman & Moskowitz, 2004).
- Research evidence on affective coping behaviour confirms that it is crucial in individuals' general mood and emotional responses to stress. Research has further shown that positive emotions are associated with effective coping. Coping resources or capacities and positive emotions do predict desirable life outcomes in many domains. Positive emotions serve as a buffer against stress.

(c) Conative (motivational) coping behaviour

- Conative coping behaviour relates to the motivational aspect of individuals' responses to stress. Motivation is indicated by the intensity (or energy), direction and persistence of goal-directed behaviour. Motivation does not simply kick-start a mental act, but frames the mind-set, and can significantly influence the allocation of attentional resources, expenditure of effort, emotional reactions to difficulties and persistence in the face of setbacks (Dai & Sternberg, 2008).
- The definitions of the affective (emotional) attributes indicate the motivational capacities an individual needs in order to cope effectively. Employees need to maintain positive feelings about themselves and their jobs in order to face the demands of the current fast-paced daily challenges. Positive psychology focuses on the characteristics of the positive, on what make employees and organisations flourish. Individuals who experience positive emotions and behave positively demonstrate greater perception and will adapt more effectively to stressors.

(d) Interpersonal (social) coping behaviour

- Interpersonal coping behaviour relates to people's social responses in dealing with stressful events and describes the manner in which an individual experiences and evaluates his/her own circumstances (Horstmann et al., 2012).
- Definitions of interpersonal (social) attributes indicate the social capacities an individual needs in order to cope effectively. Coping does not occur in a vacuum, but in the social context in which the individual is situated. One aspect of measuring coping behaviour is to understand the individual's social well-being. Coping is

contextual; the particular person-and-situation variables shape coping efforts. Individuals have a repertoire of coping capacities available to assist in the coping process. The research evidence shows that interpersonal social attributes support the individual to cope effectively.

It can be concluded that positive coping behaviour is seen as having more than one dimension. The focus is on four dimensions of the individual's behaviour in order to help individuals to cope effectively. The selection of positive capacities in the coping process leads to the person flourishing in spite of poor circumstances.

- Cognitive coping behaviour reflects the mental well-being of the person and research evidence has shown that cognitive coping capacities can support a person's mental well-being during stressful situations.
- Affective coping behaviour entails the person's mood in the coping process. Affective coping capacities are situated in positive emotions and positive emotions serve as a buffer against stress.
- Conative motivational coping behaviour motivates the person in his/her reaction to the stressful situation. When a person experiences positive emotions he/she behaves positively in spite of the circumstances.
- Interpersonal social coping behaviour is a person's reaction to a stressful situation. Research evidence has shown that interpersonal social behaviour capacities enable a person to react positively to stress.

6.1.1.3 Research aim 3: To conceptualise what the theoretical implications of positive coping behaviour for employee wellness are

The third aim was to conceptualise what the theoretical implications of positive coping behaviour for employee wellness are.

- The shift must be to positive thinking and behaviour, with the aim of building the capacity of individuals to make decisions that will facilitate the development of positive coping behavioural capacities (Wand, 2013).
- The use of positive psychological interventions may be regarded as a complementary strategy in wellness practices. Results of a meta-analysis show that positive psychology interventions can be effective in the enhancement of subjective well-being and psychological well-being (Bolier et al., 2013).

- Greater understanding of resilience as an innate stress response resource highlights the need for processes that support resilience development and organisational and personal stress-management strategies (Grafton et al., 2010; Skomorovsky & Stevens, 2013).
- The implications for wellness practices are that the PCBI may potentially serve as a preventative tool to use in mental wellness practices. The PCBI may potentially be used on organisational, team and individual level. Because of the PCBI's multi-dimensionality and the fact that it focuses on a broad array of positive behavioural capacities, it is foreseen that it will help individuals whose scores place them in the low-level range of coping to become aware of the capacities they need to cope more effectively.

