

A practice-based ecometric model to assess temperament and preference functions that assist in enhancing parent-child interaction

B. E Jansen van Rensburg

23317388

BA MW (IV)

MA Diac Playtherapy

Thesis submitted in fulfillment of the requirements for the degree *Doctor Philosophiae* in Social Work at the Potchefstroom Campus of the North-West University

Promoter: Dr H.B Grobler

Co-promoter: Prof C Strydom

Date of submission: April 2014

*The beginning of love is to let these we
love be perfectly themselves and not to
twist them to fit our own image.*

*Otherwise we love only the reflection of
ourselves we find in them.*

Thomas Merton

DECLARATION BY RESEARCHER

Hereby I, Beatrix Elizabeth Jansen van Rensburg declare that:

A practice-based ecometric model to assess temperament and preference functions that assist in enhancing parent-child interaction which I submit at the North-West University: Potchefstroom Campus, is my own work, and has been language edited. All the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

B Jansen van Rensburg

17 July 2014

SIGNATURE

DATE

B.E JANSEN VAN RENSBURG

Student number 23317388



13 April 2014

TO WHOM IT MAY CONCERN

This is to confirm that I assisted Mrs **BEATRIX E JANSEN VAN RENSBURG** (NWU 23317388) with the language editing of her doctoral thesis, **A practice-based econometric model to assess temperament and preference functions that assist in enhancing parent-child interaction**, while she was preparing the manuscript for examination. I went through the entire draft making corrections and suggestions with respect predominantly to language usage. A second follow-up round followed in which some outstanding issues were clarified. Given the nature of the process, I did not see the final version, but made myself available for consultation as long as was necessary.

I may be contacted personally (details below) for further information or confidential confirmation of this testimonial.

A handwritten signature in black ink on a light blue background. The signature appears to be 'E. Hees' with a large, stylized initial 'E'.

Dr Edwin Hees (Associate Professor Emeritus)
Department of Drama (formerly Dept. English 1979-2004)
University of Stellenbosch
Private Bag X1
Matieland 7602
Phone 028-272-9857 (h) 076-977-7742 (cell)
eph@sun.ac.za

ACKNOWLEDGEMENTS

I wish to express my appreciation to the following people for their contribution to this study, as well as to my professional and personal growth through the entire process:

- Dr Herman Grobler my promoter, for his dedication and commitment to his students, of which I was fortunate to be one. I wish to thank him for his guidance and for being so accessible and accommodating through the course of the study.
- Prof Corinne Strydom, my co-promoter for adding her expertise and perspectives to this study.
- Prof Edwin Hees for his expert assistance with language editing.
- The panellists who assisted me in the designing of items for the prototype.
- All of the parents and children who participated in this study. Without your input this study would not be possible.
- My family and friends for their unending belief in me and for their pride in my success.
- My two children, Ewald and Liani. I celebrate your unique inborn qualities that make each one of you significant in and for this world. I am blessed to be called your mother!
- My husband Ewald, you complete me in so many ways! You believed in my abilities and inborn qualities since day one. Thank you for inspiring me to take the next step and by showing a genuine interest in my studies. You shared with me the highs and the lows of this journey and I am truly blessed with your presence in my life.
- Last but not least, to my Heavenly Father without whom I could not achieve anything of lasting significance.

ABSTRACT

This study promotes the notion that it is important for the family to be treated as a unit. It highlights the importance of parents understanding and respecting their children as unique human beings instead of regarding them as ‘carbon copies’ of themselves. The study further stresses the importance of parents being included as important variables within the therapeutic process with a child.

For parents to understand and recognise their child’s needs, knowledge of the child’s temperament is required. Knowledge of the nature of temperament leads to parents having a better understanding of their children’s behaviour and consequently fewer frustrations within the parent-child interaction arise.

The study aimed to utilise a practice-based ecometric model to assess temperament and preference functions that assist in enhancing the parent-child interaction. In order to address the aim of study, the practice-based ecometric model needed to include a temperament sorter as a tool to obtain information regarding temperament and preference functions. However, in practice there is no instrument/tool or temperament sorter to determine temperament and preference functions in children that may be used by professionals, such as social workers, who are not trained as psychologists.

The design and development (D&D) model was considered an appropriate design for this study because it lends itself to the use of a multi-phase research approach. During Phase 1 the research problem was analysed and the project was planned accordingly. A literature study was undertaken during Phase 2 to explore and describe the different components required within a practice-based ecometric model that assesses temperament and preference functions, as well as the different dimensions required within the temperament sorter. Phase 2 was concluded after the researcher explored how the ecometric perspective could contribute to the development of an ecometric temperament sorter. Phase 3, Step 1 and Phase 4, Steps 1-3 involved a quantitative process where item analysis of the prototype was explored with the assistance of a panel of experts and designed using the Delphi method. The prototype temperament sorter was pilot tested for reliability using equivalent or parallel form reliability.

To assess if the designed temperament sorter, when used within the practice-based econometric model, assisted in enhancing the parent-child interaction, the one-group pre-test post-test design was followed during Phase 5, Steps 1-2. Qualitative data were obtained from parents through pre-test semi-structured interviews. Through the completion of the designed temperament sorter, quantitative data were obtained regarding the temperament and preference functions of participating children. During a feedback session, each child's temperament and preference functions were qualitatively explained to parents. In order to give the parents ample time to rethink and familiarise themselves practically with the given information, post-test **semi-structured interviews** with the parents were held four weeks later. The aim was to assess the extent to which the designed temperament sorter contributed to strengthen the parent-child interaction.

The designed product successfully assisted in addressing the aim of the study. All the research questions were successfully answered. Dissemination and marketing of a practice-based econometric model and designed temperament sorter will take place after completion of the research project.

Key words:

Practice-based

Econometrics

Temperament

Preference functions

Parent-child interaction

OPSOMMING

Hierdie studie fokus om die konsep dat die gesin as 'n eenheid beskou en hanteer word, te bevorder. Dit beklemtoon die aspek dat dit belangrik is vir ouers om hulle kinders se unieke temperamentele eienskappe en voorkeure te waardeer en te verstaan in plaas daarvan om hul as identiese kopieë van hulleself te beskou. Die studie beklemtoon ook verder die noodsaaklikheid dat ouers as belangrike veranderlikes binne die terapeutiese proses met 'n kind ingesluit behoort te word.

Vir ouers om hulle kind se unieke behoeftes te erken en te verstaan, is kennis rakende hulle kind se eiesoortige temperament en voorkeurfunksionering 'n voorvereiste. Kennis hieromtrent bemagtig ouers om beter begrip vir hulle kind(ers) se gedrag te ontwikkel en gevolglik kan negatiewe interaksies en frustrasie binne die ouer-kind verhouding konstruktief aangespreek word.

Hierdie studie het ten doel gehad om 'n praktyk-gerigte ekometriese model om temperament en voorkeurfunksies te bepaal wat behulpsaam sal wees in die versterking van die ouer-kind interaksie, te ontwikkel. Hierdie doel kon slegs bereik word deur die ontwerp en ontwikkeling van 'n temperament-sorteerder waardeur temperament en voorkeur funksies assesseeer kon word. Daar ontbreek egter in praktyk 'n instrument of temperament-sorteerder wat gebruik kan word deur professionele persone, soos byvoorbeeld maatskaplike werkers, wat nie as sielkundiges opgelei is nie.

Die intervensie navorsingsmetode (D&D model) wat uit verskillende Fases bestaan, is as 'n toepaslike ontwerp vir hierdie studie gekies omrede die proses geleentheid skep vir 'n multi-fase navorsingsbenadering. Gedurende Fase 1 kon die navorsingsprobleem analiseer word en is die projek daarvolgens beplan. 'n Literatuurstudie het tydens Fase 2 plaasgevind waartydens die verskillende komponente binne 'n praktyk-gerigte ekometriese model wat temperament en voorkeurfunksies assesseeer, eksploreer en beskryf is. Verskillende dimensies wat deel sou uitmaak van die prototipe temperament-sorteerder is ook eksploreer en beskryf. Fase 2 is afgesluit nadat die navorser eksploreer het hoe die ekometriese perspektief kon bydra tot die ontwikkeling van 'n ekometriese temperament-sorteerder. Fase 3, Stap 1 en Fase 4, Stappe 1-3 het 'n kwantitatiewe proses behels waar item-analise van die prototipe plaasgevind het met behulp van die Delphi-metode. 'n Groep deskundiges het deelgeneem en die navorser bygestaan

met item-analisering. Die prototipe temperament-sorteerder is daarna tydens 'n loodstudie vir betroubaarheid en geldigheid getoets deur gebruik te maak van ekwivalente of parallel vorm betroubaarheid.

Om te bepaal of hierdie self-ontwerpte temperament-sorteerder, wanneer dit gebruik word binne 'n praktyk-gerigte ekometriese model, wel bydra tot die verhoging en versterking van die ouer-kind interaksie, is die een-groep voor-toets na-toets ontwerp gedurende Fase 5, Stappe 1-2 gevolg. Kwalitatiewe data is gedurende die voor-toets semi-gestruktureerde onderhoude van deelnemende ouers verkry. Data het verband gehou met hul persepsie rakende hul kind se funksionering en hoedat hul as ouers, die ouer-kind interaksie beleef. Nadat die kinders die ontwerpte temperament-sorteerder voltooi het, is kwantitatiewe data aangaande die temperament en voorkeurfunksies van die deelnemende kinders verkry. Gedurende 'n terugvoer geleentheid is elke kind se temperament en voorkeurfunksies kwalitatief aan die ouers deurgegee. Ouers is 'n periode van 4 weke gegun om hul met die nuwe inligting in praktyk te vereenselwig. Kwalitatiewe data is weer gedurende die na-toets deur middel van semi-gestruktureerde onderhoude vanaf deelnemende ouers verkry. Die doel was om te assesser tot hoe 'n mate die ontwerpte temperament-sorteerder bygedra het om die ouer-kind interaksie te versterk.

Die ontwerpte produk het bygedra om die doel van die studie aan te spreek. Al die navorsingsvrae was suksesvol beantwoord. Die verspreiding en bemarking van 'n praktyk-gerigte ekometriese model en ontwerpte temperament-sorteerder sal plaasvind nadat die navorsingsprojek voltooi is.

Sleutelbegrippe:

Praktykgerigte

Ekometriese

Temperament

Voorkeurfunksies

Ouer-kind interaksie

TABLE OF CONTENTS

	PAGE
CHAPTER ONE	
Phase 1: Introduction and Overview of Study	1
1. ORIENTATION AND PROBLEM STATEMENT	1
2. AIM AND OBJECTIVES OF STUDY	9
3. RESEARCH METHODOLOGY	10
3.1 Research approach	10
3.2 Type of research	11
3.3 Research design	11
3.4 Participants in the study	13
3.4.1 Phase 3: Participant-group A for the panel of experts	13
3.4.2 Phase 4: Participant-group B for pilot study	13
3.4.3 Phase 5: Participant-group C for the one-group pre-test post-test design	14
4. EVALUATION OF QUALITATIVE AND QUANTITATIVE RESEARCH	22
4.1 Qualitative research	22
4.2 Quantitative research	26
5. ETHICAL ASPECTS	27
6. CHAPTER OUTLINE OF THE STUDY	29
CHAPTER TWO	
Phase 2: Overview of the Temperament Theory	30
1. INTRODUCTION	30
2. DEFINITION AND KEY CONCEPTS OF TEMPERAMENT	31
3. COMPARING DEFINITIONS: PERSONALITY AND TEMPERAMENT	33
3.1 Personality	33
3.2 Temperament	34
4. HISTORY OF TEMPERAMENT THEORY FROM CLASSICAL TO MODERN TIMES	36

5. PSYCHOLOGICAL TEMPERAMENT TYPES	38
5.1 Carl Jung’s Theory of Temperament and Psychological Types	39
5.2 Myers and Briggs’ Theory of Temperament	43
5.3 Keirsey’s Theory of Temperament	46
6. TEMPERAMENT THEORIES EMBEDDED IN BROAD PERSONALITY MEASURES	48
7. TEMPERAMENT THEORY AS APPLIED TO THE ASSESSMENT OF CHILDREN	49
7.1 Children’s behavioural temperament measures	50
7.1.1 <i>Temperament Theory of Alexander Thomas and Stella Chess</i>	51
7.1.2 <i>Temperament Theory of Arnold Buss and Robert Plomin</i>	54
7.1.3 <i>Temperament Theory of Mary Rothbart</i>	54
7.1.4 <i>Other Theorists</i>	54
8. SUMMARY	55

CHAPTER THREE

Phase 2: Exploring and identifying the basic dimensions of temperament with a specific focus on the Jungian-Myers-Briggs and Keirsey

Temperament theory	57
1. INTRODUCTION	57
2. THE BASIC DIMENSIONS OF TEMPERAMENT	58
2.1 Temperamental dimensions according to Thomas and Chess	59
2.2 Temperamental dimensions according to Mary Rothbart	61
2.3 Temperamental dimensions according to Eysenck	63
2.4 Temperamental dimensions according to Buss and Plomin	64
2.5 Temperamental dimensions according to Jung and Myers-Briggs	65
2.6 Temperamental dimensions according to David Keirsey	73
3. COMPARISON OF THE DIMENSIONS IN DIFFERENT TEMPERAMENT THEORIES	74
3.1 Comparison between Thomas and Chess, the Jungian-Myers-Briggs-dimensions and Keirsey’s temperament groups	75
3.2 Comparison between Mary Rothbart, the Jungian-Myers-Briggs dimension and Keirsey’s temperament groups	76

3.3 Comparison between Eysenck, the Jungian-Myers-Briggs dimensions and Keirsey's temperament groups	77
3.4 Comparison between Buss and Plomin, the Jungian-Myers-Briggs dimensions and Keirsey's temperament groups	77
4. DISCUSSION OF COMPARISONS	78
5. SUMMARY	78

CHAPTER FOUR

Phase 2: Temperament and parenting. How temperament shapes the parent-child interaction **80**

1. INTRODUCTION	80
2. IMPORTANCE OF PARENTING: MIND THE PYGMALION EFFECT	82
3. DIFFERENT PARENTING STYLES: MODELS OF BAUMRIND AND GREENSPAN	86
3.1 The two-factor model of Diana Baumrind (1967)	86
3.1.1 <i>Authoritarian parenting style</i>	89
3.1.2 <i>Permissive parenting style</i>	89
3.1.3 <i>Authoritative parenting style</i>	89
3.1.4 <i>Unengaged parenting style</i>	89
3.2 The three-factor model of Stephan Greenspan	91
3.3 Critical discussion of the two parenting models by Baumrind and Greenspan	93
3.4 The conscious parenting style	94
4. TEMPERAMENTAL PREFERENCES AND PARENTING: DIFFERENT EXPECTATIONS AND DIFFERENT NEEDS	96
4.1 Parental expectations	97
4.1.1 <i>Extrovert expectations</i>	97
4.1.2 <i>Introvert expectations</i>	98
4.1.3 <i>Sensing expectations</i>	98
4.1.4 <i>Intuition expectation</i>	99
4.1.5 <i>Thinking expectation</i>	100
4.1.6 <i>Feeling expectation</i>	100

4.1.7	<i>Judging expectation</i>	101
4.1.8	<i>Perceiving expectation</i>	102
4.2	Children's needs and expectations according to their natural preferences	102
4.2.1	<i>Extrovert expectations</i>	103
4.2.2	<i>Introvert expectations</i>	104
4.2.3	<i>Sensing expectations</i>	104
4.2.4	<i>Intuition expectations</i>	105
4.2.5	<i>Thinking expectations</i>	106
4.2.6	<i>Feeling expectations</i>	106
4.2.7	<i>Judging expectations</i>	107
4.2.8	<i>Perceiving expectations</i>	108
4.3	Temperamental conflicts in the parent-child interaction	108
5.	THE FOUR TEMPERAMENT GROUPS: HOW THEY AFFECT THE PARENT-CHILD INTERACTION	111
5.1	The SJ temperament group	112
5.2	The SP temperament group	113
5.3	The NF temperament group	115
5.4	The NT temperament group	116
6.	SUMMARY	118

CHAPTER FIVE

Phase 2: The ecometric perspective 120

1.	INTRODUCTION	120
2.	PHILOSOPHICAL BASIS OF ECOMETRICS	121
2.1	Ecometrics measures and describes ecology	122
2.2	Ecometrics measures and describes manifest traits	122
2.3	Ecometrics is used in assessment	123
2.4	Ecometrics utilises primarily criterion-referenced scaling	124
3.	ECOMETRICS IN THE CONTEXT OF THE SOCIAL WORK PROFESSION	125
4.	HOW WILL THIS STUDY UTILISE THE ECOMETRIC PERSPECTIVE?	127
5.	SUMMARY	129

CHAPTER SIX

Phases 3 and 4: Designing, developing and pilot testing the prototype 131

1. INTRODUCTION	131
2. PHASE 3: DESIGNING OF THE PROTOTYPE	132
2.1 STEP 1: Designing an observational system	132
2.1.1 <i>The Delphi Technique</i>	133
2.1.1.1 Advantages of using the Delphi Technique	133
2.1.1.2 Disadvantages of using the Delphi Technique	134
2.1.1.3 Selection of panellists	134
2.1.1.4 Key stages in the Delphi Technique	135
2.2 Implementing the Delphi Technique for this study	136
2.2.1 <i>Establishing the criteria for the selection of the panellists</i>	136
2.2.2 <i>Establishment of the panel of experts</i>	136
2.2.3 <i>Development of the questionnaire</i>	137
2.2.4 <i>Distribution of a questionnaire to the panellists</i>	138
2.2.5 <i>Receive first-round responses from the panel of experts</i>	140
2.2.6 <i>Analysis of first-round responses</i>	142
2.2.7 <i>Preparation of the second-round questionnaire</i>	143
2.2.8 <i>Second-round feedback to the panel of experts</i>	143
2.2.9 <i>Analysis of second-round responses from the panellists</i>	144
2.2.10 <i>Reviewing and documentation of results</i>	145
3. PHASE 4: EARLY DEVELOPMENT AND PILOT TESTING	145
3.1 STEP 1: Developing a prototype or preliminary intervention	146
3.2 STEP 2: Conducting a pilot test	146
3.2.1 <i>Data analysis of the pilot study</i>	149
3.2.2 <i>Conclusion on data analysis</i>	157
3.3 STEP 3: Applying design criteria to the preliminary intervention concept	160
4. SUMMARY	160

CHAPTER SEVEN

Phase 5: Collection and analysis of data	162
1. INTRODUCTION	162
2. PHASE 5, STEP 1: SELECTING AN EXPERIMENTAL DESIGN	163
3. PHASE 5, STEP 2: COLLECTION AND ANALYSIS OF DATA	166
3.1 Planning for the recording data	170
3.2 Data collection and preliminary analysis	170
3.3 Organising the data	170
3.4 Reading and writing memos	171
3.5 Generating categories, themes and patterns	171
3.6 Coding the data	171
3.7 Testing emergent understanding and searching for alternative explanations	171
3.8 Interpreting the data	172
3.9 Presenting the data and writing the qualitative data report	172
4. FINDINGS	172
4.1 Pre-test data analysis	173
4.1.1 <i>Category One: The concepts of temperament and preference functions</i>	173
4.1.2 <i>Category Two: Troublesome behaviour and the parent-child interaction</i>	178
4.1.3 <i>Category Three: The parent-child dynamics</i>	202
4.2 Conclusion on pre-test data analysis	206
4.3 Post-test data analysis	207
4.3.1 <i>Category Two: Troublesome behaviour and the parent-child interaction</i>	207
4.3.2 <i>Category One: The concepts of temperament and preference functions</i>	211
4.3.3 <i>Category Three: The parent-child dynamics</i>	219
4.4 Conclusion on post-test data analysis	226
5. SUMMARY OF FINDINGS	227
6. PHASE 5, STEP 3: REFINING THE INSTRUMENT	231
7. PHASE 6: DISSEMINATION	231
8. SUMMARY	234

CHAPTER EIGHT

Evaluation, conclusions and recommendations 237

1. INTRODUCTION	237
2. HAVE THE AIM AND OBJECTIVES BEEN ACHIEVED? AN EVALUATION	237
2.1 Reaching the aim	237
2.2 Reaching the objectives	239
3. HAVE THE RESEARCH QUESTIONS BEEN ANSWERED? AN EVALUATION	240
4. CONFIRMING AND ACCEPTING THE HYPOTHESES	245
5. CONSIDERATIONS AND RECOMMENDATIONS	246
5.1 Considerations	246
5.2 Recommendations	248
6. RECOMMENDATIONS FOR FURTHER RESEARCH	248
7. CONTRIBUTION OF STUDY	249
8. LIMITATIONS AND POSSIBLE FUTURE RESEARCH OPPORTUNITIES	250
9. CONCLUDING STATEMENT	250

LIST OF REFERENCES 252

LIST OF FIGURES

FIGURE 1: Jung's basic mental processes	39
FIGURE 2: Jung's eight mental health processes	42
FIGURE 3: The three parenting styles model of Diana Baumrind	90
FIGURE 4: The three factor parenting model from Stephan Greenspan	92
FIGURE 5: Representation of the different parenting styles	94
FIGURE 6: Schematic view of the data-collection & data-analysis during Phase 5, Step 2	166
FIGURE 7: Schematic view of the practice-based ecometric model: Phase 1 and Phase 2	231

LIST OF TABLES

Chapter One

Page

Table 1.1 Process and methods of data collection during Phases 3-5 of D&D model	12
Table 1.2 Chapter outline of study	29

Chapter Two

Table 2.1 Key concepts of temperament	32
Table 2.2 Definitions of Personality	33
Table 2.3 Definitions of Temperament	34
Table 2.4 Jungian and Myers-Briggs Dimensions	43
Table 2.5 The 16 Psychological Types in the MBTI	44
Table 2.6 Keirsey's Temperament Sorter Types	46

Chapter Three

Table 3.1 Dominant and Auxiliary functions of the MBTI with specific characteristic combined	69
Table 3.2 The four Dimensions of the MBTI	71
Table 3.3 The four temperament groups by David Keirsey	74
Table 3.4 Comparison between Thomas and Chess, the Jungian-Myers dimensions and Keirsey temperament groups	75
Table 3.5 Comparison between Rothbart, the Jungian-Myers-Briggs dimensions and Keirsey's temperament group	76
Table 3.6 Comparison between Eysenck, the Jungian-Myers-Briggs dimensions and Keirsey's temperament groups	77

Table 3.7 Comparison between Buss and Plomin, the Jungian-Myers-Briggs dimensions and Keirsey's temperament groups	77
--	----

Chapter Four

Table 4.1 The two factor parenting model by Diana Baumrind	88
--	----

Chapter Six

Table 6.1 Expert panel during Phase 3 of the D&D model	137
Table 6.2 Questionnaire for Panel of Experts	138
Table 6.3 Expert feedback on dimension: Extrovert/Introvert	140
Table 6.4 Expert feedback on dimension: Sensing/Intuition	140
Table 6.5 Expert feedback on dimension: Thinking/Feeling	141
Table 6.6 Expert feedback on dimension: Judging/Perceiving	141
Table 6.7 Combined responses in dimension: Extrovert/Introvert	142
Table 6.8 Combined responses in dimension: Sensing/Intuition	142
Table 6.9 Combined responses in dimension: Thinking/Feeling	142
Table 6.10 Combined responses in dimension: Judging/Perceiving	143
Table 6.11 Total of questions deleted from first-round item analysis	143
Table 6.12 Distributions of questions in the questionnaire for second-round feedback to panel of experts	144
Table 6.13 Questions remaining from the second-round responses from the panel of Experts	145
Table 6.14 The prototype instrument: Total of questions / items	146
Table 6.15 Criteria for pilot study	147

Table 6.16 Comparison of amount of questions in prototype and MMTIC	148
Table 6.17 Amount of children within each age-group of pilot test	149
Table 6.18 Data-analysis for age-group: 9 years	150
Table 6.19 Data-analysis for age-group: 10 years	151
Table 6.20 Data-analysis for age-group: 11 years	152
Table 6.21 Data-analysis for age-group: 12 years	153
Table 6.22 Data-analysis for age-group: 13 years	154
Table 6.23 Data-analysis for age-group: 14 years	155
Table 6.24 Data-analysis for age-group: 15 years	156

Chapter Seven

Table 7.1 Participant-group C during Phase 5 of the D&D model	165
Table 7.2 Category One: The concept temperament & preference functions	173
Table 7.3 Category Two: Troublesome behaviour and the parent-child interaction	178
Table 7.4 Category Three: The parent-child dynamics	202
Table 7.5 Category One: The concept temperament & preference functions	207
Table 7.6 Category Two: Troublesome behaviour and the parent-child interaction	211
Table 7.8 Category Three: The parent-child dynamics	220

LIST OF ADDENDA

Addendum A: Confirmation letter from promoter to WCOD	275
Addendum B: Letter from WCOD	276
Addendum C: Letter to panel of experts	277
Addendum D: Notification letter to experts to end Delphi study	280
Addendum E: Letter to schools in the Somerset-West area	281
Addendum F: Letter from primary school to confirm their willingness to assist researcher in pilot study	283
Addendum G: Consent from parents regarding pilot study: school	284
Addendum H: Consent from parents regarding pilot study: private practice	287
Addendum I: Assent from children in pilot study	290
Addendum J: Consent from parents in one group pre-test post-test design	292
Addendum K: Assent from children in one-group pre-test post-test design	296
Addendum L: Questionnaire and instructions	298
Addendum M: Answering sheet and score chart	301
Addendum N: Interview schedule: Pre-test semi-structured interviews	302
Addendum O: Interview schedule: Post-test semi-structured interviews	303

Chapter One

Phase 1: Introduction and Overview of Study

1. ORIENTATION AND PROBLEM STATEMENT

Parenting, which entails a healthy interaction between the parent and the child, is an important concept within child development. Bavolek (2009) emphasises that “The most significant process that humans experience after birth is being *parented*. Parents create an environment that produces experiences that affect the growth of the individual child. The experiences children have during the process of growing up had a significant impact on their attitudes, skills, and childrearing practices they will use with their own children”. The hidden dynamics in the parent-child relationship are therefore an important variable in the development of a child’s emotional, interpersonal and social wellbeing (Kurcinka, 2006:468; Strydom, 2006:2; Bavolek, 2009; Rothbart, 2011:230; White Paper on Families in South Africa, 2012:5-9).

There is unfortunately no official training available to become a parent (Neville & Johnson, 1998; Campbell, 2000:54; Robinson, 2005:16, Penley, 2006:x). Parenting requires a significant amount of physical and emotional energy (Gordon, 2000:1; Kohn, 2005:1, 7; Kurcinka, 2006:9). Parents start this process with very little preparation (Tieger & Barron-Tieger, 1997:5; Kohn, 2005:5) and the pressure to parent clever, well-behaved, obedient and respectful citizens of society led to parenting strategies desperate for quick solutions (Neethling & Rutherford, 2000:8; Kohn, 2005:4). A ‘one-size-fits-all’ attempt at parenting is usually followed with few positive results, which may leave the parents feeling even more discouraged and incompetent (Tieger & Barron-Tieger, 1997:xiii; Kohn, 2005:5, 6; Kurcinka, 2006:9-12, 18-20; Penley, 2006:xi).

Studies show that parents’ own perception of their competence has an impact on their parenting style (Goodnow & Collins, 1990; Donovan, Leavitt & Welsh, 1990; Coleman & Karraker, 1997; Harkey & Jourgensen, 2004b:247; Belsky & Barends, 2002 in De Haan, Prinzie & Dekovic, 2009:1696). If a parent feels competent in the handling of the child, the

parent is inclined to act with a warmer and responsive parenting style. If the parent feels rather incompetent in the handling of the child, that parent is inclined towards a more authoritative and unresponsive parenting style (Belsky & Barends, 2002 in De Haan, Prinzie & Dekovic, 2009:1696). Gondoli and Silverberg (1997:868) state that this sense of inadequacy creates a feeling of hopelessness; this leads to parents having fewer positive experiences from their interaction with their children, which in turn leads to lower levels of emotional contact with their children.

A prerequisite for an emotionally healthy parent-child relationship is that parents must know and understand their children (Boyd, 2004:229; Kurcinka, 2006:63-70; Rothbart, 2011:231). According to the literature, parents often lack perception and insight with regards to the handling of their children (Jaffe, 1997:145; Strydom, 2006:2; Rothbart, 2011:230). When parents do not acknowledge and understand their child's uniquely inborn needs, conflict may arise within the parent-child relationship (Kochanka, Friesenborg, Lange & Martel, 2004:745; Kurcinka, 2006:63; Strydom, 2006:3), which may lead to behavioural problems in these children (Campbell, 2000:41, Lindhout, Markus, Hoogendijk & Boer, 2009: 439; Marais, 2011; Rothbart, 2011:231; Van Staden, 2011). This unacceptable behaviour can be seen as the child's way of regulating his or her own needs (Oaklander, 1997:293, Kurcinka, 2006:41; Rothbart, 2011:230-233) and inadequate parenting can contribute to behavioural problems in children (Hemphill & Sanson, 2001:42; Robinson 2005:21; Kurcinka, 2006:39-40; Rudd, 2009:14; Marais, 2011; Rothbart, 2011:230; Van Staden, 2011).

Parents regard (sometimes unconsciously) their children as carbon copies of themselves (Kurcinka, 2006:63). Children's individuality gets lost, their unique behaviour patterns are not accepted and their unique needs are not accommodated by the parents (Greenspan, 1995:231; Tieger & Barron-Tieger, 1997:6; Kohn, 2005:13; Kurcinka, 2006:64-65; Rothbart, 2011:231). The extent to which a child's temperament fits within that child's environment is described with the concept *goodness or poorness of fit* (Chess & Thomas, 1996:12; Kurcinka, 2006:66-70; Rothbart, 2011:35).

When children's natural temperament styles or processes fit within the requirements, needs and expectations of the parents, positive interaction and adjustment (*good fit*) is expected, but when children's temperaments and natural processes clash with the expectations, needs

and requirements of their parents, negative interaction (*poor fit*) occurs, which results in conflict within the parent-child relationship (Berk, 2006:417; Rothbart, Sheese & Conradt, 2009:186; Rothbart, 2011:4).

For parents to understand and recognise their child's needs, knowledge of the child's temperament is required (Kurcinka, 2006:39-41; Strydom, 2006:6, Rothbart, 2011:4). Knowledge of temperaments leads to parents having a better understanding of their children's behaviour and fewer frustrations are experienced. This may lead to more effective parent-child interaction (Greenspan, 1995:285; Kurcinka, 1998:187; Keogh, 2003a:1; Kurcinka, 2006:66; Rothbart, Sheese & Conradt, 2009:184, 186; Rothbart, 2011:5). A personal interpretation of the researcher from experience within the practice is that if parents do understand their children's temperaments, this contributes towards parents adjusting the expectations they have of their children according to the children's unique processes. Parents will then have a better knowledge of when to be firm and when to be more supportive (Goode, 2001:26; Robinson, 2005:64-65; Penley, 2006:177).

Temperament is the relatively constant (Chess & Thomas, 1989:35; Berens, 2000:4; Reed-Victor, 2004:62; Berk, 2006:360; Strydom, 2006:444; Joyce, 2010:50) and basic disposition that a person is born with (Keirse, 1998:20; Keogh, 2003b:48; Vasta, Miller & Ellis 2004:211; Kurcinka, 2006:37-39; Joyce, 2010:50; Rothbart, 2011:28). It regulates and defines behaviour, reactivity, activity, emotionality and social contact (Chess & Thomas, 1989:251; DiLalla & Jones, 2000:33,50; Berndt, 2001:211; Bates, 2001:77; Ballesteros, 2003:950; Kurcinka, 2006:41-62; Schaffer, 2006:70; Rothbart, 2011:25).

Thomas and Chess (1977:9) and Kurcinka (2006:37) regards temperament as the *how* of behaviour rather than the *why* (motivation) or the *what* (ability). Therefore, temperament is connected with behaviour (Keogh, 2003b:15; Kurcinka, 2006:37-62; Joyce, 2010:4; Rothbart, 2011:36). The environment plays a definite role in how people adjust their temperaments, but the opposite also holds true in that a child's temperament evokes different reactions from the child's environment (Kurcinka, 2006:17; Rothbart, 2011:4). These reactions can motivate children to change their temperamental patterns of behaviour (behavioural style) accordingly to fit in with the environment (Keogh, 2003b:51), but children's inherent temperament will remain the same (Swart, 2009:2).

Although temperament forms part of one's personality and is regarded as the 'raw material' of one's personality (Plugg, Meyer, Louw & Gouws, 1993:274; Kurcinka, 2006:37; Joyce, 2010:4), this study will focus only on *temperament* and *temperamental patterns* (behaviour styles) which are related to *preference functions* and not to the broad concept of personality. Preference functions can be regarded as the behavioural characteristics that support temperament, namely energy flow, the gathering of information, the making of decisions and the child's overall lifestyle in the here-and-now (Carducci, 2009:145).

From experience within her private practice the researcher is aware that parents seldom have knowledge of their child's temperament and are often unaware of the concept and the role it plays in the behaviour of their child. Parents prefer to regard themselves as a variable that has no influence over the child's behavioural functioning (Kurcinka, 2006:4-5; Rothbart, 2011:36-37). Therefore, from the parents' perspective a child's behaviour problems or inappropriate behaviour is often interpreted as originating from the child being unable to submit to the rules and guidance of their parents, or as an inability to adjust accordingly.

Consequently, it is basically impossible for the researcher, when acting as a therapist in her private practice, to engage therapeutically with any child without involving the child's parents or guardians in the process. Obtaining knowledge about the child and the parents' processes (temperament and preference functions) gives the therapist an insight into the *how* of the child's behaviour and encourages better understanding of the child's process and needs. If this knowledge on the respective temperaments is available, the therapist will gain an insight into the natural parenting style of the parents involved and the parents can be guided to adjust their parenting style, requirements and expectations to fit in with the temperaments of their children.

Therefore, if parents can develop an understanding through increased awareness levels (Mackewn, 2003:127,133; Joyce & Sills, 2006:30; Kurcinka, 2006:41) of how parent and child function as a unit and system (Blom, 2004:10) within the here-and-now (Joyce & Sills, 2006:27), the understanding between parent and child can be increased (Oaklander, 1988:163; Kurcinka, 2006:42-44). Through this, optimal functioning as a family through enhanced parent-child interaction can be promoted.

The promotion of family functioning and the development of the family as a unit are identified as a priority by the South African government (White Paper for Social Welfare, 1997:44; White Paper on Families in South Africa, 2012:1-63). The researcher shares this vision and has since 2002 followed this working method that involves parents as an important variable in the therapeutic process. The positive feedback from parents when they begin to observe their children with 'new eyes' and adapt their expectations, requirements and parenting style accordingly has convinced the researcher that this practice-based model of intervention is a possible way to empower parents to show unconditional love and have a positive parenting experience at a time where children are exposed to so many often-conflicting expectations from society.

In order to follow this practice-based model of intervention, the researcher makes use of the Myers-Briggs Type Indicator (MBTI) and/or Keirsey Temperament Sorter (for the parents) as well as the Murphy-Meisgeier Type Indicator for Children (MMTIC), a parallel to the MBTI, for the purpose of assessing parents' and children's temperament and preference functions, after having received intensive training (2002) in the administering of the abovementioned instruments.

During 2004 the MBTI and the MMTIC were acknowledged as psychometric instruments by the HPCSA and it was stipulated that only psychologists may be trained in the future to use these temperament sorters (Leibrandt, 2011). From 2004 social workers, counsellors, ministers or any other professionals involved in assisting the individual/family in need could no longer receive training in this instrument for use during the therapeutic process. Only those with certified training could still proceed. This restriction led to a need in the social work profession for psychometrically sound measurement tools (Corocan, 1995 in Van Breda, 2004:24).

Ecometrics is a term used in the social work profession that refers to the qualitative and quantitative measurement in the context of an ecological approach (Struwig, 2006:22). In contrast with a psychometric instrument, it does not seek to diagnose or classify, but rather focuses on measuring social function, with the focus on behavioural strengths and skills (Faul & Hudson, 1999:21).

The goal within social work is to enable people and the environment to fit in with one another, and ecometrics is the technology in social work that relates to quantification of people-in-environment. Ecometrics is for social work what *psychometrics* is to psychology. According to Van Zyl (1995:31) and Faul and Hudson (1999:14), it is the chosen instrument for all the aspects in social work, because it focuses on the nature and extent to which people fits in with the environment. If ecometrics is the chosen instrument for all aspects of social work, with the focus being on how individuals adapt to their environment, then it would imply that ecometrics is applicable in situations where individuals receive help to enable them to function as effectively as possible.

The researcher is of the opinion that this should be done by also taking into consideration the individual's temperament and functioning within the social system, family or community. Another personal opinion is that ecometrics enables the therapist to assess the parents' and child's temperaments and preference functions. Through assessment during the early phases of the helping process, the social worker is able to make use of the practical application of ecometrics (Faul & Hudson, 1999:14-15). Ecometrics can therefore be part of social work intervention and social work planning.

Therefore, the aim of the research was to utilise a practice-based ecometric model to assess temperament and preference functions that assist in enhancing the parent-child interaction. In order to address the aim of study, the practice-based ecometric model needed to include a temperament sorter as tool to obtain information regarding temperament and preference functions. However, in practice there is no instrument/tool or temperament sorter to determine temperament and preference functions in children to be used by those professionals, such as social workers, who are not trained as psychologists (Struwig, 2006:268; Struwig, 2011; Strydom, 2006:61,447).

Mainly questionnaires and observations by the parent are used. Books (Tieger & Barron-Tieger, 1997; Neville & Johnson, 1998; Harkey & Jourgensen, 2004a; Kurcinka, 2006; Penley, 2006; Brittz, 2008) that provide parents with some kind of temperament analysis include a questionnaire with multiple questions to determine which temperamental characteristics correspond with the child's behaviour. However, this method lacks validity (Matheny, 2000:82; Kagan, 1994:55; Vasta, Miller & Ellis, 2001:456-457). But in practice

there is no valid and reliable instrument which the therapist who is not qualified as a psychologist can use to administer, assess and interpret temperaments.

In the light of the above problem formulation and in order to present a model, it was necessary to design and develop an instrument or sorter to assess temperament and preference functions in children aged **9-15 years**. These particular age groups (late latency period and early adolescence) were singled out for research purposes because:

- There is no ecometric measuring instrument for this specific age group;
- Children younger than 9 years are limited in their reading and writing skills;
- Adolescents older than 15 years can make use of the existing Keirsey Temperament Sorter or MBTI.

The temperament theory of psychological types of Carl Jung served as the theoretical framework for this study. Jung's theory (1921/1971) was singled out since the most important contributions on psychological temperament types and temperament assessment derives from his theory (Carducci, 2009:145). Jung's theory clarifies the normal differences between healthy persons (Briggs Myers, 1998:2). On the basis of Jung's understanding, several other theorists such as the Myers and Briggs team and Keirsey developed their theories on psychological types and temperament (Carducci, 2009:145-146; Joyce, 2010:11-13). Jung's theory is further stipulated as a Type theory and not a Trait theory.

A Type theory focuses on assessing the expression of the child's *interaction with his or her environment*, whereas a Trait theory focuses on the analysis of the child's personality traits and intellect, and diagnosis of the child's function within himself or herself (Schoo, 2008:34). According to Benson (2005:52), Type theory by nature adopts a more generalised approach towards personality whereas the Trait theory follows a more specific analytical approach.

The Keirsey Temperament Sorter, developed from the theoretical framework of Jung's theory on temperament, was evaluated by Struwig (2006) as fit to be used as an ecometric instrument in the social work profession. Therefore, Jung's Psychological Type theory on temperament was appropriate for the focus of this study and was assessed as providing a suitable theoretical framework to be used by the researcher.

Ecometrics differs from psychometrics and is used as part of a broader assessment phase with the main purpose of gaining greater understanding of the person in the context of interaction with the environment (Faul, 1995:30; SACSSP, 2011:7). Ecometrics is more concerned with whether the person is experiencing any discomfort with his social functioning as a result of a poor fit with the environment (Faul, 1995:31; Van Breda, 2004:29). The proposed instrument/temperament sorter does not facilitate the analysis, diagnosis or classification of the child's behaviour into a personality trait or mental disorder, but rather *focuses on assessment of preferences* and therefore derives from the *Type theory* (the Psychological Type Theory of Jung and Myers & Briggs). For additional readings on ecometrics refer to Chapter 5.

From the problem statement a primary **research question** was formulated:

How can a practice-based ecometric model be utilised to assess temperament and preference functions that assist in enhancing the parent-child interaction?

To support the primary question, the following **sub-questions** were asked:

- How can the problem be analysed and a project be planned accordingly?
- What components are required within a practice-based ecometric model to assess temperament and preference that assist in enhancing parent-child interaction?
- What dimensions are required within an ecometric temperament sorter?
- How can the ecometric perspective contribute to the development of an ecometric temperament sorter?
- How can an observational system assist in the item analysis of a prototype?
- How can a pilot study be implemented to assist in the validation of the prototype in order to refine the instrument?
- How can the designed temperament sorter be implemented in the practice-based ecometric model to assess its effectiveness in assisting to address the aim of the study?

The **hypotheses** formulated for this study were:

- If parents are made aware of their child's temperament, they will develop a greater awareness and better understanding of their child's needs and expectations as well as gain insight into how to adjust their parenting style accordingly;
- If a practice-based ecometric model is utilised, the parent-child interaction will be enhanced.

2. AIM AND OBJECTIVES OF THE STUDY

The goal or aim of a research study is defined as the intended outcome of the study (Maree & Van der Westhuizen, 2007:29; Fouché & De Vos, 2011:94; Fouché & Delport, 2011b:108). This study's **aim** was:

To determine how a practice-based ecometric model can be utilised to assess temperament and preference functions that assist in enhancing parent-child interaction.

Objectives represent the specific steps to achieve the goal of the research (Fouché & De Vos, 2011:94; Fouché & Delport, 2011b:108). The researcher set the following **objectives** to achieve the research goal:

- To analyse the problem and plan the project accordingly;
- To explore and describe through a literature study the different components required in a practice-based ecometric model to assess temperament and preference functions;
- To explore and describe the various dimensions required within an ecometric temperament sorter;

- To explore and describe how the ecometric perspective can contribute to the development of a temperament sorter;
- To develop an observational system to assist with item analysis of the prototype;
- To pilot test the prototype and refine the instrument by means of a questionnaire, answering sheet and score chart;
- To implement the designed temperament sorter within the practice-based ecometric model and assess its effectiveness in assisting to address the aim of the study.

3. RESEARCH METHODOLOGY

3.1 Research approach

The research followed a multi-phase approach that sought to understand phenomena from the participants' point of view. Both **qualitative** (Nieuwenhuis, 2007a:70-90; Du Plooy, 2009:30; Fouché & Delport, 2011a:63-69; Delport, Fouché & Schurink, 2011:297-302) and **quantitative** processes (Maree & Pietersen, 2007a:145-153; Du Plooy, 2009:22-29; Fouché & Delport, 2011a:63-68) were used to address the aim of this study. The study aimed to utilise a practice-based ecometric model to assess temperament and preference functions that assist in enhancing the parent-child interaction. In order to achieve the intended outcome, it was necessary for the researcher to design and develop an ecometric temperament sorter as part of the model. Quantitative data were obtained from a panel of experts that assist in item analysis of a prototype and from a pilot study to assist in the validation of the prototype in order to refine the instrument.

The designed temperament sorter was then utilised within the practice-based ecometric model to assess its effectiveness to assist in addressing the aim of the study. Because parents are significant role players in the parent-child interaction, their views and experiences as participants were crucial and provided rich, detailed and in-depth data within the qualitative approach.

3.2 Type of research

The research aimed towards achieving an **applied** goal (Welman, Kruger & Mitchell, 2005:25; Fouché & De Vos, 2011:94-95,98) as it sought to address an interaction problem observed in the parent-child system. **Exploratory, intervention, descriptive and evaluation research** (Babbie & Mouton, 1998:79-81,337; Neuman, 2000:3; Fouché & De Vos, 2011:95-98) was conducted in an attempt to ascertain the various components should be used within the practice-based ecometric model to assess temperament and preference functions that assist in enhancing parent-child interaction. Furthermore, the utilisation of the designed temperament sorter within the practice-based ecometric model was explored, described and evaluated in order to determine whether it had produced the intended result.

3.3 Research design

In order to achieve the intended outcome of the study, the researcher designed and developed an ecometric temperament sorter to be included in the practice-based ecometric model. Therefore, the **design and development (D&D) model** (Fawcett, Suarez-Balcazar, Balcazar, White, Paine, Blanchard & Embree, 1994:25-43; Fraser, 2004:210-222; De Vos & Strydom, 2011:476-487) was considered an appropriate design for this study. Intervention research in social work aims to generate high-quality evidence regarding the effects of social work interventions (Soydan, 2010:257; Delpont & De Vos, 2011:57-60).

The D&D model is seen as a form of **applied research** (Fawcett *et al.*, 1994:25; Fraser, 2004:212). The researcher was of the opinion that the D&D model lends itself to the use of a multi-phase research approach. This is particularly true for the purpose of this study as Phase 3, Step 1 and Phase 4, Steps 1-3 of the D&D model involved a **quantitative process** where item analysis of the prototype was explored with the assistance of a panel of experts (Participant-group A) and designed using the **Delphi method** (Stuter, 1996; Hsu & Sandford, 2007; Yousuf, 2007).

The prototype temperament sorter was pilot tested (Participant-group B) for reliability (Delpont & Roestenburg, 2011a:177) using **equivalent or parallel form reliability** (Pietersen & Maree, 2007:215). To assess whether the designed temperament sorter, when used within the practice-based ecometric model, assisted in enhancing the parent-child interaction, a multi-phased approach, using the **one-group pre-test post-test design** (Fouché,

Delport & De Vos, 2011:147-148) was followed during Phase 5, Step 2. **Semi-structured interviews** (Greeff, 2011:351-352) were conducted with the participating parent groups (Participant-group C). Refer to Table 1.1 for the process and methods used for data gathering during Phases 3 to 5 of the D&D model.

Table 1.1 Process and methods of data collection during Phases 3 to 5 of the D&D model

PHASE IN D&D MODEL	METHOD OF DATA COLLECTION	GROUP OF PARTICIPANTSS	RESEARCH APPROACH	AIM AND OUTCOME OF PHASE
Phase 3, Step 1	Delphi technique	Panel of Experts (Participant-group A)	Quantitative	The experts' knowledge regarding temperament and preference functions was used to assist in the identification of items and item analysis for the prototype.
Phase 4, Step 1			Quantitative	Designed a prototype temperament sorter for children (9-15 years) in the form of a questionnaire, an answering sheet and score chart.
Phase 4, Step 2	Pilot test	Children (Participant-group B)	Quantitative	Equivalent or parallel form reliability was used to assess the content, criterion and construct validity of prototype. A purposive sample of 46 children completed both the prototype and the Murphy-Meisgeier Type Indicator for Children (MMTIC) as a control.
Phase 4, Step 3			Quantitative	Prototype with content, construct and criterion validity. The designed temperament sorter was finalised as: The <i>UknowMe88</i> Type Indicator.
Phase 5, Step 2	One-group Pre-test-Post-test design: First round Semi-structured interviews	Parents (Participant-group C)	Qualitative	Pre-test intervention data were gathered regarding their child's behaviour, functioning and the parent-child interaction. The nature of parent-child dynamics and relationship was assessed.
Phase 5, Step 2 proceed	One-group Pre-test-Post-test design: Children completed the designed temperament sorter	Children of participating parents (Participant-group C)	Quantitative & Qualitative	During the intervention process the children complete the designed temperament sorter: The <i>Uknowme88</i> Type Indicator. Temperament analysis (quantitative data) took place and participating parents received verbal qualitative feedback regarding their child's temperament and preference function.
Phase 5, Step 2 proceed	One-group Pre-test-Post-test design: Second-round semi-structured interviews	Parents (Participant-group C)	Qualitative	After a period of 4 weeks, post-test intervention data were obtained regarding parents' perception of their child's behaviour, functioning and the parent-child interaction. The nature of parent-child dynamics and relationship was assessed to determine whether the designed temperament sorter, when utilised within the practice-based ecometric model, assisted in addressing the aim of study.

3.4 Participants for study

Different participants participated during Phases 3-5 of the study. The following sets of participants were distinguished.

3.4.1 Phase 3: Participant-group A for the panel of experts

The input for Participants A was used during item analysis of the prototype and therefore they did not form part of the sample during Phase 3 of the D&D model. The population included all therapists in South Africa trained in both the Myers Briggs Type Indicator and Keirsey Temperament Sorter. The experts for the panel were selected through a purposive sampling method (Maree & Pietersen, 2007b:178) with the specific goal of ensure heterogeneity in terms of their different fields of expertise (Addendum C). The sample included therapists trained in the Myers-Briggs Type Indicator and Keirsey Temperament Sorter from the Western Cape and Gauteng regions. The **criteria for selection of panel experts** were:

- Formally trained in the MBTI and/or Keirsey Temperament Sorter;
- Currently using the MBTI and/or Keirsey Temperament Sorter in their daily practice;
- From the service professions of social work, psychology and pastoral care because previously training in these instruments was only available to these service professions.

Refer to Chapter 6, Table 6.1 for details on the panel of experts. For details regarding item analysis refer to Chapter 6, Tables 6.2 to 6.13.

3.4.2 Phase 4: Participant-group B for pilot study

The researcher obtained permission from the Western Cape Education Department (WCOD) to make use of available schools in the Somerset West area to distribute the prototype to a sample of children and complete this part of the intervention process. See Addenda A and B for details.

Several schools were contacted (Addendum E) and one primary school indicated a willingness to participate in the study (Addendum F). To prevent possible disruption in the learning programme of participating children during school hours, the researcher targeted the school's after-care programme. Because the general age for primary school children ranges between 7-13 years, the researcher also targeted new intakes at her private practice to fill the 14-15 age-group gaps.

The population for the pilot test included all children attending the after-care facility of the particular school and all new admissions to the researcher's private practice who fitted the criteria during the period May-July 2013. A purposive sample was taken from the group of after-care children and of children referred to the private practice. Parents gave written consent (Addenda G and H) and assent was also obtained from the participating children (Addendum I).

The **criteria for children to participate in the pilot test** were:

- To be in the specific age group 9-15 years;
- Able to read and understand English;
- Never completed the MMTIC before.

Children who participated in the pilot study were considered not suitable for the sample during Phase 5 of the study. For further details regarding the pilot study, refer to Chapter 6, section 3.2 and Tables 6.17 to 6.24.

3.4.3 Phase 5: Participant-group C for the one-group pre-test and post-test Design

The population for this part of the study included all married parents and their children from an intact family bond in the Western Cape Province who registered for therapy at the researcher's private practice in Somerset West during the period mid-October to November 2013. The service provided by the practice covered a large area in the Western Cape and included parents and children who reside in Durbanville, Brackenfell, Kuilsriver,

Stellenbosch, Somerset West, Strand, Gordon's Bay, Malmesbury, Vredendal, Paarl, Wellington, De Doorns, Hermanus, Gansbaai, Bredasdorp and Swellendam.

Non-probability selection (Maree & Pietersen, 2007:176; Du Plooy, 2009:115,122; Strydom, 2011b:231-234) was utilised with purposive sampling (Berg, 2007:64; Maree & Pietersen, 2007b:178; Strydom, 2011b:232). The sampling was criterion based (Nieuwenhuis, 2007a:79), which refers to the fact that participants were selected on the basis of defining characteristics that fitted the criteria that made them potential bearers of the data needed for the study (Maree & Pietersen, 2007b:178).

The judgement of the researcher determined whether a case was suitable for sampling for the study. Consent from parents and assent from their children were obtained (Addenda J and K). The **criteria for selection** for participating parents were:

- Parents of children (9-15 years) of any gender and culture who present themselves at the practice for service to that child;
- Parents needed to be a heterosexual married couple and within an intact relationship. Intact families are seen as families who have all the members ascribed to them, for example, parents and children, and where the bond between parents and their children is not interrupted by divorce or death. This aided in demarcating the study and excluded possible variables that could complicate the parent-child interaction;
- Parents should not have had any previous experience with regard to temperament analysis, whether elsewhere or at the practice;
- Parents should be able to converse in either English or Afrikaans.

The **criteria for selection** for participating children were:

- Children (9-15 years) of any gender and culture whose parents present them at the practice for service to that child;
- Children should be from an intact family where the bond between parents and their children is not interrupted by divorce or death. This aided in demarcating the study and excluded possible variables that could complicate the parent-child interaction;
- Children should not have had any previous experience with regard to temperament analysis, whether elsewhere or at the practice;
- Children should be able to read and understand English.

For further details regarding the sampling and data-gathering process, refer to Chapter 7, section 3.2 and to Table 7.1 regarding participant-group C for the study.

The **Design & Development model** used in this study will be discussed briefly in order to differentiate between the different phases. However, a full description of the process will be provided in the relevant chapters.

➤ **Phase 1: PROBLEM ANALYSIS AND PROJECT PLANNING**

STEP 1: IDENTIFYING AND INVOLVING CLIENTS

Populations and participants as discussed under 3.4.3 were identified as the participating clients for this study and will be discussed in the relevant phases below.

STEP 2: GAINING ENTRY TO AND COOPERATION FROM SETTINGS

Ethical guidelines laid down by the North-West University were applicable. Participants in this study gave written and informed permission and assent (see Addenda A-H). Refer to section 5 of this chapter for further details.

STEP 3: IDENTIFYING CONCERNS OF THE POPULATION

Experience within the practice equipped the researcher with the ability to assess the needs of parents to gain knowledge regarding their child's temperament and preference functions. Since the beginning of 2011 several cases presented themselves at the practice with the sole purpose of temperament assessment and parental guidance regarding the child's temperament and preference functions. Whenever the researcher intervenes in her capacity as a therapist within a family situation, it is standard procedure to focus on a temperament analysis of the child and guide parents accordingly. Because parents find this entire process so valuable, they tend to bring their other children for temperament assessment as well. The conclusion was that parents find this practice-based model of intervention beneficial and this indicated a need that the practice needed to address.

STEP 4: ANALYSING CONCERNS OR PROBLEMS IDENTIFIED

In order for social workers to empower parents with knowledge regarding their child's temperament and preference functions, and assist them in understanding how this phenomenon affects the parent-child interaction, it is necessary for social workers to assess the child's temperament and preference functions by means of a temperament sorter. There is no temperament sorter available for children 9-15 years to be used by all therapists, other than psychologists, within the practice/field. The ecometric temperament sorter (Keirsey Temperament Sorter), which is available, is not applicable to children at this age level. Therefore the standard method that is used requires parents to attempt to assess their children's temperament and preference functions from a multiple-choice questionnaire. For more detail regarding the problem formulation, refer to point 1 of this chapter.

STEP 5: SETTINGS GOALS AND OBJECTIVES

Refer to section 2 of this chapter for details regarding the aim and objectives for this study.

➤ Phase 2: INFORMATION GATHERING AND SYNTHESIS

STEP 1: USING EXISTING INFORMATION SOURCES

Relevant literature was collected from sources such as psychology and social work books, theses, journals and the internet. Search engines such as EBSCO Host, NEXUS, ProQuest, SAePublications, Science Direct, PsychLit, Google Scholar and SACAT were utilised to identify relevant literature with the focus on:

- *Existing temperament models* that have developed from Jung's psychological theory of temperament (Thomas & Chess, 1977; Kroeger & Theusen, 1989; Kohnstamm, Bates & Rothbart, 1989; Tieger & Barron-Tieger, 1997; Keirsey, 1998; Neville & Johnson, 1998; Harkey & Jourgensen, 2004a; Harkey & Jourgensen, 2004b; Penley, 2006; Rothbart, 2011);
- *Parenthood and parenting styles* (Greenspan, 1995; Hendrix & Hunt, 1997; Thomas, 2004; Kohn, 2005; Robinson, 2005; May, Posterski, Stonehouse & Cannell, 2005; Kurcinka, 2006; Penley, 2006; Doherty & Coleridge, 2008; Fine & Fine, 2009);
- *Scale and scale development* (Joyce, 2010; Van Zyl, 1995; *Position Paper on Ecometrics and other Measurement Instruments*. SACSSP, 2011; Struwig, 2006);
- *The Delphi method* (Day & Bobeva, 2005; Hsu & Sandford, 2007; Somerville, 2008).

STEP 2: STUDYING NATURAL EXAMPLES

The following experts, who provided valuable information and advice regarding the research problem from their own experience (De Vos & Strydom, 2011:480-481; Delpont & Roestenburg, 2011b: 216), were consulted:

- Mrs A. Struwig, Social Worker. Presenter of courses in the training and use of the Keirsey temperament sorter;
- Dr N. Simpson, Minister. Familiar with the uses of the MBTI and Keirsey temperament sorters within the pastoral boundaries;
- Rev. E. van Rensburg. Minister. Familiar with the uses of the MBTI and Keirsey temperament sorters within the pastoral boundaries;
- Mrs E. Simpson, Social Worker in Private Practice. Familiar with the use of the MBTI and Keirsey temperament sorters within a therapeutic context;

- Dr A. Marais, Psychologist. Presenter of parenting courses where use is made of the MBTI for temperament analysis.

STEP 3: IDENTIFYING FUNCTIONAL ELEMENTS OF SUCCESSFUL MODELS

The researcher studied:

- Existing temperament models derived from the Temperament Theory as developed by Carl Jung, Katherine Myers and Isabel Briggs, David Keirse, Mary Rothbart, Nancy Harkey and Terri Jourgensen, Isabel Murphy, Paul Tieger and Barbara Barron-Tieger were studied;
- The philosophical basis of ecometrics in the context of the social work profession was studied.

➤ Phase 3: DESIGN

STEP 1: DESIGNING AN OBSERVATIONAL SYSTEM

With the help of a panel of experts, the researcher identified through item analysis the content of the prototype temperament sorter. Refer to section 3.4.1 of this chapter for more details regarding the participating experts and criteria. The list of applicable items (questions) was successfully narrowed down by the input of the panel of experts during the second-round feedback. The researcher used this information regarding item analysis to design the prototype temperament sorter. In Chapter 6, section 2 item analysis and the designing process are described in detail.

➤ Phase 4: EARLY DEVELOPMENT AND PILOT TESTING

STEP 1: DEVELOPING A PROTOTYPE OR PRELIMINARY INTERVENTION

The prototype temperament sorter for children 9-15 years was designed in the form of a **questionnaire** with instructions an **answering sheet** and **score chart** (refer to Addenda L and M). Refer to Chapter 6, section 3.1.

STEP 2: CONDUCTING A PILOT TEST

To determine if the prototype was reliable (Delpont & Roestenburg, 2011a:177), equivalent or parallel form reliability (Pietersen & Maree, 2007:215) was measured during this step. A purposive sample of 46 children completed both the prototype and the Murphy-Meisgeier Type Indicator for Children (MMTIC) as a control. Content, criterion and construct validity (Du Plooy, 2009:135-137; Delpont & Roestenburg, 2011a:174-176) were taken into account and it was noted if the different instruments show corresponding results (Pietersen & Maree, 2007:216-218). For further details regarding the participants in the pilot study refer to section 2.4.2 of this Chapter. For details regarding the data analysis of the pilot study, refer to Chapter 6, section 3.2, and Tables 6.17 to 6.24.

STEP 3: APPLYING DESIGN CRITERIA TO THE PRELIMINARY INTERVENTION CONCEPT

Data analysis indicated that the prototype was reliable because corresponding results were obtained (Refer to Chapter 6, section 3.2.1 for more details). The analysis further consisted of content, construct and criterion validity; therefore, no adjustments were needed. The designed temperament sorter was ready for use in the next phase of the D&D model. The designed temperament sorter is called The *Uknowme88* Type Indicator for Children.

➤ Phase 5: EVALUATION AND ADVANCED DEVELOPMENT

STEP 1: SELECTING AN EXPERIMENTAL DESIGN

For details regarding the sampling of participants during phase 5, refer to section 3.4.3 of this chapter. Seven parent groups and their children participated in the study.

Please note:

The term **parent group** refers to the father and the mother (parent couple) of a specific family and not to a group of different parents from different families.

Refer to Chapter 7, section 2 and Table 7.1 for details.

STEP 2: COLLECTING AND ANALYSING THE DATA

In order to achieve the aim of this study, the researcher used both quantitative and qualitative methods to obtain information. Qualitative data were obtained from parents through pre-test semi-structured interviews. Through the completion of the *UKnowme88* Type Indicator for Children the researcher obtained quantitative data regarding the temperament and preference functions of participating children (Participant-group C). During a feedback session each child's temperament and preference functions were qualitatively explained to parents (Participant-group C). After that, qualitative data were obtained from the parents during post-test semi-structured interviews. The aim was to experience the world through the eyes of the participants. For further details regarding quantitative and qualitative data analysis during Phase 5, refer to Table 1.1 of this chapter and to Chapter 7, sections 3 and 4, and Figure 6.

STEP 3: REFINING THE INTERVENTION

The designed product (refer to Chapter 7, Figure 7) successfully assisted the researcher in addressing the aim of the study to determine how a practice-based ecometric model can be utilised to assess temperament and preference functions that assist in enhancing parent-child interaction. All the research questions were successfully answered and therefore no refining was necessary.

➤ **Phase 6: DISSEMINATION**

Dissemination will not be part of the research project. The project concluded with a final research report with conclusions and recommendations. Marketing of a practice-based ecometric model and designed temperament sorter will take place after completion of the project. Refer to Chapter 7, Figure 7 for more details regarding the practice-based ecometric model and its dissemination.

4. EVALUATION OF QUALITATIVE AND QUANTITATIVE RESEARCH

4.1 Qualitative research

Lincoln and Guba (in Babbie & Mouton, 1998:276; in Schurink, Fouché & De Vos, 2011:419) outline four categories for trustworthiness in qualitative research: credibility; transferability; dependability and confirmability. The findings of this study were tested against these four criteria.

- **Credibility** determines whether the findings are consistent and make sense. The following procedures were used to ensure the credibility of this study (Babbie & Mouton, 1998:277; Di Fabio & Maree, 2012:140). Firstly, *prolonged engagement*, which refers to remaining within the field until data saturation has occurred. Data saturation occurred in the study, which was evident as no new further information was shared by the participating parent groups. *Persistent observation* refers to the examining of interpretations in different ways and to continuous analysis. The researcher continued to edit and analyse the findings throughout the process.
- **Transferability** is the degree to which the findings could be applied to other contexts or with other respondents (Babbie & Mouton, 1998:277; Di Fabio & Maree, 2012:140). A strategy for transferability is the use of ‘thick descriptions’ as transferability occurs when descriptions are sufficiently detailed and in-depth. The researcher aimed to describe a detailed research process with precision in order to enable other researchers to judge whether the results are in fact transferable to other contexts (Babbie & Mouton, 1998:277). *Purposive sampling* also increased the transferability as the participants are specifically selected from different locations and therefore differ from each other (Lincoln & Guba, 1984 in Babbie & Mouton, 1998:277). The study made use of purposive sampling during all the applicable phases. The participating parent groups came from different geographical areas within the Western Cape. Three parent groups were located in Somerset West and their children attended two separate schools. One parent group was located in the Strand and their child attended a school situated in the Strand area. Two parent groups were from Stellenbosch and their children attended two different schools in Stellenbosch. One parent group was from Hermanus and their children attended a school in that area.
- **Dependability** and credibility go hand-in hand (Schurink, Fouché & De Vos, 2011:420-421) and by demonstrating the one, the existence of the other will be established (Babbie

& Mouton, 1998:278). However, in order to further guarantee the dependability of the study, the researcher focused on presenting a logical, well documented and audited research process. Two promoters guided the researcher through the research process. After completion, the research process was examined by external examiners in order to complete the research product.