6.1.2 Conclusions relating to the empirical study

The empirical aim of this research was to reach the following five essential aims:

- To assess the elements of the theoretical framework for positive coping behaviour in a valid and reliable measure, the PCBI. This entailed the following sub-aims: To empirically assess the psychometric properties (internal consistency, reliability and construct validity) of the newly developed PCBI and to empirically assess the nature of the interrelationships between the sub-scale dimensions of the PCBI.
- To empirically assess whether the factorial structure of the PCBI is equivalent for age, gender and race groups.
- To determine whether gender and race groups significantly predict positive coping behaviour.
- To determine whether age, gender and race groups differ significantly regarding the sub-scale dimensions of the PCBI.
- To formulate conclusions and recommendations for employee wellness practices and future research.

6.1.2.1 Research aim 1: To operationalise the elements of the theoretical framework for positive coping behaviour into a valid and reliable measure, the PCBI

Conclusion: The results provided evidence of the psychometric character of the PCBI as a valid and reliable scale to measure the positive coping behaviour of adults. The PCBI appears to be free of bias across age, gender and race groups in the South African context.

6.1.2.2 Research aim 2: To empirically assess whether the factorial structure of the PCBI is equivalent for age, gender and race groups

Conclusion: The PCBI has construct equivalence for age, gender and race groups. However, due to lack of evidence of scalar invariance, meaningful comparisons of significant mean differences between the respective subgroups may be problematic.

6.1.2.3 Research aim 3: To determine whether age, gender and race groups significantly predict positive coping behaviour

Conclusion: Age, gender and race significantly predict positive coping behaviour. Gender and race significantly predict overall positive coping behaviour and social coping behaviour. Race also predicts conative coping behaviour.

6.1.2.4 Research aim 4: To determine whether age, gender and race groups differ significantly regarding the sub-scale dimensions of the PCBI

Conclusion: Age and race groups differ significantly regarding their positive coping behaviour, with black people and people younger than 35 years showing more efficacious positive coping behaviour than their counterparts. Males and females do not differ significantly regarding their positive coping behaviour.

6.1.2.5 Research aim 5: To formulate conclusions and recommendations for employee wellness practices and future research

This section outlines general conclusions pertaining to the empirical conclusions and recommendations for employee wellness practices and future research.

(a) Conclusions

- The sound psychometric character of the PCBI implies that the scale can be applied with confidence in the workplace to assist practitioners in designing wellness interventions for individuals who may be experiencing stress.
- How employees cope is important. How and to what extent an employee copes may be as important as the stressful event itself.
- It is evident from the findings that there is a need to focus on employee strengths and positive organisational environments. The aim is a healthy and productive work environment as the basis for employee well-being.
- Measuring coping behaviour helps industrial psychologists to assess strengths and areas for enrichment to assist in the development of interventions to enhance well-being.
- Understanding how individuals cope with stress through positive coping behaviour is the first stage in developing effective programmes for mitigating the risks associated with a particular work environment.
- The PCBI can be used to measure the positive coping behavioural strengths and areas of enrichment of diverse groups of individuals (age, race and gender groups).
- Positive coping behaviour constitutes four dimensions of coping in the face of stressful events: (1) cognitive coping (positive problem-solving behaviour or inventive coping behaviour); (2) affective coping behaviour (positive emotional behaviour or engaging coping behaviour); (3) conative coping behaviour (positive motivational behaviour or intentional coping behaviour) and (4) social coping behaviour (positive social behaviour or influential coping behaviour).
- Wellness interventions should consider the role of age, gender and race in positive coping behaviour, including mood and health perceptions on the day of measurement.
- Understanding positive coping behaviour may contribute to the design of organisational wellness programmes.