- **Confirmability** indicates that the bias of the researcher did not contaminate the outcome of the study and that the findings are the product of the study. Therefore evidence should exist from the raw data to prove how the interpretations and conclusions were arrived at (Babbie & Mouton, 1998:278). In order to establish the credibility, transferability and dependability of the research project, the researcher left a confirmability trail of raw data such as video recordings, as well as notes such as field notes, summaries and condensed notes, theoretical notes and process notes indicating the *what* and the *how* of what was discovered. Field notes enhance validity and reliability of the study (Babbie & Mouton, 1998:275; Mouton, 2001:107). These were used by the researcher to assist in data analysis. The auditing trail not only allowed for understanding *what* was discovered but also *how* it was discovered (Schurink, Fouché & De Vos, 2011:422).

The researcher also paid attention to the eight criteria of quality in qualitative research as proposed by Tracy (2010:840-848). These criteria, some overlap of which with the four constructs set out by Lincoln and Guba, are: **a worthy topic, thoroughness, honesty, credibility, quality, significant contribution, ethical considerations and meaningful coherence**. The research topic is judged to be a worthy topic as parenting, and more specifically the hidden dynamics in the parent-child relationship, is an important variable in the development of a child's emotional, interpersonal and social wellbeing (Strydom, 2006:2; Bavolek, 2009; Rothbart, 2011:230). The researcher engaged thoroughly with the literature as reflected in Chapters 2-5 as well in the description of the designing of the prototype as reflected in Chapter 6 and the data analysis in Chapter 7. The researcher worked honestly with the literature and analysed data to ensure the quality of the study. By developing an ecometric temperament sorter for children aged 9-15 years to be used by all therapists and not only psychologists, the researcher contributed significantly to the field. The researcher considered ethical issues to ensure all participants gave their consent and assent before data gathering. The researcher explained the true purpose and goal of the study to the participants with no intention to mislead them. Any possible identifiable information of participants

during data-analysis was removed. By providing the information anonymously, the **confidentiality, anonymity** and privacy of the participants were ensured.

In order to establish the validity of the study, the researcher needs to ensure that the way in which a phenomenon is explained matches reality. According to Maree and Van der Westhuizen (2007:37), rich descriptions of participants and contexts can facilitate external validity and generalisability. **Generalisability** is regarded as the way in which the findings of the study are able to be transferred to other settings (Du Plooy, 2009:401; Gravetter & Forzano, 2009:82). In the study the researcher found that the participating parents tend to struggle with the same or similar challenges within the parenting act.

Trustworthiness is described as one of the key criteria of good-quality research, and it is based on the neutrality of the researcher's findings and decisions (Lincoln & Guba, 1985 in Babbie & Mouton, 1998:276). Trustworthiness is indicative of how the researcher can convince others that the findings of the research are significant and that the research is of high quality (Nieuwenhuis, 2007a:80-81). Trustworthiness (Nieuwenhuis, 2007b:113-115) was ensured by using multiple data sources, controlling for bias, ensuring confidentiality and stating limitations of the study, as explained below.

- *Using multiple data sources:* Nieuwenhuis (2007b:113) states that using data from different sources can assist researchers in checking the findings. Within the study parents were interviewed and they shared experiences from their own parenting and relationships with their children. A literature review and literature control was also conducted regarding parenting and the role temperament plays in the parenting act.
- *Controlling for bias:* Qualitative research uses a naturalistic approach that aims to understand phenomena in real-world and current situations. Non-biased research implies that the researcher cannot attempt to manipulate the research topic and findings (Golafshani, 2003:600). To control bias within a research study, according to Nieuwenhuis (2007b:114), researchers are strongly advised not to become over-involved with the research participants. Schurink, Fouché and De Vos (2011:422) refer to the fact that the researcher needs to attempt to eliminate any preconception that may be brought to the study through constant reflection on the research process. In the study the control for bias was implemented by maintaining a professional relationship with the participants, semi-

structured open-ended questions allowed participants to share their views. Before the interviews the participants were informed that the purpose of the study was *to determine how a practice-based econometric model to assess temperament and preference functions could assist in enhancing the parent-child interaction*. The researcher did not explain the concepts ‘econometric’ or ‘enhancing the parent-child interaction’ so as to prevent bias in what the parents wanted to share by their telling the researcher what they thought she wanted to hear.

- *Ensuring confidentiality*: The participants’ confidentiality was ensured so that they would feel confident in sharing information in a way that would preserve their anonymity. The participants were given pseudonyms to protect their anonymity. Data were kept securely locked away in a cabinet on the premises of the researcher’s private practice.
- *Stating the limitations of the study*: Stating the limitations of the study allows the people reading the research to better understand how the conclusions of the study were drawn (Nieuwenhuis, 2007b:115). The limitations of this study are discussed below in section 7 of this chapter.

The ‘**Hawthorne effect**’ explains how participants may represent themselves differently when participating in research (Maree & Van der Westhuizen, 2007:42) and this was taken into account in order to ensure that the data were as valid as possible. The researcher aimed to allow the participating parents to feel at ease within the **pre-test** first-round and **post-test** second-round semi-structured interviews. Some research bias is inevitable; however, researchers must have tried their best to reduce its impact, or take it into account during analysis (Shuttleworth, 2009). The researcher considered the Hawthorne effect in the data gathering and analysis processes in order to ensure the data is as valid as possible. The researcher ensured that the participating parents and their children were anonymous (through using pseudonyms), hoping that their anonymity may have helped them feel freer to share information. The researcher aimed to persuade the reader that the findings of the study were worthwhile and noteworthy.

4.2 Quantitative research

The researcher incorporated **validity** and **reliability** as constructs to ensure the quality of the **quantitative** process of the study while designing the ecometric temperament sorter for children aged 9-15 years. The validity of instruments refers to the degree to which they measure what they were invented for (Pietersen & Maree, 2007:215, Sarantakos, 2013:99). The designed temperament sorter shows **content validity** (Pietersen & Maree, 2007:217) as all 46 children in the pilot test indicated a specific preference towards an attitude or function, sometimes low and sometimes clear. The researcher used the input of a panel of experts to assist her in item analysis. This factor adds to the content validity of the designed temperament sorter. It also showed **construct validity** (Pietersen & Maree, 2007:217). The different items within each dimension purposely assessed one of the two opposite preferences on that specific dimension. Accurate item analysis, just as the assistance of the panel, added to this validity. Furthermore, the designed temperament sorter consisted of no hidden or second-layer latent variable being measured beneath what is apparent and it does not extract other latent variables that lie underneath the first-layer latent variable. It focused on the assessment of *observable traits* and therefore has face value, because the items measured what they appear to measure. This added to the **construct validity** of the prototype. It further showed **criterion validity** (Pietersen & Maree, 2007:217) as proven with the equivalent or parallel form of reliability used during the pilot test.

Reliability, according to Pietersen and Maree (2007:215), is concerned with whether the measurement will have the same outcome when it is administered to different respondents or used at different times. It is expected that if the instrument is proven valid, however, that it will also be reliable. The researcher took note of the process of scale development as discussed by Delpont and Roestenburg (2011b:215-220). The designed prototype was pilot tested for reliability (Delpont & Roestenburg, 2011a:177) using **equivalent or parallel form reliability** (Pietersen & Maree, 2007:215) in that the MMTIC was used parallel with the prototype.

5. ETHICAL ASPECTS

Permission was obtained from the NWU ethical committee under project NWU-00060-12-A1 to undertake the research project. The researcher also followed the “Policy guidelines of the South African Council for Social Service Professions (SACSSP) for course [*sic*] of conduct, code of ethics and the rules for social workers” (SACSSP, 2013). With the collection of data, certain ethical aspects (Berg, 2007:62, 71-72; Maree & Van der Westhuizen, 2007:42-43; Iphofen, 2009:28-38) and guidelines as laid down by the NWU were kept in mind and followed. Two basic categories of ethical responsibility, namely **responsibility towards persons** participating in the research and **responsibility towards science**, i.e. to be accurate and honest in the reporting of the research (Iphofen, 2009:52-57), were taken in consideration. The ethical aspects indicated below were identified (Babbie & Mouton, 1998:521, 523; Iphofen, 2009:66-84; Strydom, 2011a:127-129):

- **Informed and written consent and assent** were obtained from the WCOD, Headmaster of the school and all participants, before participation (refer to Addenda A to K). The goal of the study, the procedures to be followed, the possible after-effects, as well as the credibility of the study were explained in a written document.
- The researcher **explained the true purpose and goal of the study** to the participants with no intention to mislead them.
- Any possible information that could identify participants during data analysis was removed. By providing the information anonymously and ensuring **confidentiality** regarding the data and **anonymity** regarding the participants, the privacy of the participants were ensured. Data obtained were kept securely locked away in a cabinet in the researcher’s office. Participant-group A was contacted in person and questionnaires and feedback were distributed and received via the mail. Therefore the panel members and their feedback were not made known to each other. Participant-group C (children) completed the instrument during individual sessions in the playroom of the private practice. The participant-group C (parents) was seen for semi-structured interviews at the private practice at a time that was convenient to them all. To ensure the anonymity of parents, the researcher decided against focus groups as method for data gathering.

- The researcher did not intentionally **deceive the participants** and took care not to unintentionally deceive them by fully informing them of the outcome of research study. The participants had the opportunity to clear any possible uncertainties they might have regarding the research before the interviews commenced.
- With regards to this study, the researcher did not foresee any physical **harm** could present itself, but given the nature of the focus of the study there could be a possibility that participants might experience emotional harm. In cases like these, participants were allowed to apply their right to withdraw from the study at any time. The researcher arranged for intervention by other child and family therapists in case the participating parents and children expressed a need for further intervention and therapy as a result of the outcome of the study. None of the parents or children expressed such a need, therefore referral was not necessary.
- None of the participants received any financial compensation for participating in the study. Parents participating during Phase 5 of the study were given feedback regarding the temperament and preference functions of their applicable children that assisted in the enhancement of the parent-child interaction.
- The researcher did not engaged with participants in further social work intervention after completion of the research.
- Participant experts received written information that the goal of the study was achieved and that their input was therefore no longer needed. Participating parents received feedback regarding the study during the post-test, second-round semi-structured interview.

6. CHAPTER OUTLINE OF THE STUDY

Table 1.2 Chapter outline of the study

CHAPTER	PHASE during the D&D model	CONTENT
CHAPTER ONE Introduction and Overview of study.	Phase 1	Outline the rationale, problem formulation, focus, research questions, research design, goals and objectives for this study.
CHAPTER TWO Overview of Temperament Theory	Phase 2	Outline the theoretical framework and review literature on Temperament Theory.
CHAPTER THREE Exploring and identifying the basic dimensions of Temperament with specific focus on the Jungian-Myers-Briggs and Keirsey temperament theory.	Phase 2	Outline the theoretical framework and review literature on the Jungian-Myers Briggs and Keirsey Temperament Theories.
CHAPTER FOUR Temperament and parenting: How temperament shapes the parent-child interaction.	Phase 2	Outline the theoretical framework and review literature on Temperament and parenting.
CHAPTER FIVE The econometric perspective.	Phase 2	Outline the theoretical framework and literature study on econometrics within the social work profession and the development of an econometric instrument.
CHAPTER SIX The prototype: Designing, development and pilot testing.	Phases 3 & 4	Outline the design, development and pilot testing of prototype
CHAPTER SEVEN Collecting and analysis of data.	Phase 5	Outline the final data-gathering and analysis with the one group pre-test and post-test design
CHAPTER EIGHT Evaluation, conclusions and Recommendations.		Outline the results, conclusions, limitations, contribution of study and recommendations for future research.

Chapter Two

Phase 2: Overview of the Temperament Theory

1. INTRODUCTION

According to Mary Rothbart (2011:1), “there is an order to who we are. It is not a simple order; many factors affect our lives and they are placed out in the course of our development. Those of us who study temperament and social development are privileged to study this order”.

Since ancient times “temperament” has been a term used to distinguish between the varying nature of the personal characteristics of people. This explanation pre-dates the formal discipline of psychology, but it is only in recent years that the nature of temperament has been understood more clearly (Joyce, 2010:1). The term “temperament” is derived from the Latin *temperamentum*, which comes from *temperare*, meaning to “mingle in due proportion” (Rothbart, Sheese & Conradt, 2009; Rothbart, 2011:15). Temperament reflects the inborn individual differences evident in people from which personality develops (Rothbart, 2011:3). It is mainly used to enable understanding of the individual differences in adults and only recently has the concept of temperament been scientifically applied to facilitate the understanding of child development (Meisgeier & Murphy, 1987:1; Meisgeier, Murphy & Meisgeier, 1989:1; Tieger & Barron-Tieger, 1997:xiii-xv; Harkey & Jourgensen, 2004a:28-30, 40-41; Rothbart, 2011:3). According to Goldsmith and Rieser-Danner (1992:246), research on temperament nowadays includes interdisciplinary and international studies conducted across different fields such as psychiatry, educational psychology, and developmental and child psychology.

This chapter focuses on a brief review of the development of temperament theory and forms part of Phase 2, Step 3 of the D&D model. (Refer back to Chapter 1, Table 1.2 for details.)

The following two objectives were addressed:

- to explore and describe through a literature study different components required in a practice-based econometric model to assess temperament and preference functions;
- To explore and describe the various dimensions required within an econometric temperament sorter.

The history since ancient times when philosophers tried to understand human behaviour and temperament up until more recent research and studies of the different theories of temperament will be unpacked through a literature study in order to better understand this *order to who we are* and to provide insight into the “concepts that form the foundations for current research and assessment instruments” (Joyce, 2010:5).

Because the term *temperament* is often confused with the term ‘personality’, some clarification is necessary. The discussion below will focus on the key concepts of temperament and the distinction between personality and temperament before continuing with the development of temperament theory.

2. DEFINITION AND KEY CONCEPTS OF TEMPERAMENT

From the literature it is clear that an agreement on a definition for temperament is still developing and that there are consequently variations in defining the notion (Joyce, 2010:3). However, several important factors are commonly accepted and agreed upon. Table 2.1 identifies important key concepts of temperament.

Table 2.1 Key concepts of temperament

KEY CONCEPTS OF TEMPERAMENT	REFERENCE IN LITERATURE
Temperament has a biological basis and individual differences are obvious early in life.	Keirse (1998:20); Keogh (2003b:48); Vasta, Miller & Ellis (2004:211); Donnellan & Robins (2009:192); Joyce (2010:50); Rothbart (2011:28, 80-84)
Predispositions are relatively stable while also influenced by environmental factors.	Chess & Thomas (1989:35); Berens (2000:4); Reed-Victor (2004:62); Berk (2006:360); Strydom (2006:444); Donnellan & Robins (2009:193-195); Joyce (2010:50)
Temperament is perceived as bi-directional as specific attributes bring forth particular responses from others.	Chess & Thomas (1989:2510); DiLalla & Jones (2000:33,50); Berndt (2001:211); Bates (2001:77); Ballesteros (2003:950); Schaffer (2006:70); Rothbart (2011:25)
Temperament is perceived as somewhat flexible as personal behavioural choices can be transformed based on an understanding of one's own temperamental qualities.	Rothbart (2011:4)
Temperament is related to, but not synonymous with, personality . As personality grows out of temperament, it may in fact shape the early foundations for later development of personality based on one's own temperament-related characteristics.	Keirse (1998:2-3); Harkey & Jourgensen (2004a:5); Rothbart, Sheese & Conrard (2009:177), Rothbart (2011:2)

Although the focus of this study will be on temperament and not the broader perspectives of personality and personality traits, it is clear that the above-mentioned relation between temperament and personality may cause some confusion. The term temperament is often used interchangeably with the term 'personality' and, according to Prior, Sanson, Smart, and Oberklaid (2000:2), "there are no clear ways of making distinctions between these terms".

Comparing definitions of both personality and temperament may broaden the perspective and clear some of the confusion on how personality and temperament are related.

3. COMPARING DEFINITIONS: PERSONALITY AND TEMPERAMENT

3.1 Personality

Human personality is not easily defined. Carducci (2009:4) notes that there are almost as many definitions of personality as there are authors, but each definition expresses a common concern with using personality to help predict and explain people’s behaviour. Refer to Table 2.2 for different **definitions** from the literature regarding personality.

Table 2.2: Definitions of Personality

DEFINITION OF PERSONALITY	AUTHOR & LITERATURE REFERENCE
“The dynamic organization within the individual of those psychophysical systems that determine his characteristic behaviour and thought.”	Allport (1961 in Carducci, 2001:4)
“Personality is the sum of the physical, mental, emotional, and social characteristics of an individual. Personality is a <i>global concept</i> that includes all those characteristics that make every person individual, different from every other person. Personality is not static; it developed over years and is always in the process of becoming.”	Rice (1992:228)
“Personality is the enduring patterns of perceiving, relating to, and thinking about the environment and oneself that are exhibited in a wide range of social and personal context.”	The American Psychiatric Association (2000 in Joyce, 2010:4)
“Personality includes attributes like a person’s intellectual level, their motivations and attitudes to work, their social values, and their bank of memories, learning, and life experiences, which go to make up a picture of the characteristics of a mature individual.”	Prior, Sanson, Smart, and Oberklaid (2000:3)
“Personality refers to a wide variety of personal qualities, demeanour characteristics including social appeal and expressive energy, traits, cognitive attributions, emotional response patterns, behaviours, and temperament <i>that together</i> form a unique constellation recognized by others as the individual’s persona.”	Joyce (2010:4)

3.2 Temperament

The following definitions of temperament have been drawn from the literature. Refer to Table 2.3 for different definitions of temperament in the literature.

Table 2.3: Definitions of Temperament

DEFINITION OF TEMPERAMENT	AUTHOR & LITERATURE REFERENCE
<p>“The characteristic phenomena of an individual’s emotional nature, including his susceptibility to emotional stimulation, his customary strength and speed of response, the quality of his prevailing mood, and all the peculiarities of fluctuation and intensity of mood, these phenomena being regarded as dependent upon constitutional make-up and therefore largely hereditary in origin.”</p>	<p>Allport (1961 in Joyce, 2010:4)</p>
<p>“The individual differences in attentional, emotional, and behavioural self-regulation, along with the relative level of emotional reactivity, which together give a unique flavour to an individual. Temperamental style tends to remain similar for an individual across life, but it is nevertheless modifiable, not fixed.”</p>	<p>Prior, Sanson, Smart, and Oberklaid (2000:3)</p>
<p>“Temperament is a set of inherited personality traits that appear early in life. There are two defining characteristics. First, the traits are genetic in origin, like other psychological predispositions that are inherited (e.g. intelligence). Second, traits appear in infancy – more specifically during the first year of life – which distinguishes temperament from other groups of personality traits both inherited and acquired.”</p>	<p>Buss and Plomin (in Goldsmith, Buss, Plomin, Rothbart, Thomas, Chess, Hinder & McCall, 1987:508)</p>
<p>“Temperament is the stylistic component of behaviour – that is the <i>how</i> of behaviour as differentiated from motivation, the <i>why</i> of behaviour, and the <i>what</i> of behaviour. A group of individuals – adults and children – may have the same motivation and similar level of ability for a particular task or social event. But they may differ markedly as to how they perform in terms of their motor activity, their intensity and quality of mood expression,</p>	<p>Thomas and Chess (in Goldsmith <i>et al.</i>, 1987:508)</p>

<p>their ease of adaptability, their persistence, or their degree of distractibility in the process of functioning. These later characteristics, amongst others, would represent components of temperament.”</p>	
<p>“Temperament refers to the biologically based individual differences shown in infants and young children, but through the study of temperament we have also identified the processes we all share and from which personality develops.”</p>	<p>Rothbart (2011:2)</p>
<p>“Temperament may be conceptualized as a <i>foundational substrate</i> for the subsequent development of personality through its effect on response instincts and thus the self-selection of environmental experiences (e.g. personal interactions, activities) that will further strengthen and diminish predispositions.”</p>	<p>Joyce (2010:4)</p>

When the two concepts personality and temperament are carefully unpacked, it appears that personality includes a broader variety of attributes of the person. It is a more inclusive description relating to the development of a mature person. Temperament rather represents an inborn ‘style’ of behaving. It is therefore evident in early childhood.

For this study the researcher will derive her own definition or description of temperament from the literature mentioned above: Temperament forms the core base for the development of personality and is linked to the inherited and inborn qualities every human is born with. It tends to be stable over a period of time, but is sensitive to environmental influences. Furthermore, temperament is an indicator to how children react and behave. The focus is therefore on the style of behaviour and not the content of behaviour. For example, it can refer to how children show their likes and dislikes, and not why they do not like something.

From above discussion it is clear that the boundaries of definitions of temperament and personality sometimes overlap. Joyce (2010:3) notes that this makes distinguishing components for measurement challenging. Nevertheless researchers (as discussed later in this chapter) have created new tools for measuring temperament and these measures allow us to study stability and change in children as they develop and to examine the role of

temperament in shaping children's experiences of the social and physical world (Rothbart, 2011:3).

4. HISTORY OF TEMPERAMENT THEORY FROM CLASSICAL TO MODERN TIMES

The **ancient Greeks** made some of the earliest attempts to identify the underlying biological bases of temperament (Carducci, 2009:324; Rothbart, Sheese & Conradt, 2009:177). Classic Greek writings often linked their behavioural observations to the internal functions of the human body (Harkey & Jourgensen, 2004a:18-19; Carducci, 2009:324). As philosophers they often drew far-reaching conclusions that match temperament with other traits (Joyce, 2010:5).

The earliest known writings on temperament date back to the work of Hippocrates (460-370 BC), Plato (427-347 BC) and Aristotle (384-322 BC) (Akisdal & Akisdal, 2007:3). According to the physician Hippocrates, the body has four critical fluids (i.e. phlegm, blood, yellow bile and black bile) that determined health and wellness. The four critical fluids could produce both negative and positive effects. However, the four critical fluids were responsible for sustaining the suitable balance within the human body (Joyce, 2010:5).

Nearly 500 years later the physician Galen (130-200 AD) further defined Hippocrates's concept of the four humours as physical and emotional characteristics of four temperaments he called choleric, phlegmatic, melancholic and sanguine (Keirse, 1998:23; Carducci, 2009:324; Rothbart, 2011:15). Having too much blood resulted in a *sanguine* temperament, characterised by being confident and excitable. It referred to as someone who is tactful, loving and optimistic. A person with too much black bile had a *melancholic* temperament, characterised by extreme happiness or sadness and depression. Too much yellow bile was considered to produce a *choleric* temperament, and the person showed signs of irritability and had fluctuating moods as well as being easily angered and quick-tempered. Too much phlegm led to a *phlegmatic* temperament, characterised by calmness and apathy, with the person being mild-mannered and prone to somatic complaints (Schaffer, 2006:70; Carducci, 2009:324; Rothbart, 2011:15). Galen also made an important observation regarding the temperament of a young child. He argued that if the characters of children were similar, then

children could be expected to act similarly from early on in life into their later lives. But Galen discovered the opposite to be true and, because of the consistent differences he observed in infants and young children, Galen concluded that children differ from one another (Rothbart, 2011:16).

Literature on temperament was less prominent during the Middle Ages. However, as early as the eighth century the treatment of depression was linked to the original theory of the four humours (Rothbart, Sheese & Conradt, 2009:177-179; Joyce, 2010:1). At that time the temperament philosophies of Hippocrates and Galen, with their emphasis on specific physical characteristics, as well as the Greek literature associated with temperaments, were part of the training of physicians (Harkey & Jourgensen, 2004a:19; Carducci, 2009:324; Joyce, 2010:1).

During the **1600s**, known as the pre-modern period, European governments began to establish public hospitals. Unfortunately, according to Shorter (1997:15), many early institutions could not provide effective treatment. The explanation and understanding of temperament were left to amateurs and self-proclaimed healers (Joyce, 2010:2). This period in history lacked effective information on understanding human behaviour related to temperament and personality. However, during the 19th and 20th centuries psychiatrists once again focused their attention on the concept of temperament (Joyce, 2010:2).

At the beginning of the **20th century** two major approaches to the study of temperament developed and many writers expressed their views on the subject (Keirse, 1998:23, 25; Joyce, 2010:6; Rothbart, 2011:17). In 1921 the three influential psychiatrists, Ernest Kretschmer (1888-1964), Herman Rorschach (1884-1922) and Carl Jung (1875-1963), published theories of temperament that they based on their interpretation of behavioural patterns. According to Harkey and Jourgensen (2004a:22), Jung's theory on temperament was some 20 years in the making. Kretschmer's theory of temperament was entitled *Physique and Character* and, like Hippocrates and Galen, his work also linked temperament with physical attributes (Harkey & Jourgensen, 2004a:23). Unfortunately, this theory did not find wide acceptance. A variation by William Sheldon (1898-1977) appeared in the 1940s. According to Harkey and Jourgensen (2004a:24), Kretschmer's theory was not popular among other theorists.

Both Rorschach (*Psychodiagnostik*) and Jung (*Psychological Typen*) [sic] published manuscripts on temperament that included the concepts of introversion and extroversion (Joyce, 2010:7). Jung made it clear that functional preferences and types evident in behaviour resulted from inborn factors that appear early in the child's development (Harkey & Jourgensen, 2004a:22). Rorschach, on the other hand, was confident that he could make an objective measurement of introversion and extroversion available. This test was one of the first attempts to measure temperament. Earlier temperamental qualities were ascribed to patients solely on the basis of observations or the clinical judgment of the psychiatrist (Carducci, 2009:115-117; Joyce, 2010:7). According to Brawer and Spiegelman (in Joyce, 2010:7), studies did not confirm the instrument as a valid assessment tool for introversion and extroversion.

5. PSYCHOLOGICAL TEMPERAMENT TYPES

During the **late 20th century** temperament studies were highlighted again. The concept of temperament as an important inborn factor in human development was an idea that, according to Harkey and Jourgensen (2004a:28), was here to stay. Several temperament theories and measures were developed (Rothbart, 2011:17). These theories proposed dimensions that measured opposing qualities and resulted in assigning certain categorical distinctions. Measures included compulsory choice items for two opposing characteristics on each dimension and produced scores that varied from a mild to strong preference for one of the two qualities (Carducci, 2009:47-51; Joyce, 2010:7). The most important contributions on psychological temperament types stem from the theory developed by Jung. Temperament assessment from Jung's viewpoint focuses on identifying particular psychological types (Naidoo, Townsend & Carolissen, 2008:123; Carducci, 2009:145). From his perspective several other theorists developed their theories on psychological types and on the temperament that forms a core ingredient within every type. Jung's theory of temperament will also form the theoretical basis of this study from which a prototype temperament sorter as well as the final product will be developed.

The following discussion focuses specifically on the work of Jung and the theorists Isabel Myers, Karen Briggs and David Keirse, who make use of Jung's work on psychological types to develop their own theory of temperament.

An **attitude** is a person's predisposition to act or react in certain ways. Jung distinguished between **two attitudes**: *introversion* and *extroversion* (Kroeger & Thuesen, 1989:31-39; Briggs Myers, 1998:6-7; Berens, 2000:35-27; Tieger & Barron-Tieger, 2000:11-17; Kroeger, Thuesen & Rutledge, 2002:28-33; Harkey & Jourgensen, 2004a:34-36; Carducci, 2009:145). According to Jung, introversion and extroversion are two general types of temperamental attitudes by which individuals orient themselves in relation to their environment (Briggs Myers, 1998:6-7; Carducci, 2009:145). Jung argued that patients with an extroverted tendency more frequently behaved aggressively with outwardly demonstrative reactions (Rothbart, 2011:24-25). He also noted that patients with hysteria maintained awareness of their external environment when interacting with the therapist. This was considered to be extroversion. Jung argued that introversion was dominant in patients with schizophrenia as they withdrew from their surroundings. Although Jung stated that the historical underpinning of his theory was associated with the early ideas of Hippocrates and Galen, he distinguished his theory on temperament as a psychological typology (Carducci, 2009:145-146; Joyce, 2010:8).

According to Jung, each individual has the ability to function as both introvert and extrovert; however, each one has acquired a tendency to exhibit one of the attitudes over the other. As this attitude is *preferred*, it is used more often and the tendency for either extroversion or introversion becomes increasingly more skilled than the other. Introverts acquire energy from within and focus more on their own thoughts and inner world of feelings. They are introspective and prefer smaller groups. They are also hesitant in new circumstances and prone to make decisions carefully. On the other hand, extroverts are outgoing and more attuned to the environment. Introversion and extroversion can be conceptualised along a continuum. Individuals may vary from strong introversion to slight introversion, and strong extroversion to slighter extroversion (Kroeger & Thuesen, 1989:17-19,159-161; Kise, Stark & Hirsh, 1996:127-130; Briggs Myers, 1998:9; Tieger & Barron Tieger, 2000:14; Tieger & Barron Tieger, 2001:14-17; Kroeger, Thuesen & Rutledge, 2002:27-33; Harkey & Jourgensen, 2004a:35-36; Naidoo *et al.*, 2008:123).

Jung's temperament theory of psychological types also identified two additional oppositions that created **four** psychological **functions**: *sensation-intuition* (how one prefers to acquire or assess information) and *thinking-feeling* (how one prefers to make a decision) (Kroeger &

Thuesen, 1989:26-36; Kise *et al.*, 1996:130136; Briggs Myers, 1998:6-7; Berens, 2000:36-39; Tieger & Barron-Tieger, 2000:17-21; Kroeger *et al.*, 2002:34-41; Harkey & Jourgensen, 2004a:36-37; Naidoo *et al.*, 2008:123-123; Carducci, 2009:145). Refer again to Figure 1 for details.

Each function is characterised by a specific orientation to understanding the events and experiences in the environment. Each of the functions may be exhibited in an extroversion or introversion manner. Within each opposition, one function was used on a conscious level and described as well-developed, while the other function was not used on a conscious level and therefore not described as well developed. Therefore it is clear that only *one* opposing function (e.g. sensing *or* intuition, and thinking *or* feeling) can be operating on a conscious level.

In describing the two functions responsible for *how one prefers to acquire or assess information*, Jung labelled the dimensions **sensation** and **intuition** and conceptualised them as contrasting styles. Sensing and intuition were therefore the opposing ways of gaining information (Harkey & Jourgensen, 2004a:22, 37-38). Intuition entails a holistic approach and focuses on possibilities and concepts with reduced attention to details or facts in the here and now. In contrast, the sensation function prefers facts, direct experience and physical evidence. Sensing is acquired through external stimuli obtain from the five senses in the here and now.

Thinking and **feeling** were demarcated as rational functions *for decision making*. Thinking and feeling were therefore two ways of coming to conclusions about things that needed some decision to be taken (Harkey & Jourgensen, 2004a:22,36; Naidoo *et al.*, 2008:123). Individuals using the thinking function carefully planned their decisions with a preference for objective facts, and logic data. Feeling is a more subjective process. It prefers making decisions based on a personal value system. This attribute creates a sense of liking or disliking, and it therefore leads to either accepting or rejecting a choice (Joyce, 2010:9).

It is clear from Jung's writings that he noted the tendency to choose one attitude or function over another, and this was later termed: *preferences* (Harkey & Jourgensen, 2004a:34). Depending on the combination of temperament components, Jung described **eight**

fundamental patterns of mental activity (Briggs Myers, 1998:7; Keirse, 1998:3; Naidoo *et al.*, 2008:123-124). An individual could therefore be one of eight temperament types. See Figure 2 for details.

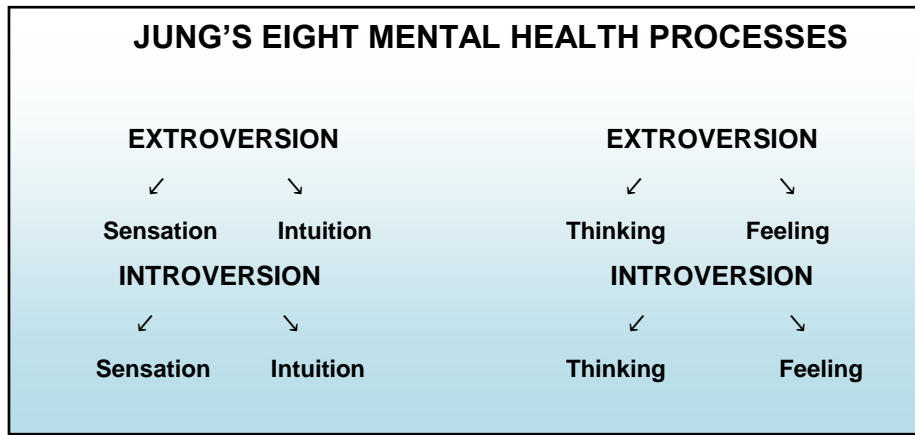


Figure 2: Jung's eight mental health processes

Jung believed these eight mental processes are available to and may be used by everyone, but that people are instinctively different in what they prefer. The natural preference for one of these functions over the others prompts individuals to direct their energy toward it. That results in the development of habits of behaviour and personality patterns characteristics of that function. Jung called people's preferred mental process their *dominant function* (Meisgeier & Murphy, 1987:5-6; Briggs Myers, 1998:7).

Jung's ideas on temperament were only one aspect of his life's work (Naidoo *et al.*, 2008:122). His temperament theory enjoyed a noteworthy period of recognition and, according to Joyce (2010:11), it became the groundwork of several current temperament and personality measures. Jung's unique contribution might be his belief that the principle source of neurosis - negative emotions such as anxiety, depression and mental illness – resulted from the efforts of parents to change the child's natural type (Harkey & Jourgensen, 2004a:23). He assumed that this was most likely to occur when parent and child types or preferences differ strongly and he therefore argued that most parent-child conflict resulted from type differences and the unwillingness of parents to honour these (Hall & Nordby, 1973 in Harkey & Jourgensen, 2004a:23).

5.2 Myers and Briggs' Theory of Temperament

In 1929 Katherine C. Briggs (1875-1968) read a review of a translation of Jung's *Psychological Types*. Because of her intuitive interest in the development and individuality of children, as well as aspects of affecting parenting, she appreciated Jung's viewpoint on psychological types. Briggs became a Jung enthusiast and spent the next 20 years studying his work and testing his theories against her own observations (Joyce, 2010:11). She was persuaded that Jung's theory was of great value to all persons interested in understanding themselves and others. Briggs shared her interest with her daughter Isabel and both were convinced that Jung's theory was sound and practical. Although neither of these women was a psychologist, nor had they even taken a course in psychology, they started their own thorough research on Jung's theory (Myers-Briggs Training Manual, 2001:20).

Through extensive work on this matter, Myers and Briggs added a **fourth** dimension: **judging** and **perceiving**, to Jung's theory (Myers, McCauly, Quenk & Hammer, 1998:3; Carducci, 2009:145-146). Judging or perceiving were concepts to describe *how individuals structured their lives as they related to the outside world* (Myers & Myers, 1991:8; Myers-Briggs Training Manual, 2001:19). Refer to Table 2.4 for detail.

Table 2.4 Jungian and Myers-Briggs Dimensions (in Joyce, 2010:13)

Jungian and Myers-Briggs Dimensions	
ENERGY ORIENTATION (<i>Attitude</i>)	
Extroversion (E)	Introversion (I)
Renew energy from external or outer world of people and objects, foster attachments quickly, shares ideas readily.	Renew energy from inner world of thoughts and introspection; prefer solitude or small groups, self-reflection.
PERCEPTION OR LEARNING PROCESSES (<i>Function</i>)	
Sensing (S)	Intuition (N)
Acquire information from five senses; real life, concrete experiences dominate; practical, realistic, pragmatic, detail-oriented.	Holistic assimilation of information; value insight, ideas, theories, interested in patterns with less attention to details.

DECISION-MAKING PROCESSES (Function)	
Thinking (T)	Feeling (F)
Deliberate decisions based on facts, logic, objective data; emphasize principles of justice and truth in decision; seek fairness.	Decisions made with emphasis on subjective values such as empathy and well-being of others; seek harmony.

ENVIRONMENT OR LIFESTYLE ORIENTATION (Attitude)	
Judging (J)	Perceiving (P)
Prefer structure in daily interactions with outer world; like routines, organization, schedules, planning ahead; seek closure on projects.	Prefer to approach the outer world in a spontaneous and flexible manner, tolerant, adaptive; like to keep options open.

Although Jung stated that he observed differences in individuals' preferred attitude to life, the Myers-Briggs team formulate and developed a scale to measure this attitude (Van Rooyen, De Beer & Proctor, 2001:21). In 1942 Briggs and her daughter Isabel Myers (1896-1980) designed test items for an instrument to measure Jung's psychological types. In 1962 they published the *Myers-Briggs Type Indicator* (MBTI) (Van Rooyen, De Beer & Proctor, 2001:7; Harkey & Jourgensen, 2004a:34). Myers and Briggs stated that the purpose of *The Myers-Briggs Type Indicator* was to make the theory of psychological types as described by Jung (1875-1961) "understandable and useful in people's lives" (Myers *et al.*, 1998:1). Their vision was to "enable individuals to grow through an understanding and appreciation of individual differences in healthy personality and to enhance harmony and productivity among diverse groups" (Myers *et al.*, 1998:xv).

The MBTI is a combination of Jung's three dimensions and Briggs's fourth dimension to interpret the 16 types (refer to Tables 2.4 and 2.5 for more details). The 16 types can each be interpreted with an understanding of which dimensions are dominant, auxiliary or tertiary (Briggs Myers, 1998:7; Carducci, 2009:146).

Table 2.5 The 16 Psychological Types in the MBTI (in Joyce, 2010:12)

ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP	INFP	INTP
ESTP	ESFP	ENFP	ENTP
ESTJ	ESFJ	ENFJ	ENTJ

The Myers-Briggs partnership produced considerable research on the utility of the MBTI (Van Rooyen, De Beer & Proctor, 2001:7, 126-130, 136-137). They conceptualised the MBTI mainly as a method for understanding individual differences *rather than an instrument to measure pathology or abnormal behaviours* (Harkey & Jourgensen, 2004a:41; Joyce, 2010:12). They intended the MBTI to assist and guide parents, students, counsellors, clinicians, clergy, teachers and all who are concerned with understanding human potential (Martin, 1995:vii).

The MBTI is used worldwide to assist people in gaining self-insight and awareness of how their preferred behaviour may complement or differ from the behaviours of others (Briggs Myers, 1998:7; Van Rooyen, De Beer & Proctor, 2001:7). After more than 60 years of research and development, the current MBTI is the most commonly used instrument for understanding normal temperament styles and personality differences (Briggs Myers, 1998:5). The benefits of using the MBTI on both an individual or organisational level are stipulated in the Myers-Briggs Training Manual (Van Rooyen, De Beer & Proctor, 2001:7-8).

Katherine Briggs's valuable contribution lies in her recognition of the worth of Jung's works on understanding the uniqueness of behaviour. The value of Isabel Myers's contribution lies in her ability to take Jung's typology and make it accessible to ordinary people through *The Myers-Briggs Type Indicator* (Van Rooyen, De Beer & Proctor, 2001:20).

The concepts of Jungian and Myers-Briggs temperament typology through the dimensions of functions and attitudes (refer to Tables 2.4 and 2.5) are now widely recognised (Keirse, 1998:3). According to Keirse (1998:14), the MBTI is a very useful tool for people around the world to learn and understand more about themselves. In America the MBTI measure is utilised by psychologists as well as counsellors, social workers and other health providers. The MBTI publisher, Consulting Psychology Press (CPP), reported it to be the most widely administered personality assessment with an annual distribution of over two million copies worldwide (Carducci, 2009:146-148; Joyce, 2010:12).

In South Africa the MBTI is administered by Jopie van Rooyen and Consultants and is of particular value in contexts of change and diversity, as is found in Southern Africa (Van Rooyen, De Beer & Proctor, 2001:7). Unfortunately in 2006 this instrument, intended by

Myers and Briggs to be used by all health professionals, was reserved in South Africa only use by for psychologists or students of Psychology. According to the Myers-Briggs Training Manual (2001:8-9), the MBTI is:

- A non-judgemental self-report instrument;
- An indicator of preferences (types) rather than traits;
- A dynamic description of personality (it does not prescribe);
- A way to sort people for better understanding (does not compare people by measurement);
- Accepts that all preferences are all equally valuable;
- Accepts that all people are unique;
- Accepts that people are continually developing and can participate in their own development;
- Accepts that people know themselves best and can agree or disagree with their profile;
- Is very well researched and rich in theory.

5.3 Keirsey’s Theory of Temperament

During the 1970s David Keirsey, an educational psychologist, published a manuscript providing a short, self-scoring temperament measure, *The Keirsey Temperament Sorter* (Keirsey, 1998:4-12). This instrument consists of the MTBI’s 16 psychological types (Keirsey & Bates, 1978:33; Keirsey, 1998:10-13; Struwig, 2006:37). Keirsey argued for a revised interpretation of the original Jung-Myers-Briggs temperament model that groups the 16 psychological types into **four temperament clusters** for interpretation. Refer to Table 2.6.

Table 2.6 Keirsey’s Temperament Sorter Types (in Joyce, 2010:15)

Keirsey’s Temperament Sorter Types (1978 & 1998)			
Sensing-Perceiving	Sensing-Judging	Intuition-Thinking	Intuition-Feeling
Artisan	Guardian	Rational	Idealist
SP	SJ	NT	NF
ESTP	ESTJ	ENTJ	ENFJ
ISTP	ISTJ	INTJ	INFJ
ESFP	ESFJ	ENTP	ENFP
ISFP	ISFJ	INTP	INFP

Keirsey noted that this structure was suggested by Myers (Keirsey, 1998:15). Keirsey acknowledges that each of the four temperament groups within a cluster has differences, but the predominant similarities are considered more important (Keirsey, 1998:18-20, 28-31). Keirsey and Bates (1978:26) proposed that four core types exist and that “the real usefulness of the types comes not in memorizing the sixteen portraits, but in understanding the temperamental base of the type”.

Keirsey’s four temperament clusters include sensing-judging, sensing-perceiving, intuition-thinking and intuition-feeling (Keirsey, 1998:18-20). When referenced within his model (see Table 2.4), those with **sensing-perceiving (SP)** preferences are characterised as persuasive, easy-going, adaptable, tolerant, artistic, open-minded and athletic. With a strong need for freedom, they prefer to discover and to explore new experiences. The **sensing-judging (SJ)** temperament is characterised as dutiful, highly productive and responsible, with a strong work ethic. They tend to be more patient, conservative and stable. They feel secure within a tradition and need a sense of belonging. They prefer to learn in a sequential or chronological manner and thrive in well-defined roles and routines. The **intuitive-thinking (NT)** temperament is described as analytical, rational, systematic, scientific and research oriented. They are competent in their achievements and have a strong drive for success. They can also be perfectionistic, inquisitive and at times compulsive. They tend to stress work before recreation. The **intuitive-feeling (NF)** temperament tends to act in intuitive, caring, friendly and empathic ways. Their core value is personal integrity and self-actualisation. They often react passionately to social causes and the impact of actions on humanity (Keirsey, 1998:18-20).

After Keirsey spent more than 20 years refining his temperament theory, he published the revised *Keirsey Temperament Sorter* (Keirsey, 1998:4-11), and a shorter version, the *Keirsey Four-Types Sorter* (Keirsey, 1998:348). His current model is ecometric (Struwig, 2006:123, 265) and is often utilised in business. There is a self-administrated version available online (<http://keirsey.com>).

6. TEMPERAMENT THEORIES EMBEDDED IN BROAD PERSONALITY MEASURES

While the concept of temperament played a central role in personality research, according to Rothbart, Sheese and Conrardt (2009:178), it has not always been a popular topic in developmental research. More recently, the understanding that the parent-child influence is not only from parent to child but also from child to parent resulted in a renewal of interest in temperament. Rothbart *et al.* (2009:179) noted: “Children bring much to interactions with their families and a large part of what they bring is related to temperament” (2009:179). Research on temperament in childhood includes many **personality instruments** that combine one or more dimensions from temperament theory (Rothbart *et al.*, 2009:179-180; Joyce, 2010:15; Rothbart, 2011:21). These instruments developed from the work of Francis Galton (1809-1882), Karl Pearson (1857-1936), Charles Spearman (1863-1945), Gordon Allport (1897-1967), Raymond Cattell (1905-1998) as well as Hans and Sybil Eysenck (1916-1997). They include the following: *Sixteen Personality Factor Questionnaire* (16PF), the *Five-Factor-model* (FFM), *The Revised NEO Personality Inventory* (NEO-PI-R), the *Eysenck Personality Questionnaire* (EPO), the *Eysenck Personality Questionnaire-Revised* (EPQ-R) and the *Minnesota Multiphasic Personality Inventory* (MMPI-2).

Joyce (2010:16) highlighted the fact that the measures from above-mentioned instruments differ from temperament measures (MBTI and Keirsey instrument) in a number of ways:

First, many are considered atheoretical as the inclusion of items and scales was first determined based on empirical statistical methods rather than preconceived philosophical constructs. Secondly, they measure a broader spectrum of personality traits than temperament measures do. In addition, they often include characteristics noted as symptoms of pathology and are utilized in mental health diagnoses based on the Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria....these instruments typically yield continuous scores rather than categorical, and this facilitates comparisons of particular traits to clinical populations as well as evidence of improvement for treatment outcomes.

According to Nichols (2001:16), personality measures designed for clinical populations “related highly with other personal maladjustment and mental health syndromes. Therefore they may not be the best measures of core temperament qualities, such as introversion or extroversion, for the general population”. The above-mentioned instruments will not be the focus of attention in this study as they are more concerned with broader personality traits with the intention of highlighting any form of pathology. Nonetheless, these clinical studies and research outcomes did reflect useful data on temperament.

Joyce (2010:20) notes that early temperament theories were mostly conceptualised on the basis of the behaviours of adults. Therefore adult temperament studies tended to be isolated from research and thinking about temperament in children (Rothbart, 2011:17). However, early theorists did acknowledge the expression of temperament in early childhood. The following discussion will focus on temperament assessment of children.

7. TEMPERAMENT THEORY AS APPLIED TO THE ASSESSMENT OF CHILDREN

Jung (1928/1945) noted that the “*differentiation of type begins often very early, so early that in certain cases one must speak of it as innate*” (in Joyce, 2010:20). According to Jung, the way infants adapted to their surroundings was an early indicator of their temperament (Harkey & Jourgensen, 2004a:22-23). Readily interacting with others and with objects and quick adaptation to their environment were interpreted as early indicators of extroversion. Thoughtful reflection before acting, shyness and fearfulness towards unknown objects were key indicators of introversion (Jung, 1928 in Rothbart, 2011:24). As one of the earliest systematic observers of infant development, namely Gesell (1928 in Rothbart, 2011:26), followed the development of hundreds of children, filming their behaviour at the Yale Laboratory for the Study of Human Development. His extensive research described individual differences in temperament and upbringing, which together would influence the child’s emerging personality (Rothbart, 2011:2).

Temperament and personality measures discussed above recognise the early appearance of temperament and both adolescent and child versions have been published (Joyce, 2010:20). The MBTI is recommended for ages 14 years and over (Myers, McCaulley, Quenck &

Hammer, 1998:13). A parallel instrument, the Murphy-Meisgeier Type Indicator for Children (MMTIC), was created by the educators Elizabeth Murphy and Charles Meisgeier (Meisgeier & Murphy, 1987:1-2). After reading Keirsey's book *Please Understand Me* (1978), Murphy became interested in finding ways to present the MBTI for children (Keirsey & Bates, 1978; Meisgeier & Murphy, 1987:1-2; Meisgeier, Murphy & Meisgeier, 1989:1-2). Meisgeier was particular keen on promoting special education services in order to better understand children's learning abilities and hence his interest in psychological types (Joyce, 2010:21).

The current version of the MMTIC assesses temperament types based on the Jungian-Myers-Briggs theory for children ages 7 to 14 (Murphy & Meisgeier, 2008:3). As in the case of the MBTI, in South Africa this instrument has also been available only to psychologists since 2006. An online version of Keirsey's instrument, the *Keirsey Temperament Sorter 11, Student Version* (<http://keirsey.com>) is available.

In the 1990s Thomas Oakland developed the *Student Styles Questionnaire* (SSQ), which measures temperament in children ages 8 to 17 (Oakland, Glutting & Horton, 1996 in Joyce, 2010:30). This instrument is also based on the theoretical constructs of the Jungian-Myers-Briggs theory and therefore it can be interpreted in the same way as the MBTI (Joyce, 2010:21). The SSQ referred to the Jungian terms of Sensing and Intuition as *practical* and *imaginative*. The Myers-Briggs terms of Judging and Perceiving are referred to as *organised* and *flexible*. The SSQ also differentiates between three different methods of interpretation namely: the eight basic styles (extroversion-introversion, practical-imaginative, thinking-feeling, and organised-flexible), the Keirsey temperament model (practical-organised, practical-flexible, imaginative-thinking, imaginative-feeling) and the 16 MBTI type combinations.

7.1 Children's behavioural temperament measures

Several new perspectives developed as a result of the interest in temperament measurements for younger children (Joyce, 2010:23). These theories measure different constructs with assessment methods which include an emphasis on *parent questionnaires*, *interviews* and *observational data* (Rothbart, Sheese & Conrard, 2009:179; Rothbart, 2011:38-46). A few clinical studies and research projects need to be highlighted below because of their important

contribution towards understanding temperament in children and they play a key role in the critical discussion of the aim of this study.

7.1.1 Temperament Theory of Alexander Thomas and Stella Chess

Thomas and Chess and their colleagues are responsible for the best known studies on temperament in children (Rothbart, 2011:31, 34-38). The research conducted by Alexander Thomas (1914-2003) and his wife Stella Chess (1914-2007) provided a framework for understanding the temperament of children (Thomas & Chess, 1977:18; Joyce, 2010:23).

The New York Longitudinal Study (NYLS) in the early 1950s gathered data on 141 children from infancy. Their methods of data gathering included interviews with teachers, parental questionnaires and observations. In reviewing their data, nine traits were identified: activity level, rhythmicity, approach-withdrawal, adaptability, threshold of responsiveness, intensity of reaction, quality of mood, distractibility, and attention span or persistence (Rothbart, Sheese & Conradt, 2009:179; Rothbart, 2011:35). Two instruments, the *Parent Questionnaire* and the *Teacher Temperament Questionnaire*, resulted from the NYLS (Joyce, 2010:24).

The NYLS findings appeared at a time when researchers in social development became much more aware of children's own contributions to their development. This laid the groundwork for the study of temperament in children. The NYLS researchers argued that children's qualities were not simply a consequence of their parents' treatment, and therefore social influences flow from child to parent as well as from the parent to the child (Harkey & Jourgensen, 2004a:29; Rothbart, 2011:31,33-34). The researcher's own interpretation will be that children differ from each other from infancy onward and are active agents in their own development. Therefore a one-size-fits-all parenting style won't be the answer.

Chess and Thomas highlighted the importance of understanding child temperament in their ground-breaking work in linking certain temperament trait clusters with long-term consequences (Rothbart, Sheese & Conradt, 2009:180; Joyce, 2010:24). They identified three core temperament patterns: *easy*, *slow-to-warm-up* and *difficult* (Keogh, 2003a:21; Rothbart, Sheese & Conradt, 2009:180; Rothbart, 2011:35,37; Wachs & Kohnstamm, 2001:24-26):

EASY	SLOW-TO-WARM-UP	DIFFICULT
Children with an <i>easy</i> temperament established regular routines quickly, were cheerful, and adapted easily to new circumstances. The parents described these children as very contented and easy-going.	The <i>slow-to-warm-up</i> children were noted as cautious with strangers, wary, more often in a negative mood, and exhibited slow adjustment to new circumstances.	Children with the <i>difficult</i> behavioural pattern experienced irregular routines with problematic sleep cycles, were slow to adapt to new stimuli, and more often reacted negatively

The researcher's own interpretation linked with the Jungian-Myers-Briggs theory is as follows:

EASY	SLOW-TO-WARM-UP	DIFFICULT
Children with an easy temperament links with the preferences <i>extroversion</i> and <i>perceiving (flexible)</i> as in the Jung and Myers-Briggs theory.	Children with slow-to-warm-up temperament links with the preferences <i>introversion</i> and <i>judging (structured)</i> as in the Jung and Myers-Briggs theory.	Children with a difficult temperament links with preferences <i>introversion</i> , <i>sensing/intuition</i> , and <i>judging</i> as in the Jung and Myers-Briggs theory.

In reviewing the long-term consequences, easy children had the best prognosis (Rothbart, Sheese & Conrard, 2009:180; Rothbart, 2011:35,37). According to Rothbart (2011:37), nearly half of the slow-to-warm-up children experienced certain psychological adjustment problems during their lifespan. When growing up, 70% of children identified as having a difficult temperament experienced negative effects. The longitudinal study by Thomas and Chess points to the value of early child temperament assessment (Joyce, 2010:25).

Thomas and Chess made another valuable contribution to the understanding of temperament that is particular of great importance for this study. They introduce the concepts of *goodness-of-fit* and *poorness-of-fit* in relation to the parent-child interaction (Rothbart, 2011:35-36).

A good fit exists when both parent and child share similar temperaments. The child effortlessly meets the expectations of the parent. The researcher's own interpretation is that in case of a *goodness-of-fit* situation, children can comfortably be at ease in their environment. They can therefore undeviatingly use their energies to develop their own preferences. Joyce (2010:26) noted that, when both parent and child share the same temperament, the parents

could easily embrace the child's strengths and intuitively understand the child. The researcher is of the opinion that these factors generate a harmonious setting for the child and will enhance positive interaction between parent and child.

In a situation where the parent and child have different temperaments, it could easily lead to a *poorness-of-fit* situation, where both parent and child have competing needs on a daily basis (Thomas & Chess, 1989:9). The researcher's own understanding of *poorness-of-fit* is that a situation arises when a parent expects the child to behave in ways in conflict with the child's temperamental style. Children will then miss out on opportunities to develop their inborn strengths and this in turn increases the risks of maladaptive expression of temperament, for example, irritability and externalised aggression. A personal interpretation from the researcher's own experience within her private practice is that if parents do understand their children's temperament, this contributes towards parents' adjusting the expectations they have for their children according to the child's unique process. Robinson (2005:64, 65) and Penley (2006:177) noted that parents will then have a better knowledge as to when to be firm and when to be more supportive.

This situation correlates with Jung's concept of the *falsification of type* (Meisgeier & Murphy, 1987:7). Jung suggested that whenever persons are able to express their natural preferences, their psychological health is promoted (Joyce, 2010:10). Myers and Myers (1980) argued that parents' assumptions that their children's temperamental differences reflect inferior behaviour can result in conflict between parent and child (Tieger & Barron-Tieger, 1997:11-13; Joyce, 2010:26) and that the child should be a copy or clone of the parent (own interpretation). Kagan and Snidman (2004:218-219) suggest that society may also interpret these differences as personal flaws. The researcher assumes that such reactions can cause children to try and change their temperamental patterns of behaviour (behavioural style) accordingly to fit in with their environment.

Differences in temperament not always result in a *poorness-of-fit* situation (Tieger & Barron-Tieger, 1997:13; Joyce, 2010:26; Rothbart, 2011:36). If the parents recognize rather than disparage the child's differences and allow the child to express his or her needs, a good fit can be achieved within a situation where temperamental differences between parent and child occur (researcher's own interpretation).

7.1.2 Temperament Theory of Arnold Buss and Robert Plomin

Based on the NYLS research, Buss and Plomin created their version of temperament theory in the early 1970s (Joyce, 2010:27). They argued that indications of temperament need to meet five criteria: heritability, stability, retention to maturity, adaptive value, and present as a trait in animals. Their extensive studies resulted in the identification of four qualities: activity, emotionality, sociability and impulsivity, which were supported both by their five criteria and the factor analysis. They then published the *EASI Temperament Survey* (EASI) (Buss, 1989:49-58). Further analysis of EASI data resulted in the publication of the Colorado Childhood Temperament Inventory (CCTI) (Rowe & Plomin, 1977 in Joyce, 2010:27). Their theory was revised to include a sixth primary temperament criterion: *presence of the trait early in life* while the criterion: *impulsivity* was dropped from their scale. They renamed their questionnaire the *EAS Temperament Survey for Children* and the *EAS temperament Survey for Adults* (Buss, 1989:49-58).

7.1.3 Temperament Theory of Mary Rothbart

Other scholars follow in the footsteps of Chess and Thomas and continue to investigate bio-behavioural constructs in early childhood (Joyce, 2010:28). Rothbart (2011:47-49) focused on reframing the notion of temperament and conceptualised the concepts of reactivity and self-regulation in infants. She developed the *Infant Behavioural Questionnaire* as a measure of these constructs. Data are mainly obtained from interviews with parents (Rothbart, 2011:51-52). Noteworthy data that confirmed the importance of acknowledging temperament in assessing children emerged from her and her colleagues' work.

7.1.4 Other Theorists

After extended research Goldsmith and Campos (1986:231-283) defined temperament to stand for primary emotions: fear, anger, sadness, pleasure. The *Toddler Behaviour Assessment Questionnaire* (TBAQ) was published and they also designed the *Laboratory Temperament Assessment Battery* (LAB-TAB), which standardised procedures for infants and toddlers within a laboratory setting (Goldsmith, 1996:218-235).

Neisworth, Bagnato, Salvia and Hunt (1999 in Joyce, 2010:29) devised the *Temperament and Atypical Behaviour Scale* (TABAS), which consists of the four scales: detached, hyper-sensitive/active, underactive and deregulated. It focuses on the measurement of

characteristics such as attachment, reactivity and self-regulation. Kagan anticipated a strong mutual relationship between biology and environmental influences to produce inhibited and uninhibited temperaments (1994:265; Vasta *et al.*, 2004:456). Inhibited children are considered vulnerable to anxiety-related difficulties. They exhibit shyness and with a quiet watchfulness they tend to remain at the perimeters of social interactions. Uninhibited children react spontaneously in social interactions and engage easily with others through smiling and talking. Kagan's work continues to this day as he encourages a broader perspective in research for understanding the shaping influences on human development (Joyce, 2010:29). The above-mentioned instruments are categorised as psychometric instruments that focus mainly on traits and are used world-wide by psychologists.

8. SUMMARY

The literature study that this chapter reports on forms part of Phase 2 of the D&D model and two objectives identified for the study were addressed. The focus was on exploring and describing different components required within the practice-based ecometric model and the different dimensions required for the ecometric temperament sorter.

Temperament is a term that has been used to describe people since ancient times. From as early as ancient Greece, there was recognition that individuals differ from each other and that these differences influence behaviour. Jung can be regarded as doing pioneering work with regards to personality and temperament. Theoretically, it appears to be difficult to differentiate between the terms 'temperament' and 'personality' because so many aspects are similar. In spite of this, certain theorists such as Isabel Myers and Karen Briggs, Keirsey, Thomas and Chess, Buss and Plomin, and Mary Rothbart as well as other researchers have succeeded in demarcating temperament as an understandable concept that sheds light on the basic characteristics of the behaviour which is already present in the young child and which greatly influences behaviour.

Research in temperament highlights the importance for therapists, social workers, parents, caregivers and educators of accommodating these differences within the child rather than forcing the child to change his or her behaviour so as to fit in with society. Over the years

quite a few temperament sorters have been developed which identified different temperament personalities of adults as well as of children. With this knowledge, an attempt has been made to empower therapists, social workers, parents, caregivers and educators by giving them a better understanding of the adult as well as the child, and in doing so create an environment where maximum development and functioning can take place. Unfortunately these important instruments – especially the MBTI and MMTIC (type instruments) – are not available to all therapists in general (e.g. social workers and counsellors) because here in South Africa they are exclusively available to psychologists.

From the literature study above it is clear that an ecometric temperament sorter to determine temperament and preference functions in children in the late-latency and pre-adolescent period (9-15 years) is currently not available. Therefore there is a gap in the field which this study will attempt to address.

Because Jung's temperament theory on psychological types served as the theoretical framework for this study, further emphasis will be placed in the next chapter on exploring and identifying the basic dimensions of temperament with a specific focus on the Jungian-Myers-Briggs and Keirsey temperament theory. These dimensions will be used as the relevant dimensions within the prototype ecometric temperament sorter.

Chapter Three

Phase 2:

Exploring and identifying the basic dimensions of temperament with a specific focus on the Jungian-Myers-Briggs and Keirsey temperament theory

1. INTRODUCTION

While researchers may tend to agree on the basic definition of temperament, they tend to differ on the types of temperament styles. Temperament is about the *style*, not the content of behaviour. It indicates *how* children react and behave rather than *what* they do in a situation. It refers to the manner in which children show their likes and dislikes. One child will react definitely and intensely, and another more quietly and gently. Therefore the focus is not on whether they do or do not like something. Researchers indicate that an individual temperamental style tends to remain similar across a lifespan (Halverson, Kohnstamm & Martin, 1994:209; Wachs & Kohnstamm, 2001:25). The types of temperament styles refer to the different basic *dimensions* of temperament. Temperament studies usually focus on four dimensions: activity, reactivity, emotionality, and sociability (Kagee & Townsend, 2008:144). But not all temperament characteristics fit neatly into these four dimensions. An intensive literature study has revealed that many more dimensions are applicable and various researchers have identified their own different dimensions for their studies.

This chapter focuses on exploring and identifying the dimensions in different temperament theories and forms part of Phase 2, Step 3 of the D&D model (refer back to Table 2, Chapter 1 for details). The following objective was addressed:

- To explore and describe the various dimensions required within an ecometric temperament sorter.

Because of the scope of this study, and the fact that so many theories are available, the researcher chose to focus only on the dimension criteria of the theories of Thomas and Chess, Rothbart, Eysenck, Buss and Plomin, Keirsey, and the Jungian-Myers-Briggs team. The dimension criteria developed from the theory of Jung by the Myers-Briggs team and Keirsey will be used to establish the dimensions in the development of the temperament sorter for this study. Therefore more emphasis will be placed on describing these criteria for ascertain the dimensions. Finally a comparison will be made to see how the dimensions of the Jungian-Myers-Briggs and Keirsey theory compare with those of the other theories.

2. THE BASIC DIMENSIONS OF TEMPERAMENT

Temperament consists of different dimensions. According to the *Collins Pocket Dictionary and Thesaurus* (2003:177) the word *dimension* means “the measurement of the size of something in a particular direction”. After a thorough literature study, the researcher’s own understanding of the usefulness of the term dimension for this specific study is as follows: By identifying the specific dimensions, temperament can be unpacked for better understanding and measuring. The literature study also indicates that the term *factor* is used interchangeably with dimensions (Keirsey, 1998:18; Joyce, 2010:25-27; Rothbart, 2011:33-35). That correlates with the fact that the word *dimension* in the *Collins Pocket Dictionary and Thesaurus* (2003:177) is also referred to as *aspect* or *factor*. According to Kohnstamm, Bates and Rothbart (1989:135), a dimension represents a *continuum with two opposites* and indicates a high score on the one end and a low score on the other. The specific score on the continuum of a specific dimension reflects the uniqueness of one’s temperament style (Wachs & Kohnstamm, 2001:24-26).

Researchers make use of three methods to measure temperament, which they sometimes use singly and sometimes in combination. These methods are: a) questionnaires on characteristic behaviours in everyday situations; b) observation of children’s behaviour in a naturalistic situation, such as during play; and c) systematic or controlled observations of behaviour in laboratory situations (Prior, Sanson, Smart, & Oberklaid. 2000:2; Rothbart, 2011:38-40).

The discussion below makes it clear that different researchers used different ways to unpack the notion of temperament during the measuring process. Some made use of further clarification through additional *categories* and *clusters*.