(b) Recommendations

- The study was exploratory and cross-sectional in nature and focused on a sample from a singular research setting. Cross-validation studies are needed to refine the PCBI further, especially in terms of its construct and discriminant validity and equivalence for race groups.
- Practitioners can use the PCBI as a measure in wellness programmes for individuals experiencing stress to identify their strengths and deal with their weaknesses regarding positive coping.
- Wellness programmes should use the PCBI as an initial measure to raise awareness of positive coping and for individual coaching purposes
- Practitioners should be trained in the use of the PCBI in view of the psychological sensitivity associated with the constructs measured by the PCBI. Preferably, such practitioners should be qualified psychometrists or psychologists.
- Wellness programmes for age groups should be divided according to the psychological life task challenges. Research has shown evidence that there is a difference between the coping strategies employed in different age groups. Regarding race groups, the uniqueness of each culture must be taken into consideration when designing a wellness programme. Lastly, although the present research did not provide evidence of a significant difference between genders, according to the literature research coping strategies could differ.
- It is important for organisations to see wellness programmes as preventative in nature, with the purpose of facilitating personal change (mental and health). If preventative wellness programmes are in place, the employees can manage themselves when facing physical, mental and social challenges.
- The psychosocial positive coping behavioural capacities can be developed and wellness practices must support the development of these capacities. Creating resilience-promoting environments can be explored as a means of reducing negative outcomes of stress in the workplace and increase positive ones.
- The shift must be to positive thinking and behaviour, with the aim to build the capacity of individuals to make decisions that will facilitate the development of positive coping behavioural capacities.

Table 6.1 illustrates the new positive coping behaviour inventory.

Table 6.1
New Positive Coping Behaviour Inventory

PCBI label	Definition	Positive coping constructs	Items
Inventive coping behaviour	Positive problem-solving behaviour relates to cognitive strengths anchored in the individual's self-esteem and internal locus of control. The individual is open to life experiences and applies wisdom, optimism, humour and positive reframing in dealing with stressful or painful life events.	Cognitive attributes (innovative speciality), wisdom, self-esteem (worthiness), optimism, humour (amusement), locus of control, openness to experience (broad-minded practice), positive reframing (resolute review)	1-10
Engaging coping behaviour	Positive emotional behaviour relates to the capacity to generate and maintain positive emotions and feelings even in difficult or stressful circumstances. The individual feels self-efficacious in alleviating the stressful situation by demonstrating a happy and engaged attitude toward the self, the situation and others.	Positive affect, emotional granularity, happiness (euphoria), self-efficacy.	11-18

PCBI label	Definition	Positive coping constructs	Items
Intentional coping behaviour	Positive motivational behaviour relates to the self-efficacious capacity to intentionally and conscientiously engage in positive goal-directed behaviours that encompass active detachment from unhealthy attachments, the deliberate achievement of optimal well-being and the building of strengths and resources to adjust proactively to stressful situations	Self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness, adaptability	19-36
Influential coping behaviour	Positive social behaviour relates to extroverted behaviour that facilitates positive interaction with others through positive self-other evaluations	Extroversion, social support, agreeableness	37-41
Positive coping behaviour	Positive coping behaviour denotes individuals' positive self-evaluations regarding their problem-solving and cognitive strengths, self-efficacious capacity to intentionally and conscientiously generate and maintain positive emotions, and engage in positive goal-directed and extroverted behaviour in adjusting successfully to stressful situations	Positive problem-solving behaviour, positive emotional behaviour, positive motivational behaviour, positive social behaviour	41

- Organisation wellness interventions:

  - Awareness of positive coping behaviour by completing the PCBI.
  - PCBI as a preventative wellness intervention.
  - Create resilience-promoting environments.
  - Emphasise and focus on positive thinking behaviour.

- Individual wellness interventions:

  - Develop psychosocial positive coping behavioural capacities.
  - Identify positive coping behaviour strengths and deal with positive coping behaviour weaknesses.
  - Develop skills in positive thinking behaviour.

It can be concluded that further studies are needed to refine the PCBI further. Furthermore, the PCBI showed sound psychometric character and can be applied in wellness programme intervention on organisational and individual level.

6.1.3 Conclusions relating to the central hypothesis

The central hypothesis, as highlighted in chapter 1, stated that positive coping behaviour is multidimensional in nature and will constitute a range of psychosocial dimensions (cognitive, affective, conative and interpersonal) that can be measured in a valid and reliable manner. The literature review and empirical study revealed supportive evidence for the central hypothesis.