2.1. Temperamental dimensions according to Thomas and Chess

Reacting against the idea that individual differences were only the result of parenting, and inspired by differences they observed among their own adopted children, the researchers Chess and Thomas set out to study infants' reaction patterns in the *New York Longitudinal Study* (NYLS). Collective data from interviews with 22 parents of 3-6-month-old infants were analysed and summarised. Parents were asked about their infants' reactions in everyday situations including feeding, diaper changing, playing and bathing. This process formed part of Thomas and Chess's study to look beyond parents' general judgement to the concrete behaviours of the child that supported the parents' opinions (Thomas & Chess, 1977:23; Rothbart, 2011:34). The nine categories that emerged from their content analysis represent the nine NYLS temperament dimensions (Chess & Thomas, 1996:31-35; Joyce, 2010:25; Rothbart, 2011:35). These were labelled as:

Activity level	<ul style="list-style-type: none"> • The level, tempo and frequency of motor activities.
Rhythmicity	<ul style="list-style-type: none"> • The regularity and predictability of sleep, hunger, feeding and elimination.
Approach-withdrawal	<ul style="list-style-type: none"> • The child's first response (positive or negative) to novel objects, persons or situations.
Adaptability	<ul style="list-style-type: none"> • The ease or difficulty of adapting responses to new or altered situations in the direction desired by the caregiver.
Threshold or responsiveness	<ul style="list-style-type: none"> • The intensity of stimulation required for the child to respond to social contact, sensory stimulation and environmental objects.
Intensity of reaction	<ul style="list-style-type: none"> • The energy level of the child's reaction, regardless of the kind of reaction or stimulation.
Mood	<ul style="list-style-type: none"> • The amount of joyful, pleasant and friendly behaviour in comparison with unpleasant, crying and unfriendly behaviour.
Distractibility	<ul style="list-style-type: none"> • The changes in direction of the child's behaviour in response to external stimulation.
Attention span and persistence	<ul style="list-style-type: none"> • The duration and extension of the child's activities even when the child has become frustrated.

The data analysis of over 100 families was later added to the NYLS (Rothbart, 2011:35), from which Chess and Thomas (1996:35-39; Rothbart, 2011:36-38) then distinguished three major *clusters*:

Difficult	<ul style="list-style-type: none"> • These children can be described as withdrawn, having mostly negative moods, inadaptable to change, intense, and irregular.
Easy	<ul style="list-style-type: none"> • These children are approachable, high in regularity, adaptable, mild and predominantly positive in mood.
Slow-to-warm-up	<ul style="list-style-type: none"> • These children tend to react shyly at first. They withdraw with low intensity in their reactions. Over time they show adaptability to change.

Chess and Thomas (1996:52) further developed the important concept of ‘goodness of fit’. They define **goodness-of-fit** as the situation where the child’s capacities, motivations and behaviour style are in harmony with the environmental demands and expectations. According to Thomas and Chess, a given situation will be a better fit for some children than for others, depending on the child’s temperament. Carey and McDevitt (1995:14-15) and Rothbart (2011:36) identify certain characteristics to take into consideration when goodness-of-fit is evaluated:

- | |
|---|
| <ul style="list-style-type: none"> • The strength and duration of the temperament characteristics • Other characteristics of the individual • The environment • The outcome |
|---|

The goodness-of-fit model demonstrates that two children with the same temperamental characteristics may have very different outcomes, depending on the demands of their particular environments. This aspect will be further addressed in Chapter 4.

2.2. Temperamental dimensions according to Mary Rothbart

Intrigued by the responses of children who show consistency and stability over time, Rothbart and her team of researchers used the data analysis from their Infant Behaviour Questionnaire (IBO) completed by parents as well as the results of laboratory and home observations to identify three broad dimensions of temperament (Rothbart, Sheese & Conradt, 2009:175-178; Rothbart 2011:41-59). They categorised and *clustered* these data and finally labelled them as follows:

- **SURGENCY.** This relates positive to extroversion and high activity, combines a character toward positive emotions and rapid approach to potential rewards (Rothbart, 2011:52).

- **Activity level:** Level of gross motor activity – for example, runs rather than walks from room to room.
- **Approach; positive anticipation:** Amount of excitement about expected pleasurable activities – for example, shows great excitement when opening a present.
- **High-intensity pleasure:** Amount of pleasure or enjoyment – for example, likes to go high and fast when pushed on a swing.
- **Impulsivity:** Speed of response initiation – for example, often rushes into new situations.
- **Shyness:** Slow and inhibited approach in situations involving originality, newness or uncertainty – for example, prefers to watch rather than join other children playing.
- **Smiling and laughter:** Amount of positive reaction in response to changes in stimulus intensity and strangeness – for example, smiles when looking at picture.

- **NEGATIVE AFFECTIVITY.** This dimension identified the child's level of distress to elicitors of fear and frustration (Rothbart, 2011:54).

- **Anger/Frustration:** Amount of negative affect to interruption of goal blocking – for example, gets angry/frustrated when told to go to bed.
- **Discomfort:** Amount of negative affect related to sensory stimulation – for example is bothered by light or colour that is too bright.
- **Falling reactivity and soothability:** Rate of recovery from distress or excitement – for example, rarely cries for more than a couple of minutes at a time.
- **Fear:** Amount of negative affects including unease, worry, and nervousness – for example, is afraid of the dark.
- **Sadness:** Amount of negative affect and lowered mood related to disappointment, and object loss – for example, cries sadly when a favourite toy gets lost or broken.

- **EFFORTFUL CONTROL.** Although inhibitory control is not seen in early infancy, Rothbart and her team found a broad factor involving attention shifting in adults as well as among pre-school ages, primary-school ages and early adolescents (Rothbart, 2011:57).

- **Attention focusing:** Tendency to maintain attention focus upon task-related channels – for example, when drawing or colouring in a book, the child shows strong concentration.
- **Inhibitory control:** The ability to plan and to suppress responses – for example, can easily stop an activity when he or she is told to.
- **Low intensity pleasure:** Amount of enjoyment related to situations involving low stimulus intensity and strangeness. For example enjoys sitting on parents lap.
- **Perceptual sensitivity:** Amount of detection of slight, low-intensity stimuli from the external world. For example notices even little specks of dirt on objects.

From data analysis following the study of 231 Finnish children by means of Rothbart's IBO, Komi, Raikkonen, Pesonen, Heinonen, Keski-Vaara and Strandberg (2006:498-503; Herzberg & Roth, 2006:16-18) distinguished three major *clusters*:

- **Resilient children.** They were not very fearful, show self-confidence and high effortful control (ability to concentrate on tasks).
- **Over-controlled children.** They were fearful (shy), less surgent (more introverted), and higher in effortful control.
- **Under-controlled children.** They were expected to be high in surgency and in negative emotion, and low in fear and effortful control that inhibited impulsivity and aggression.

2.3. Temperamental dimensions according to Eysenck

According to Eysenck, temperament refers to the genetically based and inborn aspects of personalities (Sheppard, 2000:1). Eysenck relied solely on the works of Hippocrates, Galen and Jung to guide his thinking on the identification of dimensions (Carducci, 2009: 284). His two dimensions can be seen as two axes of the extroverted/introverted and emotional/stable quadrants (Carducci, 2009:284,286), and they correlated strongly with the four temperaments of Hippocrates (Vogel, 2003:24):

- **Stable extraverts.** They correlate with *sanguine* temperament described by Hippocrates, and show qualities such as being sociable, outgoing, talkative, responsive, easy going, lively, carefree and demonstrating leadership qualities.
- **Emotional extraverts.** They correlate with the *choleric* temperament and show qualities such as being active, optimistic, aggressive, touchy, restless, excitable, changeable, impulsive and irresponsible.
- **Stable introverts.** They correlate with *phlegmatic* temperament and show qualities such as being calm, even-tempered, reliable, controlled, peaceful, thoughtful, careful and passive.
- **Emotional introverts.** They correlate with the *melancholic* temperament and show qualities such as being unsociable, quiet, reserved, pessimistic, sober, rigid, anxious and moody.

Further research by Eysenck (Carducci, 2009:287) led to the formulation of a third dimension:

- **Psychotism versus superego control.** Psychotism is characterised by the qualities of aggressiveness, assertiveness, egocentricity, and being unsympathetic, manipulative, achievement-oriented, dogmatic, and tough-minded. Superego control is the direct opposite of these characteristics and is characterised by a high sense of morality.

2.4. Temperamental dimensions according to Buss and Plomin

Strongly convinced that evidence of temperament must meet certain criteria, Buss and Plomin identified four dimensions of temperament from their continuous extensive studies based on the analysis of the NYLS research (Buss & Plomin, 1975:14, 231-232; Joyce, 2010:27-28):

- **Activity.** The level of energy and degree of physical movement.
- **Emotionality.** The tendency to express negative emotions such as fear and anger repeatedly.
- **Sociability.** The tendency to be outgoing and friendly.
- **Impulsivity.** The degree to which an individual switches from one activity to the next. It involves inhibition, motivation and impulse drive.

Further analysis of additional data through their EASI Temperament Questionnaire led to the reconsideration of their theory and a fifth dimension was added namely:

- **Presence of the trait in early years.**

Further studies resulted in dropping impulsivity as a dimension and Buss and Plomin renamed their model as the EAS Temperament Questionnaire (Vasta, Miller & Ellis, 2004:453).

2.5. Temperamental dimensions according to Jung and Myers-Briggs

The psychological types developed by the Swiss psychiatrist, Carl Jung, are based on a theory of personality to describe the normal differences between healthy persons. Based on his observations, Jung believed that people's inborn tendencies to use their minds in different ways result in certain behavioural differences (Carducci, 2009:144). As people act upon these inborn tendencies, they develop patterns of behaviour. These inborn tendencies Jung referred to as *preferences* (Tieger & Barron-Tieger, 2000:11; Harkey & Jourgensen, 2004a:34). Jung's theory defines three patterns or *dimensions* of normal behaviour and provides an explanation of how psychological types develop (Joyce, 2010:7-8). The **three dimensions** (one *attitude* and two different *functions*) can be seen as two axes on a continuum with two opposite polarities with two ends and a midpoint (Briggs Myers, 1998:6-7).

Jung had observed that individuals have a tendency to focus their energy and tend to be energised in two different ways. While Jung believed that both attitudes of this dimension are present within each personality, he also thought that in each individual one attitude is expressed more at the conscious level than the other (Harkey & Jourgensen, 2004a:35-36; Carducci, 2009:145).



• **DIMENSION ONE: *Attitude* by which people orient themselves towards their environment:**

This dimension has two polarities: extroversion and introversion.

➤ Extroversion	The extroverted attitude is an outward orientation in which energy is invested in events and objects in the external world – for example, energised through contact with people, objects and activities.
➤ Introversion	The introverted attitude reflects an inward orientation in which energy is invested in internal and more personal experiences – for example, energised when the individual is away from external stimulation.

Jung observed that one or two *mental* activities are involved when people’s minds are active. Each function is therefore characterised by a specific orientation in order to understand the events and experiences in the environment. The literature (Briggs Myers, 1998:6; Harkey & Jourgensen, 2004a:36-37; Carducci, 2009:145; Joyce, 2010:9-11) indicates that Jung differentiated between the two *functions*:

- different ways to seek information;
- different ways to react to this information.

Although both mental functions are used in normal behaviour, Jung realised that people used one mental function more strongly or in a more dominant way than the other. Jung termed individuals’ preferred mental process their *dominant function* or *preference function*, and the one second in preference, the *auxiliary function* (Briggs Myers, 1998:7; Van Rooyen, De Beer & Proctor, 2001:103-107). Within each of these two *functions* Jung distinguished between the following dimensions (Dimensions Two and Dimension Three):



• **DIMENSION TWO: *Function of information seeking:***

Jung observed that when people’s minds are active, they are involved in one or two mental activities. Each function is therefore characterised by a specific orientation to understanding or perceiving the events and experiences in the environment.

The two polarities on this dimension are: sensation and intuition.

➤ Sensation function	Involves relating to the world primarily through the five senses (eyes, nose, ears, tongue and skin) and are focused on ‘what is’ – for example, to know something, you must be able to hear, smell, touch, see and taste it.
➤ Intuition function	Goes beyond all of the other conscious senses and relies on a deeper, more internal sense of understanding. The individual relies on possibilities, concepts of meaning and ‘what could be’, instead of senses in the here-and-now or direct reality – for example, although knowing what something is and how it feels, it still does not seem quite right for some strange reason.



• **DIMENSION THREE: *Function of decision making:***

Jung also observed that when people’s minds are active, they are involved in another mental activity. Each function is therefore characterised by two opposite ways in which people judge their environment.

The two polarities on this dimension are: feeling and thinking.

➤ Feeling function	This concerns reacting to the world on the basis of the affective quality of one’s own experiences – for example, if something is out there, is it something good, valuable, acceptable, harmful or unpleasant?
➤ Thinking function	This indicates a tendency to relate to the world with logic and intellect – for example, if something is out there, what is its logical, objective relation to other things?

Combining the two different orientations (extroversion and introversion) with the four mental processes (sensation and intuition; feeling and thinking), Jung described *eight fundamental patterns* of mental activity available to individuals (Briggs Myers, 1998:7):

Extroverted- <i>sensation-feeling</i>: ESF	Introverted-<i>sensation-feeling</i>: ISF
Extroverted-<i>intuition-feeling</i> : ENF	Introverted-<i>intuition-feeling</i>: INF
Extroverted-<i>sensation-thinking</i>: EST	Introverted-<i>sensation-thinking</i>: IST
Extroverted-<i>intuition-thinking</i>: ENT	Introverted-<i>intuition-thinking</i>: INT

Katherine Briggs became interested in the work of Jung and with the help of her daughter, Isabel Briggs Myers, they thoroughly researched all of Jung’s ideas on personality and psychological types. Their specific goal was to make these ideas accessible to ordinary people by formulating some sort of measuring scale. They formulated indicator items and first tried them out on friends and family. They recorded the answers to the indicator items on the back of the indicator cards. This was the beginning of a thorough and lengthy search for appropriate items that would more accurately enable the identification of psychological types

and the compiling of a Type Indicator. Over years they accumulated an unusually large sample (15 000 nurses and 5 000 doctors) in order to validate the Indicator's use.

Against all the odds, Briggs and Myers-Briggs continued to work in isolation for many years developing the *Myers-Briggs Type Indicator* (MBTI), because of their intense belief in the value of Jung's views (Van Rooyen, De Beer & Proctor, 2001:21; Harkey & Jourgensen, 2004a:38-29; Carducci, 2009:145-146; Joyce, 2010:11-13).

A particular contribution made to Jung's theory is their identification of a *fourth* dimension. Although Jung had previously indicated that he had observed differences between individuals relating to this preferred attitude to life, the Myers-Briggs team had to develop a rating scale measuring it (Myers, McCaully, Quenk & Hammer, 1998:3-7; Van Rooyen, De Beer & Proctor, 2001:105-108; Carducci, 2009:146). They referred to the **fourth dimension** as:



- **DIMENSION FOUR: *Attitude to life or preferred lifestyle/orientation to external world.***

The two polarities on this dimension are: judging and perceiving.

➤ Judging lifestyle	Tend to be responsible, hard-working and steady workers, and like to have things decided and settled. They are rule-orientated, organised and orderly in their approach and systematically focus on closure.
➤ Perceiving lifestyle	Tend to be more flexible, open-minded and spontaneous in their approach to life. They thrive on open-ended assignments and prefer to keep options open as long as possible.

With this new fourth dimension Myers and Briggs wanted to obtain more information about an individual's preferred lifestyle and they developed a method to get to the nature of the dynamic interaction between people with behavioural differences, including the identification of the dominant and auxiliary function (Briggs Myers, 1998:7). Based on specific choices, the scores on each of the four dimensions are calculated for the individual. These four scores are then used to classify the individual into one of 16 psychological types. The Myers-Briggs team developed Jung's idea of the *dominant* and *auxiliary* functions and incorporated their role into their concept and description of types.

The dominant function gives guidance to understanding an individual's preferred way of behaving. The role of the auxiliary, or second, function is to provide balance. The auxiliary function also provides a balance between extroversion and introversion. The individual tends to use the dominant function in the world that interests them most, either extraverted (outside world and external contact) or introverted (inside world or internal reflection), while the auxiliary function is used in the less preferred world (Briggs Myers, 1998:7-8; Van Rooyen, De Beer & Proctor, 2001:105). The combination of dominant and auxiliary functions reflected the 16 types indicated in the MBTI. Refer to Table 3.1 for more detail.

Table 3.1 Dominant and Auxiliary Functions of the MBTI with specific characteristics combined (Briggs Myers, 1998:7; Carducci, 2009:146)

DOMINANT FUNCTION	AUXILIARY FUNCTION	CHARACTERISTICS	MBTI type
Introverted Sensing Introverted Sensing	With Extroverted Thinking With Extroverted Feeling	Dominated by internal feelings to external events in rather dichotomous ways; may become dissociated from the external world in response to their feelings	ISTJ ISFJ
Extroverted Sensing Extroverted Sensing	With Introverted Thinking With Introverted Feeling	A constant search for novel sensory experiences; may developed sensory skills by becoming an art critic, wine-tasting expert or masseuse.	ESTP ESFP
Introverted Intuition Introverted Intuition	With Extroverted Thinking With Extroverted Feeling	Generally unconcerned with the external world and its events; more concerned with finding meaning in reality satisfying to him/her – a dreamer	INTJ INFJ
Extroverted Intuition Extroverted Intuition	With Introverted Thinking With Introverted Feeling	Sudden changes in interests; when interested, the level reflects enthusiasm; a leader of causes when interested in them	ENTP ENFP
Introverted Thinking Introverted Thinking	With Extroverted Sensing With Extroverted Intuition	Overly concerned with ideas for their own sake; tends to dwell on abstractions and ignore practical considerations. Tends to be very theoretical	ISTP INTP
Extroverted Thinking Extroverted Thinking	With Introverted Sensing With Introverted Intuition	Places a lot of emphasis on external objects and ideas; ruled by logic and intellect. Is sometimes rigid and objective	ESTJ ENTJ
Introverted Feeling Introverted Feeling	With Extroverted Sensing With Extroverted Intuition	Tendency to keep feelings to themselves; makes them appear cold, aloof and indifferent	ISFP INFP
Extroverted Feeling Extroverted Feeling	With Introverted Sensing With Introverted Intuition	Public expression of feelings and emotions; makes friends easily but highly influenced by the mood of the situation – intense and sociable	ESFJ ENFJ

Neither Jung's theory nor the 16 MBTI types define fixed packages. They rather define dynamic energy systems with interacting processes. Myers and Brigg's solution was to reflect Jung's theory in a designed psychometric instrument with four distinct **preference scales**: extroversion-introversion; sensing-intuition; thinking-feeling; and judging-perceiving (Briggs Myers, 1998:7; Van Rooyen, De Beer & Proctor, 2001:24; Carducci, 2009:146).

The four-letter MBTI type profile is more than just the combination of four letters or the representation of a static condition; it in effect represents a dynamic and interrelated system of preference functions (Van Rooyen, De Beer & Proctor, 2001:105). Each identified preference is a complex aspect of personality, temperament style and preference functions, and enhances understanding of oneself and others. Briggs Myers (1998:7) stresses that it is important to remember the following:

It is **the combination of the four preferences into 16 combinations that provides the fullest and richest picture** of psychological types and **not each single dimension or preference on its own.**

For example the **S** and **J** combination will have different characteristics than the **S** and **P** combination. The same is applicable to the **N** and **J** in relation to the **N** and **P** combination. The researcher is of the opinion that therapists who want to make use of this temperament theory and differentiation of dimensions by means of this instrument should make a clear attempt to grasp this theory in full in order to understand the hidden nuances implicit in each of the 16 psychological type combinations.

There is no wrong or right to these preferences. Each identifies normal and valuable human behaviours. As individuals use their preferences in each of these areas, they develop what Jung, Myers and Briggs define as a *psychological type*:

An underlying personality pattern resulting from the dynamic interaction of their four preferences, environmental influences and their own choices.

Individuals tend to develop behaviours and skills and attitudes associated with their types, and those with different types will likely be opposites of one another in functioning, preferences and outlook on life. Each one of the 16 types represents a valuable, reasonable

way to be, and each one has its own strengths as well as its blind spots (Tieger & Barron-Tieger, 1995:13-32).

Myers and Briggs emphasised that although the MBTI preferences are expressed in familiar words, their MBTI meanings are somewhat different from the everyday meanings of the words (Briggs Myers, 1998:10; Keirsey, 1998:12-13; Van Rooyen, De Beer & Proctor, 2001:102). Therefore it is very important to take note of the following:

- | |
|--|
| <ul style="list-style-type: none"> • Extrovert does not mean ‘talkative’ or ‘loud’ • Introvert does not mean ‘shy’ or ‘inhibited’ • Feeling does not mean ‘emotional’ • Judging does not mean ‘judgmental’ • Perceiving does not mean ‘perceptive’ |
|--|

Table 3.2 illustrates the Four Dimensions of the MBTI and specific characteristics of each type. The researcher emphasizes again that it is important to remember that the value of this instrument lies in the combination of the 4 dimensions and not on a single dimension alone.

Table 3.2 The Four dimensions of the MBTI (Briggs Myers, 1998:9-10).

DIMENSION 1: Natural flow of energy. The E-I dichotomy

EXTROVERSION	INTROVERSION
People who prefer extroversion like to focus on the outer world of people and activities. They direct their energy and attention outward and receive energy from interacting with people and from action. They used their dominant preference function in their outer world through extraverted energy flow.	People who prefer introversion like to focus on their own inner world of ideas and experiences. They direct their energy and attention inward and receive energy from reflecting on their thoughts, memories and/or feelings. They used their dominant preference function in their inner world through introverted energy flow.
<p>Characteristics associated with people who prefer Extroversion:</p> <ul style="list-style-type: none"> • Attuned to the external world • Prefer to communicate by talking • Work out ideas by talking them through • Learn best through doing or discussing • Sociable and expressive • Readily take the initiative in work and relationships 	<p>Characteristics associated with people who prefer Introversion:</p> <ul style="list-style-type: none"> • Drawn to their inner world • Prefer to communicate in writing • Work out ideas by reflecting on them • Learn best by reflecting. Mental “practice” • Private and contained • Take the initiative when the situation is very important

DIMENSION 2: Function of information intake. The S-N dichotomy

SENSING	INTUITION
<p>People who prefer sensing like information that is real and concrete. They are observant in the here-and-now about specifics of what is going on around them and are especially attuned to practical realities. They tend to focus on the here and now and what is happening.</p>	<p>People who prefer intuition like to take in information by seeing the bigger picture, focusing on the relation between things, people and facts. They want to grasp new ideas and see patterns and possibilities. They tend to focus more on the future and what is possible.</p>
<p align="center">Characteristics associated with people who prefer Sensing:</p> <ul style="list-style-type: none"> • Oriented to present possibilities • Factual and concrete • Focus on what is real and actual • Observe and remember specifics • Build carefully and thoroughly toward conclusions • Understand ideas and theories through practical implications • Trust experience 	<p align="center">Characteristics associated with people who prefer Intuition:</p> <ul style="list-style-type: none"> • Oriented to future possibilities • Imaginative and verbally creative • Focus on patterns and meaning of data • Remember specifics when they relate to a pattern • Move quickly to conclusions, follow hunches • Want to clarify ideas and theories before putting them into practice • Trust inspiration

DIMENSION 3: Function of decision-making. The T-F dichotomy

THINKING	FEELING
<p>People who prefer to use thinking in decision making like to look at the logical consequences of a choice or action. They want to mentally remove themselves from the situation to examine the pros and cons objectively. They are energised by critiquing and analysing to identify what is wrong with something so they can solve the problem. Their goal is to find a standard or principle that will apply in the situation. They tend to be task-oriented in their approach of a situation.</p>	<p>People who prefer to use feeling in decision making like to consider what is important to them and to others involved. They mentally place themselves in the situation to identify with everyone so that they can make decisions based on their values about honouring people. They are energised by appreciating and supporting others and look for qualities to praise. Their goal is to create harmony and treat each person as a unique individual. They tend to be people-oriented in their approach of a situation.</p>
<p align="center">Characteristics associated with people who prefer Thinking:</p> <ul style="list-style-type: none"> • Analytical • Use cause-and-effect reasoning • Solve problems with logic • Strive for an objective standard of truth • Reasonable • Can be “tough-minded” • Fair – want everyone treated equally 	<p align="center">Characteristics associated with people who prefer Feeling:</p> <ul style="list-style-type: none"> • Empathetic • Guided by personal truth • Assess impacts by personal values • Strive for harmony and positive interaction • Compassionate • May appear “tender-hearted” • Fair – want everyone treated as an individual

DIMENSION 4: Life style and interaction with outer or external world. The J-P dichotomy

JUDGING	PERCEIVING
People who prefer to use their judging process in the outer world like to live in a planned and orderly way, seeking to regulate and manage their lives. They want to make decisions, come to closure and move on. Their lives tend to be structured and organised, and they like to have things settled. Sticking to a plan and schedule is very important to them and they are energised by getting things done.	People who prefer to use their perceiving process in the outer world like to live in a flexible, spontaneous way, seeking to experience and understand life, rather than control it. Detailed plans and final decisions feel confining to them; they prefer to remain open to new information and last minute options. They are energised by their resourcefulness in adapting to the demands of the moment.
<p style="text-align: center;">Characteristics associated with people who prefer Judging:</p> <ul style="list-style-type: none"> • Scheduled • Organise their lives • Systematic • Methodical • Make short- and long-term plans • Like to have things decided • Try to avoid last minute stresses 	<p style="text-align: center;">Characteristics associated with people who prefer Perceiving:</p> <ul style="list-style-type: none"> • Spontaneous • Flexible • Casual • Open-ended • Adapt easily to change or change course easily • Like things loose and open to change • Feel energised by last minute pressures

2.6. Temperamental dimensions according to David Keirsey

Keirsey’s unique contribution to the work of Jung and the Myers-Briggs team lies in the different *clusters* he organised within the four dimensions and 16 psychological types (Keirsey 1998:18-20). Each *cluster* represents a specific temperament group with unique characteristics. Keirsey clustered the temperament groups as follows:

SJ temperament group	SP temperament group
NF temperament group	NT temperament group

Keirsey noted that this structure was suggested by Myers and was not solely his idea (Keirsey, 1998:15; Joyce, 2010:14). In order to facilitate understanding, Keirsey gave each of these temperament group clusters their own names to distinguish them from each other. These names facilitate understanding for laypersons, or those who have insufficient theoretical knowledge of temperament theory (Joyce, 2010:14). See Table 3.3 for more details. According to Hedges (1997:4), the four temperament clusters designed by Keirsey form a model which is used throughout the world for understanding human behaviour in industry, social work, education and counselling.

Table 3.3 The Four Temperament groups by David Keirsey

Temperament Group	MBTI types	Specific Name	Characteristics of Temperament group
SJ Sensing-Judging	ISTJ ESTJ ESFJ ESFJ	Guardian	Dutiful, responsible, conservative, stable, patient and dependable Highly productive with a good work ethic Need a sense of belonging and tradition; thrive in well-defined roles and routines Learn by concrete example and in a sequential manner
SP Sensing-Perceiving	ISFP ISTP ESFP ESTP	Artisans	Artistic, athletic, easy-going, tolerant, open-minded and adaptable Have a strong play ethic and need for freedom Enjoy exploring new experiences/discoveries Learn by doing
NF Intuition-Feeling	INFP INFJ ENFJ ENFP	Idealists	Friendly, empathetic, insightful, creative, intuitive, caring and attuned to the needs of others Core value is personal integrity and self-actualisation Passionate about social causes and the impact of actions on humanity
NT Intuition-Thinking	INTP INTJ ENTP ENTJ	Rationalists	Rational, analytical, systematic, curious, scientific and research-oriented Strong drive for success, competency, high standards and achievement Inquisitive, perfectionistic and at times compulsive Emphasise work before play /recreation

3. COMPARISON OF THE DIMENSIONS IN DIFFERENT TEMPERAMENT THEORIES

The temperament theory of Jung, the Myers-Briggs team and Keirsey will be used as the theoretical framework of this research and therefore the dimensions identified will guide the researcher during Phase 3 of the D&D model in the development of the prototype. The researcher was curious to explore in what way the dimensions identified by Jung, Myers-Briggs and Keirsey' temperament groups related to the dimensions identified in the other temperament theories as described above. The researcher will make use of tables to pinpoint

and discuss the comparisons. This will reflect the researcher’s own interpretation and opinion on this matter.

3.1 Comparison between Thomas and Chess, the Jungian-Myers-Briggs dimensions and Keirsey’s temperament groups

Table 3.4 Comparison between the Thomas and Chess, the Jungian-Myers-Briggs dimensions and Keirsey’s temperament groups

Dimensions according to Thomas & Chess	Dimensions according to Jungian-Myers-Briggs	Temperament groups according to Keirsey
Activity level	Sensing-Intuition Judging-Perceiving	SP
Rhythmicity	Sensing-Intuition Judging-Perceiving	SJ
Approach / withdrawal	Introversion-Extroversion Sensing-Intuition Judging-Perceiving	SP / SJ
Adaptability	Sensing-Intuition Judging-Perceiving	SJ
Threshold of responsiveness	Sensing-Intuition	SJ
Intensity of reaction	Introversion-Extroversion	
Quality of mood	Introversion-Extroversion	
Distractibility	Introversion-Extroversion Sensing-Intuition Judging-Perceiving	SP / SJ
Attention span/persistence	Introversion-Extroversion Sensing-Intuition Judging-Perceiving	SP / SJ
The difficult child	Introversion-Extroversion Thinking-Feeling Sensing-Intuition Judging-Perceiving	
The easy child	Introversion-Extroversion Thinking-Feeling Sensing-Intuition Judging-Perceiving	
Slow-to-warm child	Introversion-Extroversion Thinking-Feeling Sensing-Intuition Judging-Perceiving	SJ

3.2 Comparison between Mary Rothbart, the Jungian-Myers-Briggs-dimensions and Keirsey's temperament groups

Table 3.5 Comparison between Rothbart, the Jungian-Myers-Briggs dimensions and Keirsey's temperament groups

Dimensions according to Rothbart	Dimensions according to Jungian-Myers-Briggs	Temperament groups according to Keirsey
SURGENCY	Introversion-Extroversion	SP
Activity level	Sensing-Intuition Judging-Perceiving	
Approach/ positive anticipation	Introversion-Extroversion Thinking-Feeling Sensing-Intuition	
High-intensity pleasure	Introversion-Extroversion Sensing-Intuition Judging-Perceiving	SP
Impulsivity	Introversion-Extroversion Sensing-Intuition Judging-Perceiving	SP
Shyness	Introversion-Extroversion Sensing-Intuition Judging-Perceiving	SJ
Smiling and laughter	Introversion-Extroversion Thinking-Feeling	
NEGATIVE AFFECTIVITY	Introversion-Extroversion	SJ
Anger/ frustration	Thinking-Feeling Sensing-Intuition Judging-Perceiving	
Discomfort	Sensing-Intuition	
Falling reactivity/ soothability	Introversion-Extroversion	
Fear	Introversion-Extroversion Sensing-Intuition	SJ
Sadness	Introversion-Extroversion Thinking-Feeling	
EFFORTFUL CONTROL	Sensing-Intuition	SJ
Attentional focusing	Judging-Perceiving	
Inhibitory control	Sensing-Intuition Judging-Perceiving	SJ
Low-intensity pleasure	Introversion-Extroversion Sensing-Intuition Judging-Perceiving	SJ
Perceptual sensitivity	Introversion-Extroversion Sensing –Intuition Judging-Perceiving	SJ
Resilient children	Introversion-Extroversion Thinking-Feeling Sensing-Intuition Judging-Perceiving	NT NF SJ / SP

Over-controlled children	Introversion-Extroversion Thinking-Feeling Sensing-Intuition Judging-Perceiving	
Under-controlled children	Introversion-Extroversion Sensing-Intuition Judging-Perceiving	SP NP

3.3 Comparison between Eysenck, the Jungian-Myers-Briggs dimensions and Keirsey's temperament groups

Table 3.6 Comparison between Eysenck, the Jungian-Myers-Briggs dimensions and Keirsey's temperament groups

Dimensions according to Eysenck	Dimensions according to Jungian-Myers-Briggs	Temperament groups according to Keirsey
Stable extraverts	Introversion-Extroversion Judging-Perceiving	
Stable introverts	Introversion-Extroversion Judging-Perceiving Thinking-Feeling	
Emotional Extraverts	Introversion-Extroversion Judging-Perceiving Sensing-Intuition	
Emotional introverts	Introversion-Extroversion Judging-Perceiving Thinking-Feeling	
Psychoticism		

3.4 Buss and Plomin, the Jungian-Myers-Briggs dimensions and Keirsey's temperament groups

Table 3.7 Comparison between Buss and Plomin, the Jungian-Myers-Briggs dimensions and Keirsey's temperament groups

Dimensions according to Buss & Plomin	Dimensions according to Jungian-Myers-Briggs	Temperament groups according to Keirsey
Activity	Introversion-Extroversion	
Emotionality	Introversion-Extroversion	
Sociability	Introversion-Extroversion	
Impulsivity	Sensing-Intuition Judging-Perceiving Introversion-Extroversion	SP

4. DISCUSSION OF COMPARISONS

From the above comparisons (the researcher's own interpretation) it is clear that the Jungian-Myers-Briggs (16 psychological types) model relates well with all of the other theories, specifically those of Thomas and Chess and of Rothbart. It is also clear that the Jungian-Myers-Briggs dimensions give a broad detailed perspective to address human functioning. It was not possible to relate Keirsey's temperament groups to all of the above theorists' dimensions. The researcher is therefore of the opinion that Keirsey's temperament groups can *enhance* the way in which we can make use of the 16 psychological types, but unfortunately not the other way around.