6.1.4 Conclusions relating to the field of organisational psychology

The findings derived from the literature review and empirical study contribute to the measurement of employee coping behaviour, specifically in the field of positive organisational psychology. The literature review revealed new insight into the dimensions of positive coping behaviour. Positive psychology posits that there is a set of human strengths that forms the most likely buffer against mental illness: optimism, happiness and resilience. These strengths will make people physically and mentally healthier and make normal people stronger and more productive, as well as helping them to reach their potential. Some benefits of positive coping behaviour are greater psychological well-being, better adjustment in the broad domain of work,

relationships and health, creative tolerant thinking and productivity, individual flourishing, better adjustment to stressful life events and human strengths, serving to buffer individuals from the negative consequences of traumatic experiences and healthier health behaviours. Industrial and organisational psychologists and human resource practitioners may develop better understanding of the behavioural coping patterns of diverse groups of employees in order to assist them to cope effectively through the use of the PCBI.

6.2 LIMITATIONS

The limitations related to the literature review and the empirical study are discussed below.

6.2.1 Limitations of the literature review

The exploratory research on the design and development of the PCBI in the South African context was limited by the following aspects:

- A gap in literature on the issue of positive coping is that a complete questionnaire dealing with the constructs of positive coping behaviour could not be found anywhere. The importance of developing a questionnaire that assesses positive coping behaviour (such as the PCBI) is that it serves to guide the individual to learn skills and engage in behaviour that promotes positive coping.
- The research was undertaken within the organisational and employee wellness context. The paradigmatic perspective of the research was limited to the interpretation of the findings to the definitive boundary of industrial and organisational psychology and positive psychology.
- The development of the PCBI was limited to the isolation of the range of positive psychology constructs of relevance to this research: cognitive (*cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing*); affective/emotional (*positive affect, emotional granularity and happiness*); conative/motivational (*self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability*) and interpersonal (*extroversion, social support and agreeableness*).
- The development of the PCBI was approached from the perspective of positive psychology within the disciplinary boundary of industrial and organisational

psychology. Future research could consider identifying constructs from other disciplinary stances and examine patterns of constructs that emerge.

6.2.2 Limitations of the empirical study

The findings of the empirical study could be limited by the following:

- The research data were drawn exclusively from within South Africa and in one industry (Omnia), which will limit the generisability of the findings to other industries. The demographic profile of the sample (lack of heterogeneity) also warrants caution in generalising the results to the larger population and other occupational contexts.
- The sub-group variables are further limited to age, gender and race. Although the sample size (N = 525) was sufficient to analyse the equivalence of the PCBI for the age, gender and race groups, a larger and more representative sample of the different groups could have assisted in more meaningful cross-cultural comparisons. Future research should explore the psychometric properties of the PCBI in larger and more varied samples in various occupational contexts.
- Although the findings provided evidence that the six-point frequency-based scale functioned satisfactorily for all four the PCBI dimensions and was not too complex for the respondents, certain categories (4, 5 and 6) were underutilised. These categories relate to disagreement with the item statement. The findings could be attributed to the sample being from a single setting, which could have influenced the ratings being oriented toward the positive self-evaluation rating frequency (agreement statements). Future research in different occupational settings should investigate the rating scale functionality further. It is also recommended that the direction of the rating scale frequency be changed to 1: definitely disagree; 6: definitely agree, especially when the instrument is used in practice, so that strong, positive agreement reflects as higher mean scores on the respondent's profile. The current direction of the rating scale frequency tends to reflect low scores on the dimensions that actually imply positive self-evaluations.
- The CFA confirmed that the theoretical model underpinning the instrument is consistent with the observed data. However, cross-validaton studies should further examine the factorial and structural validity of the PCBI in relation to other tests that measaures similar constructs. The study was only exploratory in nature. Future validation studies could focus on improving the model fit of the theoretical model underpinning the PCBI.

- Overall, the research focused only on the internal psychometric properties of the newly developed PCBI. A deeper understanding of the psychological meaning of the subdimensions of the scale could be obtained by studying their relations with the constructs of other scales.

6.3 RECOMMENDATIONS

Based on the research findings, conclusions and limitations the following recommendations for organisational psychology and further research in the field are outlined:

6.3.1 Recommendations for the field of organisational psychology

Based on the significant relationships and the findings that were revealed, the interventions described below in terms of positive coping behaviour are recommended. The recommendations can be made to promote positive coping behaviour from a multidimensional and psychosocial perspective and wellness in the contemporary employment environment.

6.3.1.1 Positive coping behaviour recommendations

- Emphasis and focus on positive coping behaviour that will contribute to the endeavour of creating healthy workplaces within turbulent business contexts.
- The development of psychosocial positive coping behavioural capacities of employees.
- Understanding of resilience as an innate stress response resource in processes that support resilience development and organisational and personal stress-management strategies.
- Creating resilience-promoting environments. This can be explored as a means to reduce negative outcomes of stress in the workplace and increase positive ones.
- Evaluation of what is best in individuals and focussing training on prevention and health promotion.
- Developing positive coping behaviour patterns through the assessment of current coping behavioural strengths and enrichment areas through the PCBI. Employees who cope effectively are more likely to be satisfied with their jobs and demonstrate higher levels of job performance.

- Individual employee interventions. Techniques can be learned by using the positive behavioural constructs measured by the PCBI, for example learned optimism and adjusting ineffective coping styles through the development of positive coping behaviour that has a potentially positive influence on physical and mental health.

6.3.1.2 Wellness in the organisational context

- Design organisational wellness programmes with the focus on positive coping behaviour.
- Introduce wellness programmes in an organisation to create awareness of positive coping behaviour.
- Focus on worksite wellness programmes among the work force with the greatest health needs.
- Establish adoption of wellness programmes in an organisation.
- Establish preventative wellness programmes with the purpose to facilitate personal change (mental and health).
- Use positive psychological interventions as a complementary strategy in wellness practices.
- Introduce enhanced interventions that develop positive coping behaviour through formalised wellness programmes.

6.3.2 Recommendations for future research

The study breaks new ground by showing that positive coping behaviour is multidimensional in nature and can be measured in a reliable and valid manner in the South African multiculturally diverse work context. Despite the limitations mentioned, it can be concluded that the study indicates that the PCBI can be applied in to different populations in the South African context. The findings are promising for the future validation and standardisation of the PCBI. Overall, the construction of the Positive Coping Behaviour Inventory (PCBI) constitutes a potentially important advancement in positive psychology theory and research which may hopefully stimulate empirical research and theory development of positive coping behaviour in today's more stressful business and employment context. Future cross-validation studies are bound to lead to a deeper understanding of the construct of positive coping behaviour and its underpinning subdimensions, and shed light on the conditions and contexts where the application of the PCBI as a measure of positive coping behaviour are most useful.

6.4 EVALUATION OF THE STUDY

This study focused on the design and development of the PCBI from a positive psychological approach. Positive coping behaviour is approached from a multidimensional and psychosocial perspective. The following psychosocial dimensions of positive coping behaviour were explored: cognitive *(cognitive attributes, wisdom, self-esteem, optimism, humour, sense of coherence, locus of control, openness to experience and positive reframing)*; affective/emotional (*positive affect, emotional granularity and happiness*), conative/motivational (*self-efficacy, resilience, flourishing, intention for positive health, proactive coping, conscientiousness and adaptability)* and interpersonal *(extroversion, social support and agreeableness).* The findings indicated that positive coping behaviour can be measured in a reliable and valid manner.

6.4.1 Value added at a theoretical level

The literature review indicated the exploration of a comprehensive range of positive psychology constructs and critically evaluated their relevance to coping behaviour in the contemporary workplace context. Furthermore, these constructs were evaluated from a psychosocial and multidimensional perspective by differentiating between the cognitive, affective, conative and interpersonal behavioural elements of positive coping behaviour. In this regard, the study broke new ground and added novel insights to positive coping behaviour that can be measured in a reliable and valid manner. The study added to the extant research literature on coping behaviour in the positive psychology context.