Apart from the Jungian-Myers-Briggs temperament theory, the above-mentioned researchers obtained their data through questionnaires and interviews with parents and their focus was on children in infancy and early childhood. Further research done by Murphy and Meisgeier on the work of Myers and Briggs led to the implementation of the *Murphy Meisgeier Type Indicator for Children* (MMTIC), which focuses on a self-report measure by children aged 7-14 years (Meisgeier & Murphy, 1987:7-3; Meisgeier, Murphy & Meisgeier, 1989:1-24). As already explained in the previous two chapters, training in the use of this instrument in practice is no longer available to social workers or counsellors other than psychologists who are working with children and families in emotional need.

5. SUMMARY

The literature study undertaken in this chapter forms part of Phase 2 of the D&D model and the objective to explore and describe various dimensions required for the ecometric temperament sorter was addressed in the survey.

This literature study has shown that most temperament studies focused on four dimensions: activity; reactivity; emotionality and sociability. However, not all temperament characteristics fit neatly into these four dimensions. Many more dimensions are applicable and various researchers had identified their own dimensions for their studies.

The temperament theory of Jung, Myers-Briggs and Keirsey will be used as the theoretical framework for this study. The dimensions of the Jungian-Myers-Briggs theory received specific attention in this chapter because these will be the dimensions used during Phase 3 of the intervention research process in the development of the temperament sorter for children aged 9-15 years. In comparison with other temperament theories, it is clear that the dimensions identified in the Jungian-Myers-Briggs and Keirsey's theory make it possible for a researcher to obtain rich information about the child's natural inborn tendencies, temperament style and preference functions. Therapists who have access to this knowledge will be empowered in the therapeutic process and by sharing this information with parents there is a possibility that the parent-child relationship could be enhanced.

The following chapter will focus on temperament and how it shapes the parent-child interaction to guide the researcher in further exploring and describing, during Phase 2, Step 3 of the D&D model, the different components required within a practice-based ecometric model to assess temperament and preference functions; this will, in turn, assist in enhancing parent-child interaction.

Chapter Four

Phase 2: Temperament and parenting.

How temperament shapes the parent-child interaction

1. INTRODUCTION

The unique behavioural and interacting style that every child is born with impacts on their development from the womb until death. According to the literature (Donnellan & Robins, 2009:192; Joyce, 2010:50; Rothbart, 2011:3), this is called temperament. Previous chapters focused on determining temperament and the different theories on temperament. Dimensions that are related to the understanding, unpacking and measuring of temperament were also identified and those relevant to this study were highlighted.

The child should be thought of as a force to be steered into competent adulthood and not simply as a piece of clay to be moulded into an obedient citizen (Greenspan, 1995:3; Harkey & Jourgensen, 2004a:8-9). Furthermore, to complicate things a little bit, each child comes with inborn wiring (temperament) that defines whether the child will be easy or challenging to raise (Greenspan, 1995:7; Neville & Johnson, 1998:23; Joyce, 2010:3). How children perceive themselves and others will be determined by how well their wiring fits in with the environment and how well they are received by the significant others in their environment (Tieger & Barron-Tieger, 1997:xiv; Heinsohn, 2009:66).

Parenting, and more specifically the way parents connect with the child, is very important. Each child has his or her own temperament and therefore needs to be raised differently from others (Heinsohn, 2009:71). Parents cannot alter or regulate the child's temperamental style, but parenting rather needs to be moulded around the child's temperament. Therefore parenting techniques must be attuned to the child's temperament. Parents who try to change the child to fit in their concept of the 'perfect child' usually end up feeling very frustrated. It will be more appropriate for parents to observe and learn about the children's unique behavioural style and then change the way they react to the situation. But it is also of equal

importance for parents to understand their own temperaments and behavioural styles and not only those of their children (Keirsey, 1998:2; Kurcinka, 2006:38-39).

Harkey and Jourgensen (2004b:220,248) emphasise that a major fault in most parenting advice is the assumption that one parenting strategy will be fit for all children. Another assumption is that children are all alike and that parents are all alike. But children's unique temperaments will make a difference in how they learn and socialise; how they respond to discipline; learn self-control; reason and make decisions about life. According to the literature, parental temperament influences the actual parenting style, regardless of which theoretical model the parent follows (Keirsey, 1998:252-253; Neville & Johnson, 1998:13,23; Harkey & Jourgensen, 2004b:223-225, Kurcinka, 2006:39-40).

This chapter forms part of Phase 2, Step 3 of the D&D model (refer back to Chapter 1, Table 1.2 for details). The following objective was addressed:

- to explore and describe different components required in a practice-based ecometric model to assess temperament and preference functions.

The literature study in this chapter will focus on the uniqueness of every child and the way in which the child interacts with the world. Because the most important interaction children will have will be with their parents, the concept of parenting and how temperament shapes the parent-child interaction will also be explored.

The importance of parenting, parental expectations, different parenting styles and how temperament and preference functions of both parent and child affect the parenting process will be addressed. The guideline will be the different dimensions and temperament groups identified in Chapter 3, which will be used when designing the prototype ecometric temperament sorter during Phases 3 and 4.

2. IMPORTANCE OF PARENTING: MIND THE PYGMALION EFFECT!

Keirsey (1998:3) and Heinsohn (2009:66) point out that any parent with more than one child knows that each child is born with different temperaments and behavioural styles. This raw material cannot be controlled by the parents. Instead parents are inclined to create an environment that will best help their children to make the most of their potential (Kurcinka, 2006:39-62). Therefore parenting has two main goals: first, to create a nurturing environment that draws children into a safe, healthy family; secondly, to empower and inspire their children so that when they enter adulthood, they can leave the family nest and enter the world (Robinson, 2005:26).

For the researcher these two worthy goals – namely, forming a close knit family and developing competent, independent young adults – describe healthy parenting in a nutshell. Therefore nurturing parents make every effort to build close relationships with their children. Children, on the other hand, need the continuous support of their parents and strive to seek parents' acceptance and recognition (De Haan, Prinzie & Dekovic, 2009:1696; Heinsohn, 2009:32; Harley, 2012). Children who engage in healthy and affectionate relationships with their parents have the strength to cope with the pressures of their growing years. Trust is also an important component in the parent-child relationship (Harvell, 2009). Parents need to provide sheltered and trustful relationships with their children and any violation of trust in the parent-child relationship threatens the child's ability to enjoy happy and trusting relationships throughout life (Markham, 2014b; Keefer, 2014).

The significance of positive and nurturing parenting should never be underestimated. Because parenting patterns are learned in childhood (Hallowell, 2002:41; Bavolek, 2009:1-12), the parents' experiences during the course of growing up have a significant impact on their own children's skills, attitudes and childrearing practices they themselves will be using with their children (Hallowell, 2002:47-54; Parrott & Parrott, 2007:20; Heinsohn, 2009:23,36; Harley, 2012). Nurturing parenting processes consist of empathy, unconditional love and nurturing touch, and they have a positive impact on self-image and self-worth. On the contrary, abusive parenting processes include shaming, belittling, hitting, neglecting basic needs, conditional love and any other actions that lower a child's sense of self-worth. Rothbart (2011:119) and Bavolek (2009:2) argue that elements of abusive parenting where abuse is dominant can

become fixed in the child's personality, perception, thoughts, memories, feelings. Therefore individuals' sense of self-worth has been regarded to be a significant predictor of how they will treat others. The researcher is of the opinion that this indicates that children who feel good or positive about themselves are more inclined to become good/positive and nurturing parents themselves.

However, no matter how hard parents will try or what kind of effort they exert, they will fail in this task if they don't take into account their own inborn qualities as well as those of their child during the parenting process. Negative interactions between parent and child can result in behavioural problems. The literature revealed that negative reactions as a result of behavioural and emotional problems often occur when there is a clash between the natures of the children and the parents (Keirse, 1998:200; Kurcinka, 2006:30; Heinsohn, 2009:66; Rothbart, 2011:119-138; Aamodt & Wang, 2011:153). According to Aamodt and Wang (2011:150-151), the development of antisocial behaviour is an example of a feedback loop that starts with the child's temperament, which affects parental behaviour and further modifies the child's behaviour.

Parenting styles could explain the link between temperament and anxiety. A study by Lindhout, Markus, Hoogendijk and Boer (2009:440-444) revealed that the over-controlling and very critical parenting style of the parents of shy, introverted children contributed to their AD (anxiety disorder) behavioural patterns. It is therefore clear that the child's temperament may impact on parenting behaviours and parenting might constrain the expression of temperament as well. If parents become aware of their own inborn qualities as well as those of their children, it is possible for them to engage in a nurturing parenting style and make use of the *Pygmalion effect* to empower their children.

Rosenthal and Jacobsen (1968/1992) reported and discussed the *Pygmalion effect* in great detail. Their study highlighted the concept of labelling and revealed that teacher expectations in a classroom can influence student performance. Positive performance is influenced by positive expectations and negative expectations influence negative performance. How teachers' labelled their students evidently had an impact on their behaviour and performance. They originally described this phenomenon as the *Pygmalion effect* (Rosenthal & Babad, 1985:36-38).

The researcher argues that the *Pygmalion effect* can infiltrate the parenting process either positively or negatively. Parents can have either positive or negative expectations of their child. They can label their children positively or negatively. This will in either way influence parenting and children's way of thinking about themselves, because children learn who they are from others in their lives (Kurcinka, 2006:32-35, Parrott & Parrott, 2007:25-27; Heinsohn, 2009:67; Rothbart, 2011:119-121). According to Kurcinka (2006:28), it is easy to fall into the trap of labelling children and parents need to be reminded to be careful of labelling a child because "once an expectation is set, even if it is not accurate, we tend to act in ways that are consistent with that expectation" (Kurcinka, 2006:23). Negative labelling can have devastating effects because parents usually focus on what they call the child's weakness (for example, when the child is by nature more introverted they will label it as *shy*).

Markham (2012) emphasises that each child is born with unique gifts that include both strengths and weaknesses. Parents can be guided to accept and understand their child's 'weaknesses' with the insight and understanding that these weaknesses can be understood as the *flip side* of their child's strengths (Harkey & Jourgensen, 2004a:80-82). The following example from Harkey and Jourgensen (2004a:312-314) clarify this: "A child might be incredibly stubborn arguing with her parents to get what she wants until she simply wears them down. While that trait might be hard to live with, the flip side thereof is determination. This kind of persistence will serve this child well if she grows up to be a detective, or maybe a lawyer. The parents of this girl can assist her by helping her recognize that while this behavioural style is an asset, it can also drive others crazy and make them angry at her. She needs to learn to adjust it and use it, rather than letting it control her. Helping children to know themselves well and to manage themselves is one of the most helpful gifts any parent can give a child". Therefore it is important for parents to be willing to change their attitudes and expectations and start with a positive approach where the focus will be more on their children's strengths and potentials instead of their weaknesses (Harkey & Jourgensen, 2004:81; Kurcinka, 2006:25).

Keirsey (1998:252-253) also noted that the *Pygmalion effect* is a tempting aspect of parenting. Parents tend to assume that their children are extensions of their personalities who will certainly follow in their footsteps (Tieger & Barron-Tieger, 1997:8; Harkey & Jourgensen, 2004a:30; Kurcinka, 2006:39). However, the temperament hypothesis suggest

that, in many cases, children are first and foremost different from their parents and therefore need to develop in an entirely different direction so that their developed personalities can take their rightful form (Heinsohn, 2009:67,68). Parents easily misguide themselves into thinking that they understand precisely what their child needs, think or feels. Acting on this assumption, Keirsey (1998:252) noted that the different messages children are sending may sometimes even go unnoticed by well-meaning parents. These parents are also likely to unconsciously or consciously impose their own attitudes onto their children.

If parents have a preconceived perception of what their child should be like the temperamental portrait the child presents may not be the one the parent expected or wanted to see (Kurcinka, 2006:63). Parents might hold onto a ‘dream-child’ concept and to let go of it may be one of the most difficult and challenging tasks a parent can face. This misery could blind parents and, Kurcinka (2006:64) stresses, this can prevent parents from noticing the real qualities of their child. It can rather force the parent to focus all their time and energy on desperately trying to change the child to fit their perception of the ‘perfect’ child.

Parents dare not give in to the all-too-human desire to change their children into their own image. Instead of parents being trapped in the *Pygmalion effect*, Keirsey (1998:253) challenges them to follow the *Mother Nature* effect, which implies that parents must allow their children to become themselves according to their own potential. The more parents become skilful in identifying with their child’s unique temperament and behavioural style, the more able they become in relating to the child in a way that creates warmth, support and a sense of mutual understanding. This is likely to build self-esteem and reflects trust and safety in the parent-child relationship (Greenspan, 1995:299; Harkey & Jourgensen, 2004a:330; De Haan, Prinzie & Dekovic, 2009:1695). For parents to focus on their child’s unique temperament they need to be consciously aware of it. The researcher is of the opinion that parents can through conscious parenting create a healthy environment for their children to develop into their true selves. A parenting style that focuses on this end result will be the most constructive. Although there are many parenting styles (Kohn, 2005:10-23; Robinson, 2005:24-30; Doherty & Coleridge, 2008:9-11), they do not necessarily focus on creating a safe harmonious atmosphere or environment where both parent and child can be their unique selves and still include discipline, rules and boundaries.

The discussion below will explore and describe the different parenting styles models identified by the renowned researchers Diana Baumrind and Stephan Greenspan. Each parenting style model will be critically assessed in terms of how much focus there is on acknowledging the child's temperament in the parenting process.

3. DIFFERENT PARENTING STYLES: MODELS OF BAUMRIND AND GREENSPAN

The literature available on the internet as well as in libraries and bookshops advocates many different styles on how to parent, but it is the work of Diana Baumrind and Stephan Greenspan that will be highlighted in this study. Their research on parenting has been widely cited and has inspired important empirical research on parenting (Greenspan, 2006:10). First, a short description of each of the two models will be provided. Then the focus will shift to an analytical, critical assessment of the extent to which both models acknowledge the child's temperament in the parenting process. The researcher will then express her own views on and approach to this matter.

3.1 The two-factor model of Diana Baumrind (1967)

The influential work of Diana Baumrind on researching different parenting styles has shaped research and practice since the 1960s (Greenspan, 2006:5, 10). In 1966 Baumrind published a pioneering article on parenting styles. This was followed by another article in 1976 exploring the effects of parenting styles on the development of children from different gender (Wikipedia). Baumrind's typology has subsequently formed the basis for research on parenting (Harkey & Jourgensen, 2004b:223). Baumrind identified two major factors in a parenting style and called these parent *responsiveness* and parent *demandingness*. Her parenting style description provides a two-factor model of how to care for others' needs and how to control behaviour simultaneously (Baumrind, 1991:56-58; Baumrind, 1996:405-406).

The following literature was consulted for this discussion on the two factors identified by Baumrind: Baumrind, 1991:56-56-63; Baumrind, 1996:407-411; Gershoff, 2002:539-541; Greenspan, 2006:5-7. To facilitate reading, this discussion will be presented without reference to this literature.

- **FACTOR ONE: Parent responsiveness (warmth)**

This includes everything that the parent does in general to respond to the child's needs. For example: to express love for the child; to comfort the child and aid the child in learning new things. To responsiveness, Baumrind added two factors: clear communication and the use of reasoning.

➤ **Responsiveness and clear communication**

Baumrind is very specific about the need for clear communication and a person-centred conversation. She argued that the parents are the adults in charge and should regard their children as *adults-in-training*. As such, the child is entitled to know why parents believe the things they do and do the things they do, and to have the parent listen carefully and respectfully to his or her own opinions. One of the interesting distinctions that Baumrind makes in her parenting model is that the parent should definitely discipline to get "behavioural" compliance, but not require "dispositional" compliance. Therefore children do not always have to admit that their parents' opinion is correct, nor do children have to grow up believing that people in authority always know best. Children do, however, need to behave in certain ways that their parents require.

➤ **Responsiveness and the use of reasoning**

Closely related to clear communication is Baumrind's claim that parents should explain to their children the reason behind the rules and limits they set up and the punishments or restrictions they enforce. Baumrind argues that this kind of reasoning achieves two things. Firstly, it assists in helping the child accept the rules and restrictions more calmly and seriously. Secondly, it create awareness in children that rules apply to whole categories of behaviour, not simply to specific acts and are equally applicable whether the parent is present or not. Reason and logic, in turn, help the older child respect parental actions. A further benefit is that reasoning also assists children develop their own use of logic and reasoning.

- **FACTOR TWO: Parent demandingness (control)**

The concept of demandingness consists of both discipline and control. Baumrind argues that in parenting love alone is not enough; instead children need explicit control, especially young children, and she refers to firm rules, limits and consequences as a "display of power". The concept therefore includes everything parents do to actively shape their child's behaviour, for

example, indicating firm limits, rules and consequences for breaking rules and also strictly enforcing those consequences. Parental monitoring of children is therefore very important.

The researcher understands that Baumrind hereby suggests that parents want their children to become integrated into the rules of the family and society. Demanding parents supervise, control and monitor their children’s activities by direct confrontation and they may engage in open conflict with their children at points of disagreement. The above explanation is set out systematically in Table 4.1.

Table 4.1 The two-factor parenting model by Diana Baumrind

Parent responsiveness	Parent demandingness
<ul style="list-style-type: none"> • Providing warmth and affection to the child • Providing a loving and supportive home environment • Taking a great interest in the child’s development at all ages • Speaking and reading to the child • Clearly explaining your reasons for rules and limits • Listening to children’s ideas and openly considering their feelings and viewpoints • Encouraging and actively supporting the child’s education and special interests 	<ul style="list-style-type: none"> • Setting reasonable and appropriate behavioural limits and consequences for misbehaviour • Confronting misbehaviour directly and consistently • Enforcing consequences consistently • Established a home environment that is organised and provides routines (meals, bedtime, homework etc.) • Established responsibilities for house and homework and monitoring completion • Monitoring the child’s world to protect him/her from harmful influences (friends, activities, television, videos etc.)

Based on these two factors, Baumrind identified **three major parenting styles**: *authoritarian*, *permissive* and *authoritative parenting style* (refer to Figure 3). A fourth style, the *unengaged parenting style*, was added in 1983 by Maccoby and Martin.

The following literature was consulted for the discussion on the authoritarian, permissive and authoritative parenting styles: Maccoby and Martin, 1983 (in Baumrind, 1991:56-68); Baumrind, 1991:56-68; Baumrind, 1996:408-414; Harkey & Jourgensen, 2004b:236, Greenspan, 2006:5-6. To facilitate reading, this discussion will be presented without reference to literature.

3.1.1 Authoritarian parenting style

This style is adopted by parents who have a strong need to monitor their children and enforce many rules which their children need to obey without question. Misbehaviour is unacceptable and authoritarian parents may quickly resort to physical punishment as a way to control their children. Parents with this parenting style tend to have very high expectations of their children's maturity and expect their children to live up to high standards of "proper" behaviour. Baumrind's personal view of this parenting style is: It is too strict: authoritarian parents have **high** *demandingness /control* but **low** *responsiveness/ warmth*.

3.1.2 Permissive parenting style

This parenting style is the total opposite to the authoritarian style. These parents strongly believe in the autonomy of their child and that children should be treated as equals. Children are typically included in the decision-making process and permissive parents impose very few rules on their children. Baumrind's view of this parenting style is: Too soft, because it equals **low** *demandingness /control* but **high** *responsiveness/ warmth*.

3.1.3 Authoritative parenting style

Baumrind argued that this style focuses on the best interests of the child, because it reflects a mixture of the above two parenting styles. Parents are both assertive and supportive in their guidance of their children. These parents set clear standards, but also focus on understanding the child's point of view. They focus on balancing the child's need for autonomy with their parental need for control. Baumrind's view of this parenting style is: Perfect, because it equals **high** *demandingness /control* but also **high** *responsiveness/ warmth*.

3.1.4 Unengaged parenting style

The unengaged parenting style reflects uninvolved parents who satisfy their children's physical needs but remain emotionally distant, detached and disengaged. Maccoby and Martin's (1983 in Baumrind, 1991:56-68) view of this parenting style is: Negative, because it equals **low** *demandingness or control* but also **low** *responsiveness/ warmth*.

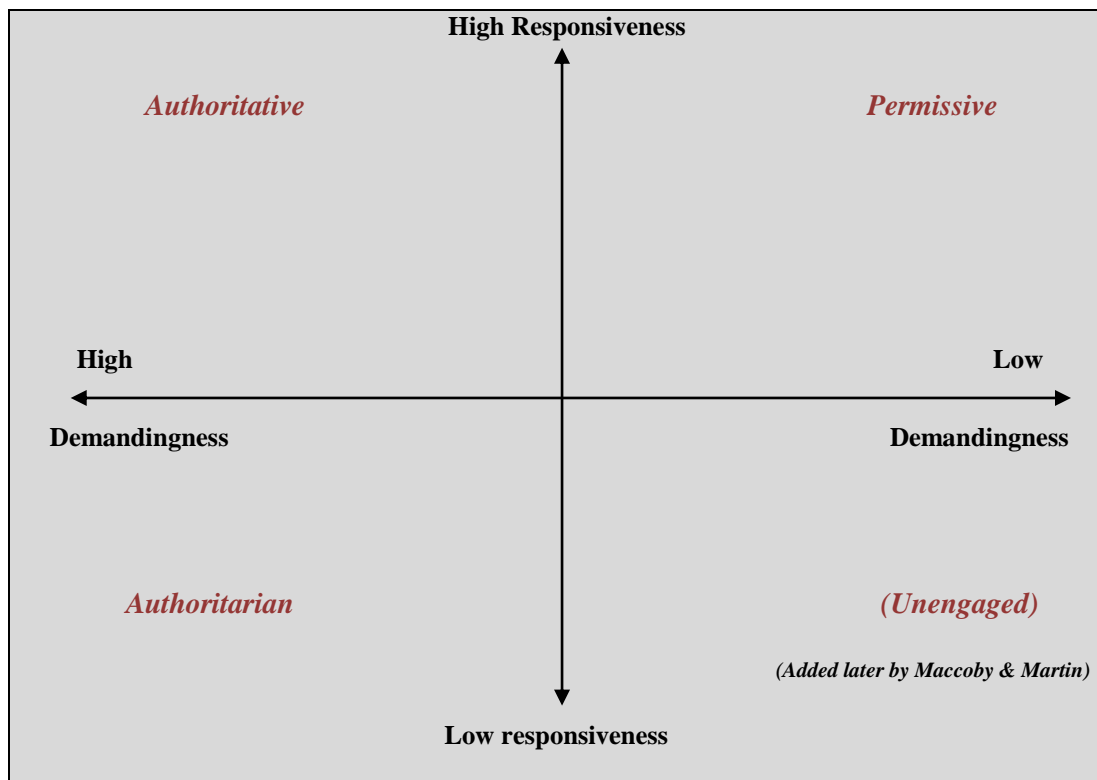


Figure 3: The three parenting styles model of Diana Baumrind

Data analysis reveals a small subgroup of parents that Baumrind was unable to categorise within her predefined factor analysis. Without the parents displaying evident discipline or control in their parenting style, the children were happy and thriving. These parents were prepared to accept a certain degree of behavioural defiance, and focus on avoiding parent-child conflict (Greenspan, 2006:7). Baumrind at first viewed this as an abnormality, but later called this group the *harmonious parents*, who seemed to have control over their children without having to display it. She concluded that harmonious parents are able to use control methods cautiously because they had, through earlier use of authoritative methods, obtained the result that their children are very responsive to even the slightest communication of parental disapproval and therefore misbehave less often (Greenspan, 2006:7). Baumrind later in her adolescence group research referred to them the *democratic* parents (Baumrind, 1991:746-458).

The literature revealed that not everyone was in favour of Baumrind's model of *equal* warmth and parental control. According to Lewis (1981:547-563), Baumrind's model denied a large body of theory and research. Lewis argued that high parental control results in external behavioural compliance but instead could delay the internalisation of adult values. Baumrind

(1983:132-142) responded that she agreed with Lewis up to a certain point, but maintained her opinion that strong parenting control is necessary for the child's development of social competence. Maccoby and Martin (1983:81-83) criticise Baumrind for the fact that she only describes how the parenting style affects the child's personality, neglecting to address the fact that a child's personality can also affect the parenting process. Gurland and Grolnick (2005:103-107) argue against authoritative parenting because it can undermine motivation and self-determination, particularly in older children. The abovementioned researchers emphasised that Baumrind only highlighted the consistent practice of tight control and neglected to acknowledge the context of the situation. They argued that the context of the situation is as important as parental technique and therefore tight control may overrule the child's specific contextual needs for motivation, self-determination and autonomy.

3.2 The three-factor model of Stephan Greenspan

Although the developmental psychologist Stephan Greenspan follows in the footsteps of Baumrind, he argues for a model where the authoritative parenting style could be replaced with a more *harmonious parenting style*. Greenspan supports Gurland and Grolnick's (2005:103-107) argument that authoritative parenting overlooks flexibility and the differentiation of responses to situations requiring discipline, but the model was constructed by giving high scores to both demandingness (control) and responsiveness (warmth). Therefore, Baumrind's harmonious parenting style, which she had previously seen as an abnormality during her research, should be regarded as the preferred discipline style (Greenspan, 2006:5). Greenspan argues for a third factor to be included in this parenting model. He therefore replaced Baumrind's two-factor model (demandingness and responsiveness) with a *three-factor model* including the concept of 'tolerance' (Greenspan, 2006:5-10). The factor *tolerance* will encourage an autonomous lifestyle by allowing the expression of feelings and promotes flexibility by doing more ignoring than punishing. Greenspan (2006:9) also redefined harmonious parenting as "Characteristics of parents who are warm, who set limits when they feel it is called for, and who overlook some (presumably mild) child behaviours in the interest of facilitating child autonomy and maintaining family harmony". Refer to Figure 4.

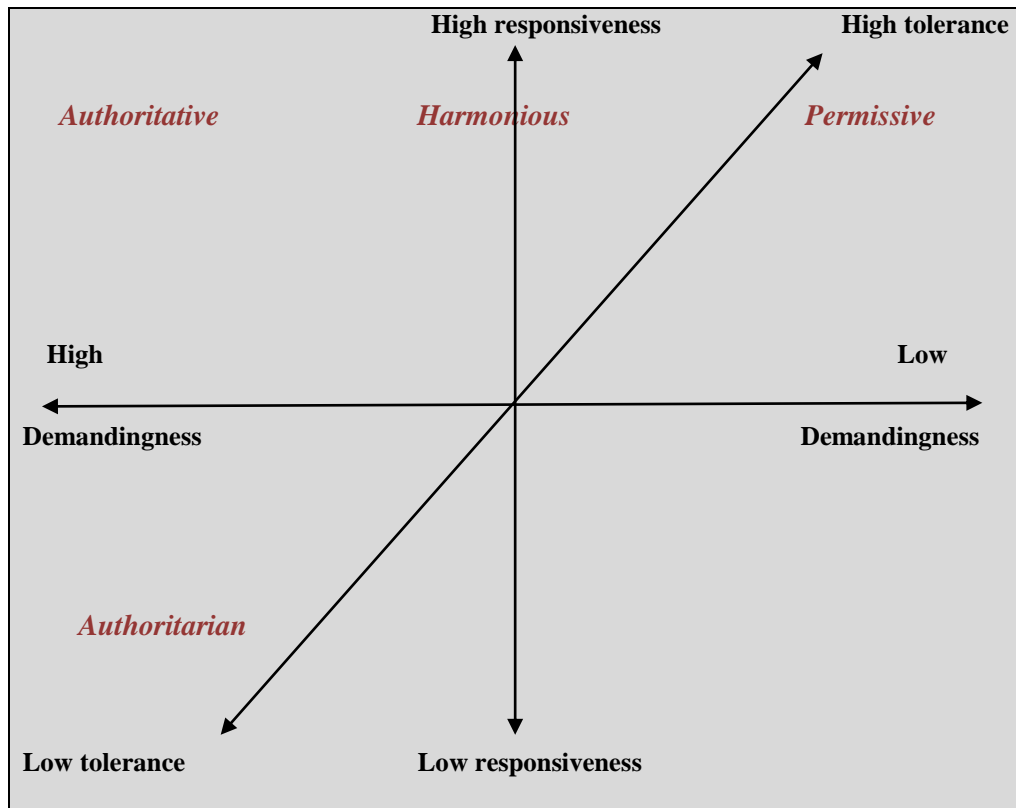


Figure 4: The three-factor parenting model of Stephan Greenspan

On the basis of the above discussion and Figure 4, the researcher interprets Greenspan’s three factor model as follows:

- The *authoritarian parenting style*:
 high demandingness, **low** responsiveness and **low** tolerance
- The *permissive parenting style*:
 low demandingness, **high** responsiveness and **high** tolerance
- The *authoritative parenting style*:
 high demandingness, **high** responsiveness and **low** tolerance
- The *unengaged parenting style*:
 low demandingness, **low** responsiveness and **low** tolerance
- The *harmonious parenting style*:
 moderate demandingness, **high** responsiveness and **moderate high** tolerance

3.3 Critical discussion of the two parenting models by Baumrind and Greenspan

From the above discussion of both Baumrind and Greenspan's parenting models, the researcher came to her own conclusion that she supports Greenspan's (2006:10) and other researchers' viewpoint on the following:

- Baumrind's authoritative parenting style is inadequate and not the ideal parenting style, because it creates the mistaken idea parents need to set limits all the time. It neglects to address the view that parents will have the necessary (contextual) knowledge for setting appropriate limits;
- Baumrind's model advocates that parenting should be an act which focuses much more on behaviour and control;
- Positive/good parenting involves parental skills to distinguish between appropriate actions when parents are faced with difficult and confusing situations. Therefore the technique of authoritative parenting is too inactive and rigid to allow for flexibility in such situations;
- Harmonious parenting is preferable to authoritative parenting, because it includes the three domains of discipline: warmth, control and tolerance. Without tolerance parental control could easily become parental oppressiveness.

But the researcher criticises both parenting models for omitting to address the individuality of both parent and child. None of the parenting models discussed above emphasises the importance of temperament in the parenting process. Instead the focus was on discipline of behaviour and the action of the parents.

Because neither Baumrind's nor Greenspan's model on parenting addressed the importance of accommodating temperament in the parenting process, there is a need for a more different approach. The researcher argues for a primary focus on what is needed in the present moment with a long-term perspective, keeping in mind the nature and inborn temperament of both parent and child, with a secondary focus on behaviour and control. This is the equivalent to the concepts of high *awareness* and *individuality*, two factors missing in the above-mentioned parenting models (Coste, 2011). High awareness includes *flexibility* and is focussed on understanding and addressing the temperaments of both parent and child in the parenting process.

Therefore the researcher argues for a different parenting model and a parenting style that takes into consideration the unique preferences and temperament of both parent and child.