6.4.2 Value added at an empirical level

At an empirical level, the study broke new ground by studying positive coping behaviour from a multidimensional and psychosocial perspective in the multi-culturally diverse South African work context. The PCBI appears to be free of bias and equitable for use across age, gender and race groups in the South African context. In the light of the psychometric soundness of the PCBI, researchers could potentially replicate the study by assessing the positive coping behaviour of individuals in other research settings. Such replication studies could assist in further refinement of the PCBI. Cross-validation studies are needed to assess the predictive

(criterion-related) validity and discriminant validity of the PCBI in relation to similar measures of coping behaviour. Longitudinal studies are also recommended to assess the development of positive coping behavioural capacities over time in the light of life experience and psychological maturity that evolve over the lifespan. It is recommended that future research in different occupational settings with a broader representation of age, gender and race groups further investigate the structural equivalence of the PCBI.

6.4.3 Value added at a practical level

At a practical level, the PCBI contributes to the field of positive psychology and industrial and organisational psychology in terms of better understanding of the behavioural dimensions that constitute positive coping behaviour. As a valid theoretical framework, the PCBI dimensions provide useful information on measuring individuals' positive coping behaviour in a holistic manner by focusing on a broad spectrum of positive psychological constructs in terms of cognitive, affective, conative and social behavioural elements in order to develop better understanding of the behavioural coping patterns of diverse groups of employees in order to assist them to cope effectively by developing positive coping behaviour patterns through the PCBI. Techniques can be learned by using the positive behavioural constructs measured by the PCBI and adjusting ineffective coping styles through the development of positive coping behaviour.

In conclusion, the researcher anticipates that the research findings will provide better understanding of positive coping behaviour through the measurement of the PCBI. It is hoped that organisational psychologists, human resource professionals and managers will be able to apply the new knowledge of positive coping behaviour effectively in the organisational context. The research findings, conclusions and recommendations should make a positive contribution to the field of industrial and organisational psychology in the South African context.

6.5 CHAPTER SUMMARY

This chapter discussed the conclusions and limitations of the study and made recommendations on practice and future research. The possible limitations of the study were discussed with regard to both the theoretical and the empirical study. Recommendations on future research were highlighted. Finally, an integration of the research was given. The fact that the degree to which the results proved to support positive coping behaviour can be

measured in a reliable and valid manner was highlighted, as well as the manner in which this research contributed to the development of the PCBI.

In this chapter, the following research aim was attained: Research aim 5: To formulate conclusions and recommendations for employee wellness practices and future research.

Herewith the research project is concluded.

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APPENDIX A

Development of the Positive Coping Behavioural Inventory: A Positive Psychological Approach

RESEARCH QUESTIONNAIRE BOOKLET 2015

INFORMED CONSENT FORM

RE: Research on the development of the Positive Coping Behaviour Inventory (PCBI). The behavioural capacities include positive psychology constructs that relate to the psychosocial behavioural dimensions of cognitive, affective (emotional), conative (motivational) and interpersonal (social) coping.

Name of researcher: Anta Marx
Address of researcher: 8 Reitz Street, Deneysville, 1932, Free State.
Contact details: 084 392 2971 antamarx@telkomsa.net
Position: Manager Development and Human Relations at Athletics South Africa

Title of the research: Development of the Positive Coping Behavioural Inventory: A Positive Psychological Approach.

Purpose of the research: To operationalise positive psychology constructs into a reliable and valid measure.

Expected duration of participation: 15 – 20 minutes.

Your participation: As the study focuses on the development of a positive coping behavioural inventory, it would be greatly appreciated if you could participate, as this would contribute to the representativeness of the sample, which would increase the generalisability of the study.

Procedures: The study will involve the completion of three questionnaires and a biographical questionnaire. You are required to fill in the questionnaires electronically or manually (with a pen) and return it to me or human relations officials who assist with the process.

Risks involved: It is not anticipated that participating in the study will harm you in any way. However, should you require further information or have any concerns, please do not hesitate to contact me.

Participant's rights: Consent to conduct this study has been obtained from the management. Your participation is, however, voluntary and you are free, at any point in the process, to

withdraw from the study without offering any explanation. You do not need to share any information that you feel uncomfortable disclosing.

Confidentiality, privacy and anonymity: Information provided and the results of the study will be completely confidential. In instances where biographical groups are small enough for individual respondents to be identified, these groups will be incorporated into larger groups in order to maintain confidentiality. The study is for research purposes only. The results of this study will be used for thesis purposes and may be included in a scientific journal, where only the general patterns found in the results will be discussed. Individual results will not be reported on.

Questions: If you, as participant, have any questions concerning the study, these should be directed to Mrs Anta Marx, cell phone number 084 392 2971 or email: antamarx@telkomsa.net

Willingness to participate and benefits: Kindly indicate your willingness to participate by signing a copy of the Informed Consent Form. By signing the form, you acknowledge that you understand the contents of the form and the nature of the study and agree to take part in the study. Furthermore, you understand that the research is intended to develop a positive coping behavioural inventory.

Kind regards,
Anta Marx
Cell: 0843922971
Email: antamarx@telkomsa.net

AGREEMENT TO PARTICIPATE IN RESEARCH PROJECT

Name: ……

Phone number: ……

E-mail address: ……

I, ……..……ID: ..... agree to participate in the research project, as outlined in the accompanying letter, which is being conducted by A. Marx.
I clearly understand that:

- the information gathered from the completed questionnaires will be used for research purposes only,
- the information concerning me will be treated as confidential, and will not be made available to any other person, including members of my organisation, and
- individual feedback can be provided to participants.

Signed: ……. Date: ……

QUESTIONNAIRE

Instructions

The following questionnaire contains a number of questions on your opinion about your current coping behavioural capacities. Please read each question carefully and tick the answer that most accurately represents your view. There are no right or wrong answers to these opinion-based questions; please give an honest answer to all of them.

Remember that all answers will be kept completely confidential. The research report compiled from the overall findings will include an integrated summary of the results. No individual or organisation will be identified by name when reporting on the findings.

The questionnaire is divided into two sections:
Section A: Biographical Information
Section B: Positive Coping Behaviour Inventory

There are no right or wrong answers to any questions. I am only interested in your personal opinions. The "right" answer to any question is your sincere and truthful response. Please answer all questions. It will take approximately 15 to 20 minutes to complete.

Your answers will be treated in **strict confidence** and will only be used for research purposes.

SECTION A: BIOGRAPHICAL INFORMATION

Please indicate with a ''X'':

Age: **What is your age? (e.g. 25 years)**						
Gender:	Male			Female		
Ethnicity:	African	Coloured	Indian	White	Other	
Home Language:	Afrikaans	English	Sepedi	Sesotho	isiNdebele	isiXhosa
	Setswana	SiSwati	Tsivenda	isiZulu	Xitsonga	Other
Marital Status:	Single	Married	Divorced / Separated	Widowed		
How would you describe your overall mood today?	I feel despondent	I feel stressed	I feel neutral	I feel positive		
How would you describe your general health today?	I have some health problems I worry about	I suffer from chronic illness	I feel fine	I feel healthy and well overall		

Thank you for completing Section A.

Kindly turn the page to Section B.

SECTION B:

Positive Coping Behaviour Inventory.

Instructions

- The purpose of the following questions is to report on your coping behaviour.
- Please respond to each of the following questions by marking the number that indicates your answer.
- Please try to answer every question as honestly as possible.

Key:

Definitely agree	Generally agree	Agree slightly	Disagree slightly	Generally disagree	Definitely disagree
1	2	3	4	5	6

	Statement	Definitely agree	Generally agree	Agree slightly	Disagree slightly	Generally disagree	Definitely disagree	Office Use only
1	I can manage unfamiliar problems effectively	1	2	3	4	5	6	
2	I usually see the meaningfulness of a stressful situation	1	2	3	4	5	6	
3	I am usually quick to see how a stressful situation will affect my personal wellbeing	1	2	3	4	5	6	
4	I usually find solutions for situations that affect my goals negatively	1	2	3	4	5	6	
5	I usually weigh the pros and cons of a decision in order to find the best possible solution to a problem that affects my wellbeing	1	2	3	4	5	6	
6	I am able to distinguish between a situation entailing risk and one that does not.	1	2	3	4	5	6	
7	I usually reflect on problems in order to gain a deeper understanding of how they affect my personal life	1	2	3	4	5	6	