3.4 The conscious parenting style

The conscious parenting style (Fox, 2013) includes the factors and axes: *high awareness (flexibility)* versus *low awareness*, and *individual focus (temperamental needs)* versus *system focus (social norms and values)*. Conscious parenting will accommodate how the temperaments and preferences of both parent and child affect the parenting process. Conscious parenting will score high on *awareness* and high on *individual focus*. The researcher argues that high control would not be necessary because strict control lowers a parent’s conscious levels. When parents make use of high levels of awareness and focus on the individuality (temperament and preference functions) in the parenting process, there will be no need for strict control. The comparison between the different parenting styles and the conscious parenting model is represented in Figure 5.

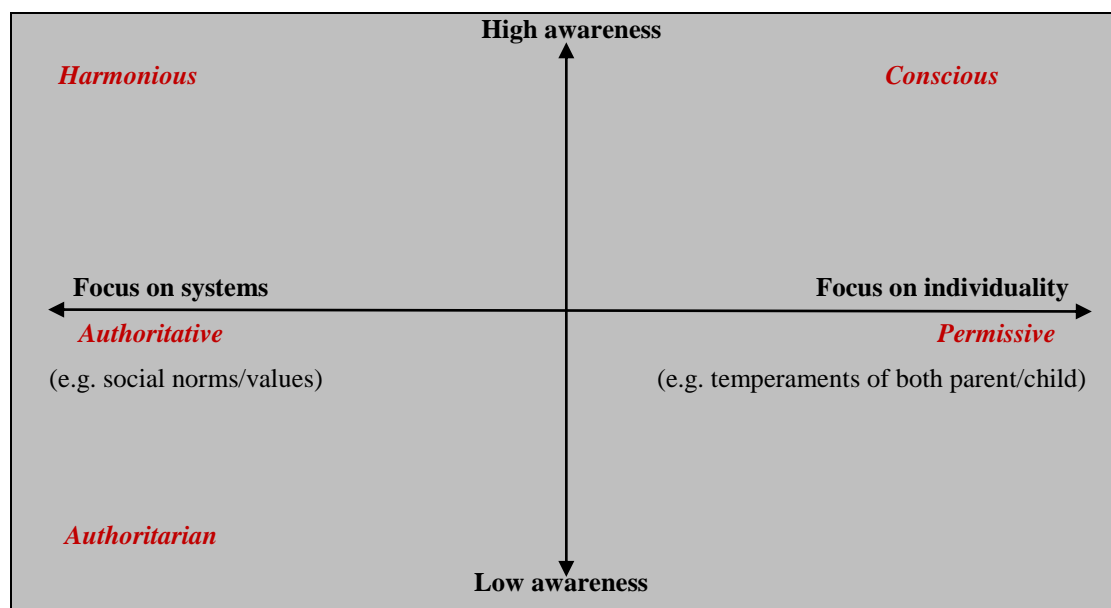


Figure 5: Representation of the different parenting styles

The researcher concluded:

- Because of its intense focus on control, the **authoritative parenting style** will drag the parents toward the system focus. Compared to conscious parenting style, this parenting style will therefore score high on system focus and low on individual focus. These parents are responsive and understanding (moderate on *awareness*), but they will keep their high control (*focus on system*) by letting the outcome of their decisions be determined by their predefined values, norms and rules;
- The **permissive parenting style** will focus at all costs on the individual and try to meet the child's needs, no matter what the societal pressure. But parents can be misguided by focusing only on what the child wants in the moment and not what the child needs in the long term. Therefore they lack the faculty of *awareness* to guide the child into self-awareness;
- The **authoritarian parenting style** is an extreme, controlled version of the authoritative parenting style. Bounded by rules, it neglect the individual focus and would therefore also score low on *awareness* and high on *system focus*;
- The **harmonious parenting style** will be a flexible style scoring high on *awareness*, but with the intense focus on the child's and parent's individuality (temperament), the focus will remain on control of behaviour and would therefore score high on *systems focus*;
- The **conscious parenting style** will also be a flexible style scoring high on both *awareness* and *individuality* (temperament);
- The **unengaged parenting style** does not fit this model in any way, because of the parents' lack of involvement in their children's lives.

It is therefore clear that regardless of a huge amount of research on parenting, little emphasis is placed on acknowledging the significance of temperament and how temperament influences the parents' and child's behavioural choices and interaction. The researcher is of the opinion that the assumption of Carey and McDewitt (1995 in Vogel, 2003:3) is still applicable today: "Despite abundant support of the existence and clinical importance of temperament differences in children, the phenomenon is not well understood by the general public or by health and educational professionals".

The next section will focus on how the temperamental expectations and needs according to the eight preferences discussed in Chapter 3 influence the parent-child interaction (refer back to Chapter 3, section 2.5 and Table 3.2).

4. TEMPERAMENTAL PREFERENCES AND PARENTING: DIFFERENT EXPECTATIONS AND DIFFERENT NEEDS

Parents strive to help their children become successful adults and want to do it in the most positive way (Robinson, 2005:22). However, the researcher argues that differences in our temperaments affect our view of what success is and how to achieve it. Parental expectations represent the parents' view of a happy future for a specific child, but there is always a possibility that this is neither in the best interests of the child nor the best fit for that child (Crawford, 2009:20). Therefore parents need to be aware of how their own natures influence their vision of their child (Tieger & Barron-Tieger, 1997:8-9; Keirse, 1998:254; Kurcinka, 2006:67-70; Penley, 2006:xii). And ultimately the child's nature is equally important, since the child's success will be influenced as much by who he or she is, as by who the parent is (Harkey & Jourgensen, 2004b:147 Kurcinka, 2006:36-62).

Parental expectations are influenced by past experiences but mostly by nature (temperament). They range from how parents want their children to behave, to what they perceive is important for the child's future (Kurcinka, 2006:64). No parental expectation will be categorised as good or bad, but rather in terms of whether it fits the nature and needs of the child (Keirse, 1998:255).

The following discussion will focus on how temperamental expectations and preferences influence the parent-child interaction. Parents tend to have specific behavioural expectations for their children according to their own preferences. The following literature was consulted for the discussion on parental expectations: Kise, Stark and Hirsh, 1996:29-61; Tieger and Barron-Tieger, 1997:15-35; Briggs Myers, 1998:8-12; Tieger and Barron-Tieger, 2000:10-25; Harkey and Jourgensen, 2004b:249-253; 273-292; Penley, 2006:23-92; Kurcinka, 2006:95-104. To facilitate reading, this discussion will be presented without any indication of the literature.

Please note:

Although Myers and Briggs strongly warned against focusing on a single dimension on its own in order to understand individual behavioural functioning, this discussion makes this kind of differentiation solely for the sake of clearer exposition.

4.1 Parental expectations

4.1.1 Extrovert expectation

If parents have a tendency towards extroversion, the chances are good that they look forward to their child having lots of friends and being confident in social environments. Culturally, there is a bias towards extroversion, perceiving the talkative, outgoing nature of an extrovert as more successful and confident. They would struggle with accepting the quiet and more internalised nature of the introvert as having positive characteristics. Extroverted parents are able to create lively environments for their children. They have no problem with expressing interest or being responsive to their children in an outgoing way. However, the emphasis could easily be more on the group experience than the individual's experience. They may spend less time interacting with their children one-on-one and more on the interaction with the family as a whole. Extroverts may talk easily and often to their child, but they may not listen as carefully and attentively as the introverted parent might. Some extroverted parental expectations may include:

- Lots of social activities
- Lots of different friends
- Lots of time out in the world doing things
- Less time at home
- Lots of different activities
- Lots of interaction with others
- Lots of activities and noise at home
- Gregarious and outgoing
- Popular with other children

4.1.2 Introvert expectation

Introverted parents expect that their home provides a quiet and safe refuge from an otherwise noisy world and therefore expect that their child also enjoys and needs time alone to read, play and relax. They are less likely to plan large and regular social events or push for their child to have lots of play dates and extracurricular activities. They might prefer more one-on-one relationships with their children. Although responsive to the child's needs, the introverted parent may spend more time in watching and enjoying the child's behaviour than actually interacting. As the child grows, the introverted parent may seek out and enjoy opportunities for special time with the child, apart from others, including family members. That would be very positive for the introverted child. But the highly extroverted child may find the relationship more intense and confining. Some introverted parental expectations may include:

- Selective and enduring friendship
- Enjoying a quiet home environment
- Less interest in large social events
- Developing deep interest in a few things
- Focused, not easily distracted
- Attentive listeners
- Able to work quiet and independently

4.1.3 Sensing expectation

Parents who have a tendency towards sensing are practical and hands-on. They like teaching their child how to do things (baking and building) and focus on helping the child become independent and self-sufficient. They pay close attention to the child's physical needs (proper diet, clothing, hygiene, dental appointments etc.). Because these parents are so fascinated with the immediate and practical world and the things that can be done in it, they will focus more on reality in the here and now as on possibilities. After explaining a rule once, the sensing parent is less likely to want to repeat and elaborate. Sensing parents can become impatient with assignments where clear instructions are left to the imagination. Some sensing parental expectations may include:

- Developing competencies early (ties shoes, pours milk)
- Paying attention to what is happening now
- Being aware of the physical world
- Enjoying physical and sensory experiences
- Noticing and remembering details
- Following instructions
- Emphasis on skills and competencies that are practical and useful in the future

4.1.4 Intuition expectation

Parents who have a tendency towards intuition are well informed with lots of ideas and explanations that would stimulate their child's curiosity and desire to learn. These parents pay close attention to the intellectual development of their child and spend a great deal of time taking them to museums of all kinds (history, art, science, nature etc.). The intuitive parent may be more open than the sensing parent to change rules, if circumstances permit it or if the child has a persuasive argument. Intuitive parents may take the development of everyday competencies somewhat for granted, paying more attention to their children's special interests and dreaming about their future. As the child moves through the education system the intuitive parent may feel somewhat frustrated by the repetitive emphasis on general skills. They may be less likely to focus on details and instructions, at times missing important information in guiding their child through homework assignments. On the other hand, intuitive parents will be more skilful at helping their children develop their imagination (in any way from writing to science project) and in learning concepts and/or theory. Their goal is to help their child develop his or her unique talents. Some intuition parental expectations may include:

- Development of their child's curiosity about life
- Having creative and unusual ideas; developing unique talents
- Seeing meanings and the big picture
- Enjoying analysing things
- Being inspired by new things

4.1.5 Thinking expectation

Parents who have a tendency towards thinking are straightforward and focus on problem solving. When helping the child with day-to-day situations, the thinking parent tends to focus energy more on trying to solve the problem rather than attending to the underlying feelings and causes. Thinking parents expect their child to develop a certain amount of strength to be able to deal with the challenges of life on his/her own and to be able to confront others appropriately. They enjoy the competitive spirit in their children, but expect them always to be better and a good sport. The thinking parent would not be unconcerned with the child's feelings, but not as aware of what the child is experiencing, and might not express emotions as readily and discuss feelings as freely. They focus naturally on rules, limits and punishment, and would generally be willing to do this before, during or after a disciplinary episode. Some thinking parental expectations may include:

- Using logic and reason
- Being straightforward and expressing what they think
- Being assertive and confident about ideas and needs
- Respecting others
- Unworried about what others think of him or her
- Having a competitive nature
- Treating others fairly
- Being strong on common sense

4.1.6 Feeling expectation

Parents who have a tendency towards feeling will value relationships and harmony. Their expectations will be about how the child relates to others and the nature of the relationship they have with their child. This parent works hard to maintain 'n healthy relationship with the child and focuses on building positive self-esteem by considering the child's feelings. Disciplining of the child is often challenging, since it disrupts the harmony. A feeling parent is likely to show more immediate understanding of the child's emotional reactions. Sometimes they can be more focused on the child's emotional experience than is helpful and not as able to help the child solve problems and learn as a thinker parent would do. Feeling parents may not find it difficult to establish limits in acceptable behaviour, but they will

likely be challenged to consistently enforce consequences. Some feeling parental expectations may include:

- Showing kindness towards others
- Developing empathy
- Being close to the parent and sharing feelings openly
- Wanting harmony with others
- Being well liked and friendly
- Caring more about friendship than competition
- Caring about others unconditionally

4.1.7 Judging expectation

Parents with a judging preference highly value responsibility and organisation. One of a judging parent's goals in parenting will be to raise a solid citizen who is hardworking, responsible and self-sufficient. They are likely to create a home that is organised, has dependable routines and has clear boundaries for acceptable behaviour. They expect their child to respect authority and their job as a parent is to monitor and control appropriate behaviour. Important to note is that the focus of a *sensing-judging* parent and those of an *intuitive-judging* parent will differ completely because they belong to two different temperament groups. This will be discussed later in this chapter. Some judging parental expectations may include:

- Being motivated to get things finished
- Being organised
- Having a strong work ethic
- Being achievement-oriented
- Being responsible
- Doing things well, almost perfectly
- Respecting limits and boundaries
- Respecting authority (of parents)

4.1.8 Perceiving expectation

Parents with a tendency towards perceiving, place a high value on freedom and flexibility. They easily go with the flow and believe that this is an important life skill. When the need arises to accomplish an important task, they work with energy and inspiration at the last moment, and often pull it off successfully. They are not fond of organisation and may struggle with keeping up with all the day-to-day responsibilities of raising children. Some perceiving parental expectations may include:

- Being flexible and adaptable
- Knowing how to enjoy life
- Being easy-going
- Preferring a spontaneous lifestyle
- Loving personal freedom
- Questioning the need for rules

Once again, it is important to note that the focus of a *sensing-perceiving* parent and those of an *intuitive-perceiving* parent will differ completely because they belong to two different temperament groups (see Chapter 2, section 2.6). This will be discussed later in this chapter when more emphasis will be placed on the role that temperament groups (clusters), as identified by Keirsey (1998:32-104), play in the parent-child interaction.

In the light of the above discussion and focus on the preferences of the parents and their different expectations and needs, it is also important to take into consideration children's expectations and needs according to their natural preferences.

4.2 Children's needs and expectations according to their natural preferences

Preferences are the key to a child's strengths and talents (Meisgeier & Murphy, 1987:7) and a child will be empowered to be successful once these preferences are recognised and supported by significant others (Harkey & Jourgensen, 2004a:33). A classic example is those of the *introverted-intuitive-feeling-perceiving* (INFP) child, who will never really enjoy team sport, finding these too competitive and too full of social interaction. The same child might be very happy learning to play a musical instrument or pursuing a more individualistic sport (e.g. karate). It is quite possible that the natural preferences that help this child to be

outstanding in one sport, for example, make him quite ordinary in the others (Harkey & Jourgensen, 2004b:253-254). Therefore, one of the important strategies for balancing nurture and nature is to help the child recognise and manage his or her preferences and natural abilities. An equally important strategy is to help the child accept his or her strengths and weaknesses.

The next discussion will focus on the eight preferences from the perspective of supporting the child's natural needs and expectations. The following literature was consulted for the discussion on children's needs and expectations: Meisgeier and Murphy, 1987:3-7; Kise, Stark and Hirsh, 1996:29-61; Tieger and Barron-Tieger, 1997:15-35; Harkey and Jourgensen, 2004b:253-268; Kurcinka, 2006:73-102; Crawford, 2009:99-113. To facilitate reading, this discussion will be presented without any indication of literature.

4.2.1 Extrovert expectations

The extroverted child wants lots of action, activities and interaction in the outside world, pressing for play dates early on. Adjusting to new environments and new people is often much easier for this child than would it be for introverts. Though school is a lot of fun in terms of the social environment, learning and doing is something the child wants to do with others while talking. The process of speaking out is in fact an important tool for strong extroverts and the quiet nature of many classrooms is difficult for the extroverted child. Completing chores and homework works better when parents are actively and directly involved. The extroverted child will want to discuss and debate everything. Some of the extroverted child's natural needs may include:

- Having lots of fun
- Changing friends from time to time
- Talking while doing and learning
- Being steadily active in the outer world
- Participating in lots of different activities
- Being verbal and challenging during disagreements
- Wanting the parent's discipline to be open and challengeable
- Wanting to talk a lot in the classroom
- Being free to move around and make noise

4.2.2 Introvert expectation

The introverted child will be more content for a much longer time being with close family members and spending time alone at home. In general and throughout the preschool years this child is likely to be happy in a smaller world consisting of those to whom he or she is the closest. Having a special friend will mean a great deal to the introverted child and introverts are likely to invest a lot of time in just a few friendships. Long and enduring friendships will be a great source of happiness to the introverted child and the natural pattern of relationships as they grow up. Some of the introverted child's natural needs may include:

- Wanting one (maybe two) best friend/s
- Resisting social events, especially new, unfamiliar, lots of people
- Having a few but deep interests
- Enjoying being at home
- Wishing to invite friends home rather than visiting them
- Being quiet in the classroom
- Preferring to watch before participating
- Wanting discipline to be quiet and private
- Liking extended time alone

4.2.3 Sensing expectation

The sensing children will prefer events that are focused on the practical and concrete aspects of their world and on what is happening right now. They are hands-on children and like to learn how to do specific things well, from building blocks, baking a cake, kicking a ball and riding a bicycle. They pay close attention to facts and details and are often good at following directions. They are interested in developing competence in everyday activities appropriate to their age and are often ahead of others in this. This may include tying a shoe at the age of four and baking a cake at the age of eight. The child with the opposite preference, intuition, is no less capable of learning these everyday skills but is likely to be less fascinated with this part of life. Some of the sensing child's natural needs may include:

- Wanting to learn how to do things
- Enjoy being competent in specific tasks
- Wanting specific and precise information
- Wanting clear instructions
- Preferring real-world and physical activities
- Preferring stories about real life and people especially when they are older

4.2.4 Intuition expectation

The intuitive child tends to be highly imaginative and will have a curiosity about life's meanings that becomes deeper and more complex with age. Experiencing new ideas will be motivating and at times even inspiring. Taking nothing for granted, the extroverted-intuitive child may ask endless questions, while the introverted-intuitive child may spend a lot of time thinking and daydreaming. The facts and focus on detail of early education do not always advance the natural talents and interests of the intuitive child, who is always looking for patterns and meanings, and such children become easily bored with details and repetition. In general, intuitive children seldom have the opportunity to demonstrate these abilities until after school and beyond. Though most teachers in the lower grades appreciate the questions and curiosity demonstrated by intuitive children, these children may receive some negative feedback for such things as too many questions (disrupting the class), or questions that relate to but are not directly part of the curriculum (child's many questions diverts the class's attention and keeps them from finishing what needs to be done). The extroverted-intuitive child may be even stronger on this point and could easily ask some questions just for the purpose of entertaining or disrupting of the class. Therefore it is important that intuitive children needs to be supported at home. Some of the intuitive child's natural needs may include:

- Wanting to dream about different ideas
- Wanting to know why things are the way they are
- Wanting to think about things and to have clever ideas
- Wanting to think about what the future might bring
- Preferring activities that are creative and imaginative
- Preferring stories about fantasies no matter the age of the child

4.2.5 Thinking expectation

Thinking children tend to focus more on logical sense and more on *what* than *whom*. They enjoy competition but do not like losing, and may even struggle with being a good sport. They are direct and straightforward about what they think. They are able to express their thoughts, believing this is more important than pleasing others. Therefore they are often honest to the point of bluntness. They are usually assertive about their needs and wants, and expect that those in authority (parents and teachers) make good sense. They would rather be liked for their good and sound reasoning and ideas than for their charming personality. Their sense of self-esteem may be more influenced by how accomplished than how well-liked they are. They are typically strong on common sense. Some of the thinking child's natural needs may include:

- Wanting clear and fair rules
- Expecting sound reasoning from others (especially adults)
- Wanting to win
- Wanting others to play fair
- Wanting to find good solutions to problems
- Wanting respect for their ideas
- Wanting to be able to say what they think

4.2.6 Feeling expectation

This child focuses by nature more on *whom* than on *what*. People and relationships are very important, and influence how these children make decisions. They enjoy addressing other people's needs and are happiest when there is harmony between people. They want to be well liked by friends and unconditionally loved by family. They are outwardly emotional and often sensitive to others, having natural empathy. They often take more enjoyment from people than from activities and prefer to participate in activities that include friends or family. Being less competitive than the thinking child, they find being a good sport much easier. They can become easily upset by disagreements and disharmony and often avoid confrontation. Their sense of self-esteem may often be more influenced by how well liked they are rather than how well accomplished they are. Some of the feeling child's natural needs may include:

- Wanting to be loved unconditionally
- Being well liked by friends and teachers
- Having others be caring towards him or her
- Wanting things to be harmonious between people
- Having others be sensitive to his or her feelings
- Being able to choose activities, class projects, teams based upon friendship

4.2.7 Judging expectation

Children with a tendency in their nature toward judging tend to prefer to work and play in a structured, organised and predictable environment. Though all children wish to pursue their immediate interests and impulses, structure and boundaries are more comfortable for judging children than is true for the perceiving child. Judging children may be less cooperative in environments that are unstructured and allow for greater amount of freedom. Like judging adults, they prefer closure and want to be informed when something is going to happen. These children want to have some sense of control over outcomes. The persisting nature of a judging child has benefits. They are more organised and willing to follow rules, and motivated to complete tasks from homework to chores. Some of the judging child's natural needs may include:

- Wanting predictability
- Wanting structure
- Wanting to complete things
- Wanting to control what happens to him or her
- Wanting to achieve goals
- Wanting to know what's going to happen

4.2.8 Perceiving expectation

Perceiving children are spontaneous and easy-going. They love the freedom to enjoy whatever comes up that is interesting and engaging. They have an endless desire for freedom and opportunity. Treating freedom like a reward for getting the boring stuff done can be a positive way to motivate perceiving children. Whereas the judging child may view life's journey with a set of plans and goals in mind, the perceiving child views life as an endless series of opportunities to be taken advantage of. These children wish to remain as open as possible to opportunities. Therefore, structure and routine, so comfortable for the judging child, limits the perceiving child's sense of freedom and opportunities to experience life. This natural resistance to structure and routines creates some significant problems for parents of perceiving children. Unlike the judging child, who is often more cooperative when the environment is more predictable and organised, perceiving children resist regardless. Some of the perceiving child's natural needs may include:

- Wanting freedom to pursue interests and impulses
- Preferring an unstructured environment and spontaneous activity
- Wanting huge amounts of unstructured time to play and have fun
- Working in bursts of energy (may be inspired by deadlines)
- Wanting to keep options open – put off decisions
- Wanting to move on to more interesting things/experiences

4.3 Temperamental conflicts in the parent-child interaction

Although not all challenges in parenting have to do with differences in temperament, Harkey and Jourgensen (2004b:260) argued that a great many probably do. Parents need to do some 'soul searching' because temperament differences can make the parenting process challenging (Tieger & Barron-Tieger, 1997:13-14; Kurcinka, 2006:21-33; Penley, 2006:3-5). 'Soul searching' is a technique by which parents assess if their parental expectations are reasonable, given their child's specific needs and expectations, or if their own strong temperamental preferences dominate their expectations. The 'soul searching' technique assists parents in heighten their awareness levels and they become aware of their own individuality and that of their child. The researcher is of the opinion that this reflects the *conscious parenting style*. This type of parenting evinces awareness, respect and conciliation,

which is possible if the significance of temperament, is acknowledged in the parenting process.

When the parental preferences of the parents are similar, but the child is different in temperament, parents need to be very respectful of that difference. The child could come to feel that his or her entire way of being and thinking is somehow all wrong and would desperately try to be someone else to fit in. Therefore, parents in perfect agreement with each other because of the sameness of their preferences should be especially careful about how visibly they recognise and consider their child's preferences and temperament (Harkey & Jourgensen, 2004b:265). When parental differences create different expectations, the misunderstanding that might arise could easily be a source for disagreement and conflict between the parents. Harkey and Jourgensen (2004b:267) gave the following example to explain this. The example family consists of a highly *perceiving father*, highly *judging mother* and a *perceiving daughter*. The *judging mother* worries about the child being successful in school, in the world of work and, for that matter, in meeting everyday obligations to family and friends. The *perceiving father* thinks that those concerns are highly exaggerated, and is of the opinion that the mother irritates their daughter about things that are not worth the unhappiness it produces. In reality, each parent is bringing something worthwhile to the table. The *judging mother* is not wrong in thinking that everyone needs some level of order and organisation in life. The *perceiving father* is also not wrong for believing that joy in living is more important than a spick-and-span bedroom.

With regard to this example, the researcher is of the opinion that it will be unlikely the parents will reach some point of agreement unless they heighten their awareness and gain some respect for each other's viewpoint by learning to understand why they differ and that their different temperaments produce different expectations.

Penley (2006:41-56) notes that **sensing** and **intuition** preferences may also lead to different advice given by parents when the child experience social problems (Penley, 2006:41-56). The *intuitive parent* is more likely to focus on patterns and connections in behavioural events, while the *sensing parent* is more likely to deal directly with the present situation.

For an *intuitive parent* to understand the highly *sensing child*, or a highly *sensing parent* to understand a highly *intuitive child*, will take some focused effort because the difference in preferences has much more to do with the way each one experiences the world and thinks about it, and less to do with some visible behaviour (Harkey & Jourgensen, 2004b:275; Penley, 2006:45). **Sensors** and **intuitives** mainly notice different things and take delight in different kinds of activities, and that is much harder to recognise and understand. Therefore, an important awareness for the *intuitive parent* and the *sensing child* is first to recognise the child's preference and, secondly, really understand what is pleasing and displeasing to a child with this preference. This will be applicable to many things, from a choice of stories, books and toys for the younger child, to respecting educational and career choices later. *Sensing parents* will be annoyed with an *intuitive child*, whom they perceive as daydreaming and unrealistic (Penley, 2006:48). The child's lack of attention to detail, especially the difficulty in focusing on instructions, could easily frustrate the *sensing parent*. *Intuitive parents* with an *intuitive child* may experience less conflict because of the sameness of their preferences, but they tend to undervalue basic skills development. *Intuitive parents* with a *sensing child* may be disappointed by their child's lack in interest in imaginative projects and assignments, and always think that they need to develop these abilities (Harkey & Jourgensen, 2004b:276).

The *thinking child* with a *thinking parent* will probably have a positive experience with the parent's logical approach; on the other hand, a strongly *feeling child* may experience some lack of tenderness, understanding and support from the way the *thinking parent* approaches the situation. The *thinking child* with a strongly *feeling parent* may find the parent's personal approach and attention to emotions somewhat overpowering, while the *feeling child* will experience the *feeling parent* as caring and compassionate (Harkey & Jourgensen, 2004b:287-288).

An important way in which parents respond to their children's needs is to provide routines and structure in the family environment. The preference for either **judging** or **perceiving** will therefore affect how parents create and manage their family's environment (Harkey & Jourgensen, 2004b:285). With a *perceiving parent*, the *perceiving child* will be comfortable with the flexible structure and will enjoy the parent's spontaneity. On the other hand, a *judging child* with *perceiving parents* may experience stress and discomfort when their need for order, structure and routine is not supported (Harkey & Jourgensen, 2004b:289-291).

From the above discussion it is clear that temperamental preferences influence parenting and affect the parent-child interaction. Recognising these influences is a step towards a *conscious parenting style*, where there is an equal focus on awareness and individuality.

The next section will focus on describing how the combinations within the four basic temperament groups (SJ, SP, NF, NT) identified by Keirsey (1998:32-104) affects the parent-child interaction (refer back to Chapter 3, section 2.6 and Table 3.3).

5 THE FOUR TEMPERAMENT GROUPS: HOW THEY AFFECT THE PARENT-CHILD INTERACTION

Keirsey's unique contribution to the Jungian-Myers-Briggs model was to identify four temperament groups or clusters from the existing 16 psychological types (Keirsey, 1998:15; Joyce, 2010:14). This discussion will focus first on describing the typical parenting approach of each of these temperament groups and, secondly, how it interacts with the child's temperament group to determine whether a *good fit* is possible or whether a *poor fit* will result in negative interaction between parent and child. The following literature was consulted for the discussion on the four temperament groups and how they affect the parent-child interaction: Tieger and Barron-Tieger, 1997:35-43; Keirsey, 1998:32-104, 76-112, 118-157, 163-204; Harkey and Jourgensen, 2004b:293-314.

The discussion includes the researcher's own conclusions or opinions regarding *good-fit or poor-fit interaction* between different temperamental groups.

Please note:

For this discussion the following abbreviations will be used:

SJ for the sensing-judging temperament group

SP for the sensing-perceiving temperament group

NF for the intuition-feeling temperament group

NT for the intuition-thinking temperament group

5.1 The SJ temperament group (*sensing-judging*)

Keirsey (1998:76-112) refers to this parenting group where the two preferences *sensing* and *judging* combine as the **Guardian** parent. This parent values traditional ways of doing things, strongly prefers order and predictability, feels responsible for keeping home, work and community running well, and much prefers the here-and-now world of doing to any other world of the imagination. The **SJ** has an inner temperamental bias that says: “The world is unruly, and I constantly have to work at keeping it in order” (Harkey & Jourgensen, 2004b:294).

According to Harkey and Jourgensen (2004b:293-296) **SJ** parents focus on safeguarding their children and demand that children follow acceptable behaviour. Unacceptable behaviour will be confronted immediately using consistent discipline that is directly linked to behaviour. Because **SJ** parents tend to provide an organised household with clear expectations and responsibilities, they are able to monitor behaviour in the home eagerly and are expected to do that just as efficiently away from home. The researcher is of the opinion that without *awareness* and validation of temperament, this parenting style tends to score high on *demandingness*, moderate to low on *responsiveness*, and low on *tolerance*. The researcher is of the opinion that this temperament group may be linked with Baumrind’s authoritative parenting style (refer back to section 3.1 of this chapter).

A combination with feeling will increase the parent’s capability for responsiveness. The **SJ** parent will interact with each temperament group in a different way and their strong control of behaviour and environment will affect these interactions differently:

The **SJ** parent with the **SJ** child:

The strong **SJ** child, irrespective of thinking or feeling preferences, will accept more easily the **SJ** parent’s sense of order, rules and tradition, and will not need constant repetition on this. This will result in *good-fit* parent-child interaction.

The **SJ** parent with the **SP** child:

The **SP** child will be the **SJ** parent’s greatest challenge. This child has no tendencies towards valuing tradition and order as the reasons for rules. Without *awareness* and validation of the **SP** child’s temperament and preferences, this will result in *poor-fit* parent-child interaction.

The **SJ** parent with **NF** child:

The **NF** child needs warmth and positive feedback as motivation for good behaviour and therefore needs to understand the reasons behind expectations and actions. The **SJ** parent should take this into consideration; otherwise this will result in *poor-fit* parent-child interaction.

The **SJ** parent with **NT** child:

The **NT** child needs explanation and justification of rules and will be the most critical as an adolescent, challenging the **SJ** parent's credibility and authority. Failing to provide such explanations and justifications will create *poor-fit* parent-child interaction.

5.2 The **SP** temperament group (*sensing-perceiving*)

Keirsey (1998:33-71) refers to this parenting group where the two preferences *sensing* and *perceiving* combine as the **Artisan** parent. They tend to live with great enthusiasm and focus on the present moment, giving less thought to future plans and possibilities. Therefore, **SP** parents focus on the here-and-now, on facts and events more than on concepts and possibilities. They focus on skilful doing and on the practical and useful, irrespective of tradition and social pressure.

According to Harkey and Jourgensen (2004b:303-309), the **SP** parent places a high premium on being unconfined and free. They are always ready for action, spontaneous and flexible. They are likely to enjoy caring for their children and even enjoy much of the chaos and activity associated with parenting. In addition, being practical and realistic, they spend less time dreaming about who or what their child might grow up to be and devote more time to enjoying who the child is there right now. They are likely to be optimistic about outcomes. Nevertheless, the **SP** parent tends to be comfortable with disciplining their child when they see fit. Most usually they will stop bad behaviour in its tracks, punish it if necessary and move children on to more acceptable behaviour and perhaps to a new interesting activity. Being flexible, they are likely to be open to their child's ideas and concerns, up to a point. **SP** parents may tend to adopt the 'because I said so' strategy, not because they are controlling but because they are interested in stopping bad behaviour and moving on to something more interesting. Therefore it is clear that the **SP** parent will not shy away from confronting unacceptable behaviour, but they may tend towards much more lenient and tolerant definitions of acceptable behaviour.