	Statement	Definitely agree	Generally agree	Agree slightly	Disagree slightly	Generally disagree	Definitely disagree	Office Use only
8	I feel confident about overcoming most of my problems	1	2	3	4	5	6	
9	Negative unpleasant incidents do not affect my sense of self-worth	1	2	3	4	5	6	
10	I feel valuable and worthy most of the time	1	2	3	4	5	6	
11	Even in uncertain times, I usually expect the best	1	2	3	4	5	6	
12	I usually devise a plan to deal positively with stressful events	1	2	3	4	5	6	
13	Humour helps me to bring relief in painful situations	1	2	3	4	5	6	
14	Through humour I am able to gain perspective in painful situations	1	2	3	4	5	6	
15	I usually see life as predictable and manageable	1	2	3	4	5	6	
16	I believe most problems can be overcome by viewing them in a positive light	1	2	3	4	5	6	
17	I feel that one has control over one's destiny	1	2	3	4	5	6	
18	I like to experience new things	1	2	3	4	5	6	
19	I find positive meaning in most difficult situations	1	2	3	4	5	6	
20	I feel happy, joyful and excited most of the time	1	2	3	4	5	6	
21	I usually feel positive and hopeful, no matter what the situation and circumstances are	1	2	3	4	5	6	
22	Most people would describe me as a happy person	1	2	3	4	5	6	
23	I feel energetic and interested in my work most of the time.	1	2	3	4	5	6	
24	I care deeply about others	1	2	3	4	5	6	
25	Nothing will bring me down	1	2	3	4	5	6	
26	I feel capable of handling difficult situations	1	2	3	4	5	6	

	Statement	Definitely agree	Generally agree	Agree slightly	Disagree slightly	Generally disagree	Definitely disagree	Office Use only
27	I am able to persevere no matter what the situation is	1	2	3	4	5	6	
28	I feel confident in handling my negative emotions	1	2	3	4	5	6	
29	I am able to bounce back from adversity	1	2	3	4	5	6	
30	I feel that I learn from difficult situations	1	2	3	4	5	6	
31	I can overcome difficult situations	1	2	3	4	5	6	
32	Nurturing my health and wellbeing is important to me	1	2	3	4	5	6	
33	I know what my strengths are	1	2	3	4	5	6	
34	I usually concentrate on what is right, what works, and what is improving in my life	1	2	3	4	5	6	
35	Taking good care of my body, mind and soul is important to me	1	2	3	4	5	6	
36	Good nutrition, physical activity and a positive lifestyle are all important to live a good life	1	2	3	4	5	6	
38	I am a functional member of society	1	2	3	4	5	6	
39	I believe that prevention is better than cure	1	2	3	4	5	6	
40	I constantly strive to improve my ability to deal with difficult situations	1	2	3	4	5	6	
41	I have resources lined up to help me face difficult situations	1	2	3	4	5	6	
42	I am creative when I solve problems	1	2	3	4	5	6	
43	I see difficult situations as a challenge	1	2	3	4	5	6	
44	I have endurance during difficult situations	1	2	3	4	5	6	

	Statement	Definitely agree	Generally agree	Agree slightly	Disagree slightly	Generally disagree	Definitely disagree	Office Use only
45	I always reach my goals	1	2	3	4	5	6	
46	I usually adjust positively to any kind of situation	1	2	3	4	5	6	
47	I usually adapt quite quickly	1	2	3	4	5	6	
48	I am not scared of new or unknown situations.	1	2	3	4	5	6	
49	I am not afraid to expose myself to risks	1	2	3	4	5	6	
50	I have sufficient social support	1	2	3	4	5	6	
51	I am generous, kind and tender-minded	1	2	3	4	5	6	

Thank you for completing Section B.

The end

Thank you for your valuable time