To a certain extent permissiveness can be expected, but not when there is overt misbehaviour. The researcher is of the opinion there is a slight *authoritarian* flavour in this temperament group, because they are not likely to have much patience with lengthy explanations of rules and punishments, but they cannot be classed overall as high in *demandingness* or as low in most aspects of *responsiveness*. There is also no reason to think that the **SP** parent would fit the low responsiveness and low demandingness nature of the unengaged parent and they certainly not fit the high *demandingness* and low *responsiveness* of the authoritative parent.

The **SP** parent with **SJ** child:

The **SJ** child should not have a problem with the lack of reasons for expectations and action from the **SP** parent, but they are likely to be frustrated by the lack of consistency, organisation and routines. The absence of a clear and predictable environment may result in less cooperative and more controlling behaviour on the part of the **SJ** child. Without *awareness* and validation of the **SJ** child temperament and preferences, this will result in *poor-fit* parent-child interaction

The **SP** parent with **SP** child:

The **SP** child will appreciate the more *permissive* style of the **SP** parent (lots of freedom to enjoy in the here-and-now), and the warmth and spontaneous interactions typically provided. This will result in a *good-fit* parent-child interaction.

The **SP** parent with **NF** child:

The **NF** child is likely to receive the needed warmth, positive feedback and personal interactions that motivate positive behaviour from the **SP** parent. However, **NF** children need to understand the reasons behind expectations and actions and will be frustrated by the lack of explanation from the **SP** parent. In addition, if the **NF** child behaves in a manner that the **SP** parent would not accommodate, this child may find the hasty disciplinary actions of the **SP** parent somewhat disturbing and cold. This is such a contrast to the otherwise fun and free-spirited nature of the **SP** parent. Depending on the situation there would likely to be both a *good-fit* and *poor-fit* parent-child interaction.

The **SP** parent with **NT** child:

The older **NT** child could be very critical of the **SP** parent's lack of explanation for expectations and lack of thoroughness in discipline. Therefore all sorts of challenges are possible in this temperament combination. Issues around authority and respect, lack of organisation and even sufficient control may create *poor-fit* parent-child interaction.

5.3 The NF temperament group (*intuitive-feeling*)

The combination of the intuition and feeling preferences yields a parent who is fascinated with the possible, full of ideas, deeply committed to interpersonal harmony and kindness, and nurturing and caring towards others. Keirsey (1998:118-157) named this group the **Idealist** parents. These qualities produce a warm, tender and flexible parent. The feeling and desire for harmony should strengthen the intuitive willingness to think about alternatives to disciplinary action. Where feeling in a sensing parent may result in some unwillingness to discuss discipline issues during good times, the **NF** is more motivated to do so as a way to solve problems in advance.

According to Harkey and Jourgensen (2004b:297-303), **NF** parents are more likely to assume that children are inherently motivated towards positive behaviour, needing most of all from the parent *responsiveness* and a warm and affirming approach. These parents spend a considerable amount of time communicating with their children.

As strong feelers, the **NF** parents will tend to emphasise the positive aspects associated with *responsiveness*. They take great care to respect their child's feelings, wants and ideas and are typically open to ideas. They will therefore score high in all areas of *responsiveness* and *tolerance* with lots of warmth and high levels of interaction on a person-centred approach. **NF** parents are less likely to be comfortable with confrontation when children behave unacceptably and more likely to depend upon looking for opportunities to reinforce positive behaviour when it occurs. By nature the **NF** parent tends to understand the being of the child. The researcher is of the opinion that the approach of the **NF** parent linked the closest to the *conscious parenting style*, where parents make draw on high levels of *awareness* and *focus on the individuality* of the child.

The **NF** parent with **SJ** child:

The strong **SJ** child will be cooperative if expectations are clear and predictable. By being able to provide this, a *good-fit* parent-child interaction is likely.

The **NF** parent with **SP** child:

The **NF** parent's flexible approach will be an advantage in this relationship. But the **NF** parent's long heart-to-heart discussions about expectations may be more frustrating to the **SP** child than informative. Without *awareness* and validation of the **SP** child's temperament and preferences, this could easily result in *poor-fit* parent-child interaction.

The **NF** parent with **NF** child:

This child needs lots of warmth, positive feedback, and exchange for good behaviour that would likely be coming from a **NF** parent. **NF** children also need to understand the reasons behind expectations and actions and this is a good-fit with the **NF** parent. Overall, *good-fit* parent-child interaction is possible.

The **NF** parent with **NT** child:

While the **NT** child will appreciate the **NF** parent's willingness to provide reasons and justifications, this child may be critical of the **NF** parent's lack of cool logic. **NT** children may perceive **NF** parents as lacking in willingness to take action (authority) and may perceive them as easy to control or manipulate. Without *awareness* and validation of the **NT** child's temperament and preferences, this will result in *poor-fit* parent-child interaction.

5.4 The **NT** temperament group (*intuitive-thinking*)

Keirse (1998:163-204) refers to this parenting group where the two preferences *intuition* and *thinking* combine as the **Rational** parent. Since knowledge and learning are highly valued by the **NT** parent, sharing and teaching will be embedded in their approach to parenting.

According to Harkey and Jourgensen (2004b:309-314), **NT** parents spend a lot of time analysing and learning about children in general, as well as their child's unique nature as strong *thinkers*. **NT** parents typically have clear and logical ideas about right and wrong and, as highly *intuitive*, they will wish to communicate their reasoning and expectations clearly. Their respect for ideas keeps them open and willing to discuss the arguments and viewpoints of their children and at the same time maintain a confident ability to make decisions and take action. They may sometimes fall short in listening and interacting promptly and sensitively. The typically strong **NT** parent is always up and about, busy involved in a variety of projects. This makes it harder to slow down and really listen, especially if the child is not an equally strong **NT** who insists on being heard out. **NT** parents tend to have fixed ideas on nearly everything. In general, **NT** parents are able to balance many of the aspects of *tolerance*,

responsiveness and *demandingness* and may come the closest to the *authoritative parenting style* with equal scores on control and warmth.

The **NT** parent with **SJ** child:

The strong **SJ** child looks for order and routine, and is most cooperative and comfortable when expectations are clear and predictable. The **SJ** child is likely to appreciate the clear and predictable expectations of **NT** parents, but could be frustrated by too much talk about reasons and rules. With *awareness* and validation of the **SJ** child's temperament and preferences, this could result in *good-fit* parent-child interaction.

The **NT** parent with **SP** child:

The **SP** child will be the **NT** parent's strongest challenge because of this child's free-spirited nature. Without *awareness* and validation of the **SP** child's temperament and preferences, this could easily result in *poor-fit* parent-child interaction.

The **NT** parent with **NF** child:

This child needs to understand the reasons behind expectations and therefore they will appreciate the **NT** parent's effort to explain reasoning and the parent's willingness to consider viewpoints and arguments of the child. In addition, the **NF** child will also appreciate praise and attention from the **NT** parent for good behaviour and achievements. However, the thinker approach of the **NT** parent may make the **NF** child feel less cared for. In addition, **NF** children may be frustrated by their lack of influence in arguing their case, as a result of the **NT** parent's focus on logic and reason and disregard for arguments based upon feelings and values. Without *awareness* and validation of the **NF** child's temperament and preferences, this could easily result in *poor-fit* parent-child interaction.

The **NT** parent with **NT** child:

The **NT** child and parent may have great respect for one another, but this will not necessarily mean fewer arguments. Nonetheless, if the strong **NT** parent accommodates the **NT** child, this could result in *good-fit* parent-child interaction.

6. SUMMARY

The literature study discussed in this chapter forms part of Phase 2 of the D&D model and addressed the objective to explore and describe the different components required in a practice-based ecometric model to assess temperament and preference functions that enhance parent-child interaction.

This chapter highlights the importance of acknowledgement of temperament in both parent and child in the parenting process. The literature reveals that some of the most highly valued research on parenting emphasising a stronger focus on discipline and control completely overlooks the importance of the individuality of both parent and child in the parenting process.

It is clear that without any awareness of temperament in parenting, many parent-child relationships could easily end in a poor-fit interaction. Therefore the researcher argues for a parenting model where more emphasis will be placed on awareness and the (temperamental) individuality of both parent and child. This approach will challenge parents who regard parenting as an act of shaping the child you prefer, and not as a way in which children are assisted to explore ways in which their own unique abilities and preferences can fit well with the rest of the environment.

This chapter heightens the awareness for a parenting style where children are encouraged to believe in themselves, to express their true selves, to trust their perceptions and reactions, and to feel worthy for just being themselves. Such children will grow up to be independent, accommodating, confident, honest, loving and secure, because they will have been raised by parents who accepted, accommodated, respected and celebrated not only their own unique individuality as parents but also that of their children.

The following important components for a practice-based ecometric model to assess temperament and preference functions that assist in enhancing parent-child interaction have been identified:

- The knowledge of the concept temperament;
- Knowledge regarding the different psychological types according the Jungian-Myers-Briggs and Keirsey temperament theories;
- Knowledge of different temperament groups and preference functions with their needs and expectations;
- How temperament and preference functions affect behaviour;
- How temperament affects parenting and knowledge regarding different parenting models with the focus on conscious parenting.

This ends the literature study and discussion on the concepts of temperament and parenting, and of their relationship. The next chapter will focus on ecometrics within the social work context. It will assist the researcher in exploring how the ecometric perspective can contribute to the development of an ecometric temperament sorter.

Chapter Five

Phase 2: The ecometric perspective

1. INTRODUCTION

Ecometrics is a fairly new term that is used in social work to refer to the approach of quantitative or qualitative measurement in the context of ecology (Struwig, 2006:21). The social work profession follows a person-in-environment approach, with system theory and the ecology approach as ground theories. Van Zyl, a social worker, conceptualised the term ‘ecometrics’ in 1995 (Faul, 1995:17). Ecometrics differs from psychometrics. The *Oxford Dictionary* (Van Breda, 2004:24) defines psychometrics as “the science of measuring mental capacities and processes”. Ecometrics, on the other hand, is “concerned with the measurement of the degree of fit (adaptation) between people and their bio-psychosocial environments” (Faul, 1995:17). According to Van Breda (2004:24), the distinction between *ecometrics* and *psychometrics* is highly significant in South Africa, in comparison to the rest of the world, in that in South Africa social workers as a profession are not permitted to utilise instruments registered as psychometric instruments by the Psychometric Committee of the Professional Board for Psychology.

This restriction leaves the social work profession with a need for various psychometrically sound measurement tools (Corocan, 1995 in Van Breda, 2004:24). This constantly growing need led to the establishing of an Ecometric Committee that regulates ecometric instruments within the social work profession (SACSSP, 2011). On 25 April 2003 the Ecometrics Committee held its first official meeting (Van Breda, 2004:24).

There is limited literature on scale development in social work. To date only the two studies of Faul (1995) and Van Breda (2004) have been undertaken. Despite the lack of theory and literature, the researcher undertook a thorough literature review on what was available. This literature study on ecometrics was part of Phase 2 of the D&D model.

The following objective was addressed in this chapter:

- To explore and describe how the econometric perspective can contribute to the development of a temperament sorter;

The researcher aimed to develop an econometric model and it was therefore necessary to assess how the outcome of this study would compare to the guidelines underpinning the Econometrics Technology Policy (SACSSP, 2011) and the fundamental principles of social work.

To clarify the concept of econometrics within the context of this study, the following section focuses on describing the philosophical basis of econometrics as underpinned by the SACSSP (2011) and how econometrics correlates with the major principles of the social work profession.

2. PHILOSOPHICAL BASIS OF ECONOMETRICS

According to the Econometrics Technology Policy (SACSSP, 2011:7), several disciplines make use of measuring instruments unique to their specific field. Psychology, sociology and economics are examples of such disciplines extensively utilizing measuring instruments. Each of these is located in a professional framework.

The concept of *econometrics* is a South African development that describes the use of quantitative and qualitative methods of assessment. Van Zyl (1995:30) refers to econometrics as *measurement in the context of ecology*. According to Van Zyl (1995:31), econometrics is the “methodology of measurement of all aspects of social work and focuses on the way in which people adapt in their environment”. Econometrics draws much of its procedure, theory and technique from a body of knowledge that is known as ‘test theory’ and uses similar principles of measurement theory as used by psychometrics, sociometrics and econometrics (SACSSP, 2011:7). According to Faul (1995:28), econometrics is different from the latter three measurements, but can be seen as a development from these disciplines. It can therefore be defined as follows: “Econometrics refers to the methodological body of knowledge in social

work concerned with the quantification (measurement) and qualification (description) of interactions of a person with the environment. Ecometrics further incorporates a broad spectrum of practice approaches and is suitable for application in diverse practice contexts” (Roestenburg, 2007:2).

Though ecometrics may be viewed as more appropriate to the context of clinical practice because of its methods derived from clinical research, according to the SACSSP (2011:7), it is not entirely clinically inclined because the overall principles of ecometry are applicable across a diversity of practice contexts, including social action and developmental contexts. The SACSP (2011:7-9) underpins four important assumptions in the field of ecometrics, outlined below.

2.1 Ecometrics measures and describes ecology

In contrast with psychometrics, where the emphasis is on the person in isolation, with a specific focus on personality traits and intelligence, ecometrics is concerned with the person-in-environment (SACSSP, 2011:7). Ecometrics focuses on measurement in the context of the ecology and therefore it has to focus on the interaction between people and their environment. Faul (1995:30) stated that ecometrics focuses on describing and measuring people in relation to their social or environmental context as well as on the interactions between people and these contexts. According to Van Breda (2004:26), the target of the person-in-environment differs markedly from psychometrics in the following two respects:

- The boundaries between people and their environments are relatively unstable over time therefore the context is by definition unstable;
- The target is located between people and their environments, and not within people or within the environments.

2.2 Ecometrics measures and describes manifest traits

Ecometrics tends to measure observable traits (SACSSP, 2011:7). Psychometrics, on the other hand, is fundamentally concerned with the measurement of latent (below the surface) variables. According to Van Breda (2004:27), latent variables are elusive and subtle, and so cannot be observed directly. Therefore the items that are used to measure them are

calculations of the ‘true scores’ that is the actual magnitude of the variable. The better the scale, the closer the scale score estimates the true score. Van Breda (2004:28) argues that probably all scales of social constructs measure latent traits, but psychometrics is in practice concerned with traits that are ‘more latent’ than the phenomena social work is interested in.

Psychometrics therefore tends to go a level down and assume that this variable is caused by some other variable – the *second-layer latent variable*. This lower level is extracted and is often then reported as the variable that the scale ‘in fact’ measures. The 16 PF of Cattell is an example of such a scale (Faul, 1995:36). In ecometrics a scale may be developed to measure a certain variable (Van Breda, 2004:28). Items are designed to measure that variable and because it is a social construct, it is also a *first-layer latent variable*. Ecometrics does not attempt to extract second-layer latent variables that lie underneath the first-layer latent variable. Therefore, ecometric technologies have face value, because they measure what they appear to measure. No hidden or second-layer latent variable is being measured (SACSSP, 2011:8).

2.3 Ecometrics is used in assessment

Ecometric technologies have been developed mainly for assessment purposes and not to enable the making of diagnoses (SACSSP, 2011:8). Diagnoses are concerned with classifying the features of a person’s behaviour into a category of personality trait or mental disorder (Van Breda, 2004:28). According to Faul (1995:30), psychometrics is used for diagnostic purposes, whereas ecometrics is used as part of a broader assessment phase with the main purpose of gaining greater understanding of the person in the context of interaction with the environment. Therefore assessment refers to a much broader process that consists of evaluating not only the observable and evident behaviour of a person, but also the cause of the behaviour, the factors that promote or inhibit the behaviour, and the desired outcome of some form of intervention (Van Breda, 2004:28). Furthermore, assessment requires a focus not only on the person but also on the environment. The individual’s symptoms can only be understood within an environmental context, which itself becomes an important target of assessment. Assessment is an integral phase of an intervention process (Faul, 1995:30-31; SACSSP, 2011:8). Diagnoses, on the contrary, can stand apart from assessment and intervention. Van Breda’s (2004:29) conclusion on assessment is worth noting: “Ecometrics is not so concerned with classifying people’s behaviour into categories (diagnosis), as with

understanding the experiences of people in order to inform intervention or other helping processes (assessment)”.

According to Roestenburg and Van Breda (2003:2), measurement is fundamental to assessment. Roestenburg (2011:20) emphasises that ecometrics is an approach towards viewing assessment as a scientific process that can be accurately controlled and be used in a way that promotes accountability and the production of valid, reliable practice knowledge and evidence. Ecometrics therefore advocates the use of the three main principles of assessment (Roestenburg, 2011:20):

- Reliance on scientific theory as reference framework for interpreting all data obtained in the assessment process;
- Reliance on qualitative and quantitative assessment as practice tools for conducting assessment;
- Reliance on a structured assessment processes to maximise the accuracy of assessment.

Ecometrics attempts to give the social worker a practical set of guidelines that can be used to improve the quality of assessment and it is based upon the principle of triangulation. Firstly, the assessment is approached by using a specific preconceived procedure. The next step is to approach the assessment sequence with a mix of quantitative or qualitative assessment technologies. Finally, the assessment findings need to be reflected against appropriate theoretical frameworks. In such cases it is more likely that an accountable assessment product will be achieved (Faul, 1995:21-23; Roestenburg, 2011:21).

2.4 Ecometrics utilises primarily criterion-referenced scaling

Ecometric technologies focus mainly on criterion-referenced scaling, though not necessarily eliminating norm-referenced scaling (SACSSP, 2011:8). Psychometric tests typically connect with specific norms of what is ‘normal’ in society and the standards of the population are used to evaluate people. A person is diagnosed as an abnormal individual if he/she is measured against this normal standard and there is nonconformity with the standard (Faul, 1995:31). In ecometrics there are no norms to specify normal or abnormal functioning. Each individual is unique and can react in a unique way to his/her environment. In ecometrics the ‘norm’ will therefore be more concerned whether the person is experiencing any discomfort

with his social functioning as a consequence of a poor-fit situation within the environment (Faul, 1995:31; Van Breda, 2004:29).

3. ECOMETRICS IN THE CONTEXT OF THE SOCIAL WORK PROFESSION

Definitions of social work describe the nature of this specific field clearly. Over the years numerous definitions have been developed. Faul (1995:18) quotes a few definitions to illustrate this point and came to the conclusion that these definitions have *'the enhancement of social functioning'* as their key concept. The enhancement of social functioning implies the optimal functioning of a human being within a specific societal context.

The overall purpose of the social work profession is best explained by the National Association of Social Workers in America: "The purpose of social work is to promote or restore a mutually beneficial interaction between individuals and society in order to improve the quality of life for everyone" (NASW, 1981 in Faul, 1995:18).

This overall purpose points towards three major principles in the social work profession (NASW, 1981 in Faul, 1995:19):

- The environment should provide the opportunity and resources for the maximum realisation of the potential and ambitions of all individuals within a family, a group or an organisation;
- Individuals should contribute as effectively as possible to their own wellbeing and to the social welfare of others in their immediate environment;
- Interaction between individuals and others should enhance the self-respect, individuality and self-determination of everyone.

Therefore it is clear that the social work profession strives towards enhancing the interaction between individuals within a family system, group or organisation. Social workers must be actively involved in the act of increasing the quality of the individual's adaption to their specific environment.

Because econometrics is applied within the context of social work, Faul (1995:17, 23-24) argues that it is therefore important that the act of measurement must correspond with the **fundamental values** of social work to differentiate it from other professions. These values are outlined below.

- **Developing resources**

Econometrics focuses on the dynamic interaction between individuals within their specific significant environment. It aims to *identify* specific resources that are effective and can be used to enhance individuals' interaction with their environment. It further helps with need assessment to identify lack of resources in the individual's interaction with the environment. Measurement and needs assessment further assist in identifying potential resources that can be of value to the individual and leads the social worker to bringing the individual into contact with these resources (Faul, 1995:24).

- **Encouraging uniqueness and individuality**

Social Workers should respect and affirm the uniqueness of those whom they serve. People differ from one another and therefore the social worker must strive to understand how a person experiences a specific environment or certain situation (Hepworth & Larson, 1993 in Faul, 1995:26). With this in mind Faul (1995:26) emphasises that the measurement developed for econometrics must always take the specific and unique life experiences of the person into account.

- **Emphasising the worth and dignity of a person**

Econometrics plays a significant role in promoting the worth, uniqueness and individuality of each individual. Measurements seek to quantify the individual's adaption within the environment and not on labelling the person. Therefore econometrics focuses on measuring social functioning with the emphasis on behavioural strengths and positive coping skills and not on diagnosing the function of a person. Faul (1995:25) highlighted the fact that social workers need to stop themselves from using measurements with the specific intention to attach unflattering diagnostic or descriptive labels to the respondents, or with the aim of only emphasising the negative aspects of a person's functioning.

- **Encouraging problem-solving capacities and self-determination**

The social work profession proceeds from the viewpoint that people have the capacity to grow and change and to develop solutions for their difficulties. Faul (1995:27) argues that these values are expanded when social workers adopt a strengths-oriented approach, with the focus on possible qualities and undeveloped potentialities, and not on highlighting the individual's limitations and past mistakes. Hepworth and Larson (1993 in Faul, 1995:27) hold the belief that such a strengths-oriented approach inspires hope and courage, nurtures self-esteem and enhances self-motivation. In ecometrics the focus is always on strengths, resources and potentialities in human beings in relation to their environment. Measurement must be a process that involves the individual from the beginning to the end. Results of measurements need to be shared with the individuals in order for them to gain insight into their functioning and to learn better skills and strategies that enhance interaction with the environment (Faul, 1995:27; Roestenburg, 2011:28-29). Hudson (1991 in Faul 1995:28) notes that the key to the effective use of any measurement is to be open and honest about its use and the results. The information must be used to empower both practitioner and client in the helping process.

- **Safeguarding confidentiality**

Confidentiality is vital to the helping process for practical, ethical and legal reasons and social workers are bound by their code of ethics to safeguard confidentiality (SACSSP, 2011:17). Faul (1995:28) emphasises that any type of information gathered through measurement must be treated confidentially and informed consent must always be given before any results are made available to third parties.

4. HOW WILL THIS STUDY UTILISE THE ECOMETRIC PERSPECTIVE?

The aim of this study is to develop an ecometric instrument to be implemented within a practice-based ecometric model to assess temperament and preference functions that will assist in enhancing parent-child interaction. With the literature review in mind, this section focuses on comparing the intended outcome of this study against the important assumptions in the field of ecometrics as underpinned by the SACSP (2011) and the major principles in the social work profession (Faul, 1995:18).

The act of measurement of the proposed prototype will therefore be evaluated in order to assess if it will correspond with the fundamental values in social work as noted in Faul (1995:17, 23-24).

- The focus of this instrument will be on the child and his or her *interaction with the environment*. By assessing the child's unique way of preferred interaction with the environment, the practitioner will be able to guide parents to adapt their expectations of their child according to the child's own unique nature. It will therefore be concerned with the quantification (measurement) and qualification (description) of interactions the child will have with his or her environment and more specifically the parents.
- The proposed instrument will focus on the assessment of *observable traits*. Therefore, it will have face value, because the items will measure what they appear to measure. No hidden or second-layer latent variable will be measured beneath what is apparent and it will not extract other latent variables that lie underneath the first-layer latent variable.
- The proposed instrument will not facilitate the analysis, diagnosis or classification of the child's behaviour into a personality trait or mental disorder. The instrument will be *focused on assessment of preferences* and will be derived from the *type theory* (16 Psychological Type Theory of Jung and Myers & Briggs). The focus of the type theory is on assessing the expression of the child's *interaction with his or her environment*, whereas the focus of the *trait theory* is on analysing the child's personality traits, intellect and function within himself or herself (Schoo, 2008:34). Type theory by nature tends to have a more generalised approach to personality, whereas the trait theory tends to follow a more specific analytical approach (Benson, 2005:52);
- This instrument will focus on *criterion-referenced scaling* and not norm-referenced scaling. It will be a *self-report questionnaire* and *non-judgemental*. It will accept all preferences as equally valuable. There will be no right or wrong answers and the outcome will correspond with the child's own perception of himself or herself. The proposed instrument will be a method for understanding differences and comparisons between the child and the environment (parent and family system) rather than an instrument to measure pathologically disturbed or abnormal behaviour within the child. The "norm" will

therefore be more concerned with whether the child is experiencing comfort or discomfort in his or her interaction with the parental system.

- The focus of the instrument will be to *enhance and optimise interaction between parent and child*. By using the assessed outcome of the instrument, parents will be empowered to understand the nature of their child and therefore *embrace the uniqueness of the individual child*.
- The assessed outcome of the instrument will guide parents to be conscious of their ways of parenting and adapt their expectations towards a more child-focused outcome. Appropriate expectations will lead to less parent-child conflict and will *enhance the dignity of both parent and child*.
- The instrument will *assist practitioners to become actively involved* in the dynamics of the parent-child relationship. Through specific guidance the practitioner can guide parenting outcomes to create a safe and good-fit parent-child environment.

5. SUMMARY

This chapter ends Phase 2 of the D&D model. The objective of explore and describing how the ecometric perspective can contribute to the development of a temperament sorter was addressed. Ecometrics is a fairly new term that is used in social work and refers to the approach of quantitative and qualitative measurement in the context of ecology. Therefore it has to focus on the collaboration or interaction between individuals and their environment. It describes and measures the individuals' relation to their social or environmental context, and on the interactions between them and these contexts. Ecometrics *does not seek to diagnose or classify*, but to measure social function, with the emphasis on behavioural strengths and positive coping skills.

The goal in social work is to enable people and the environment to 'fit' one another, and ecometrics is the technology in social work that relates to quantification of people-in-environment. *Ecometrics* is therefore for social work what *psychometrics* is to psychology. It

is therefore the chosen instrument for all aspects in social work that focus on the nature and extent to which people fit in with their environment.

Although the concept *ecometrics* has only recently been coined and the literature addressing this topic is minimal, it is clear from above discussion that the proposed instrument of this study will utilise the important assumptions in the field of ecometrics as underpinned by the SACSSP (2011) and the major principles and values of the social work profession. Therefore this temperament sorter that will be designed and developed during Phases 3 and 4 of the D&D model can be called a practice-based *ecometric* instrument. The next chapter focuses on Phases 3 and 4 of the D&D model.

Chapter Six

Phases 3 and 4:

Designing, developing and pilot testing the prototype

1. INTRODUCTION

The literature reveals that in order for parents to understand and recognise their children's needs, knowledge of the child's temperament is required (Strydom, 2006:6, Kurcinka, 2006:37; Rothbart, 2011:4). Knowledge of temperaments leads to parents having a better understanding of their children's behaviour and less frustration is experienced, which may in turn lead to a more effective parent-child interaction (Greenspan, 1995:285; Keogh, 2003a:1; Kurcinka, 2006:36-43; Rothbart, Sheese & Conradt, 2009:184,186; Rothbart, 2011:5).

Therefore, the researcher **aimed** to determine how to utilise a practice-based ecometric model to assess temperament and preference functions that assist in enhancing the parent-child relationship. However, in practice, there is no instrument/tool or temperament sorter to be used by therapists (social workers, ministers, counsellors) to determine temperaments and preference functions in children (Struwig, 2006:268; Strydom, 2006:61,447; Struwig, 2011). Mainly questionnaires and parents' observations are used. Books and literature on this subject focus on parental observations and provide parents with questionnaires to complete (Tieger & Barron-Tieger, 1997; Neville & Johnson, 1998; Harkey & Jourgensen, 2004a; Penley, 2006; Brittz, 2008). Multiple questions guide the parents to choose which temperament characteristics correspond with their child's behaviour. However, this method lacks validity (Kagan, 1994:55; Matheny, 2000:82; Vasta, Miller & Ellis, 2001:456-457).

A valid and reliable instrument or sorter which the therapist, who is not qualified as a psychologist, can use to administer and assess temperament is therefore not available in practice. In order to achieve the outcome of the study it was necessary to design and develop an ecometric temperament sorter.

The research sub-questions applicable to this phase in the intervention process are:

- What dimensions are required within an ecometric temperament sorter?
- How can an observational system assist in the item analysis of a prototype?
- How can a pilot study be implemented to assist in the validation of the prototype in order to refine the instrument?

This chapter reflects on both **Phases 3 and 4 of the D&D model** to address these research sub-questions. It describes the designing of an observational system during Phase 3. The designing of items and item analysis (Pietersen & Maree, 2007:218; Delpont & Roestenburg, 2011b:217-218) was done with the help of an application of the Delphi technique (Stuter, 1996; Hsu & Sandford, 2007). The focus was on content validity (Du Plooy, 2009:135-139; Delpont & Roestenberg, 2011a:172) and reliability of measures (Delpont & Roestenberg, 2011a:177) according to the guidelines which have already been laid down by the SACSSP for the evaluation of ecometric instruments (Struwig, 2006:2-3). During Phase 4 the prototype was quantitatively pilot tested with children for validity and refined for use in the next phase.

2. PHASE 3: DESIGNING OF THE PROTOTYPE

During Phase 3 the focus was on the objective of developing an observational system in order to assist with item analysis of the prototype. This was achieved through a quantitative approach.

2.1 STEP 1: Designing an observational system

The researcher, with the help of a panel of experts, identified the different items for the prototype. The researcher used the principles and guidelines of the Delphi technique to obtain this result.

2.1.1 The Delphi technique

The Delphi technique is a method of structuring a group communication process and integrates the judgements of a group of experts. It is appropriate to use when the researcher seeks the informed opinion of participants who have knowledge of a specific topic. The aim is therefore to achieve a merging of opinions on a specific issue or topic (Yousuf, 2007:1-2; Somerville, 2008:1, 9). Dalky and Helmer at the Rand Corporation developed this technique in the 1950s and since then it has been a broadly used and conventional method for achieving a convergence of opinions from experts within certain topic areas. It is therefore an appropriate method to achieve agreement on a certain topic through the distribution of questionnaires to collect data from a group of selected experts (Hsu & Sandford, 2007:1; Yousuf, 2007:2-3).

2.1.1.1 Advantages of using the Delphi technique

According to Somerville (2008:2), this technique is a flexible process uses commonly in the social sciences that is built on four basic features:

- Structured questioning and flow of information
- Feedback
- Control feedback
- Anonymity of responses

The use of questionnaires and the anonymity of panellists avoid those group interaction problems associated with group interviews or focus groups (Murry & Hammons, 1995 in Grobbelaar, 2007:2). Panellists have time to consider their responses before replying. Their responses can be made anonymously, independently and free of social pressure, personal influence and individual dominance (Hsu & Sanford, 2007:2). It can be difficult to bring a group of experts together and this technique allows for opinions and contributions from a group of people who are geographically separate from one another. The process of reading through the questions forces the experts to think and rethink their responses and therefore results in quality feedback. Their input becomes proactive, because they cannot react to answers from other group members (Delbecq & Van der Ven, 1974 in Grobbelaar, 2007:2).

2.1.1.2 Disadvantages of using the Delphi technique

According to Hasson, Keeney & McKenna (2000) little guidance exists to help researchers undertake this method of data collection. Hsu and Sandford (2007:4); Yousuf (2007, 4-5) and Somerville (2008:3) noted the following disadvantages in applying the Delphi technique:

- Time-consuming
- Labour intensive and expensive
- Potential for a high dropout rate of panellists if the process becomes too time consuming

2.1.1.3 Selection of panellists

Individuals are considered qualified to be invited to participate in panel using the Delphi technique if they are capable of contributing helpful inputs through interrelated backgrounds and experiences regarding the target issue (Day & Bobeva, 2005:108; Hsu & Sandford, 2007:3). According to the literature (Day & Bobeva, 2005:109; Hsu & Sandford, 2007:4; Somerville, 2007:4), panel sizes depend solely on the nature of the study. Akins, Tolson and Cole (2005) noted studies that have been conducted with almost any panel size, because there is no clear definition of a 'small' or 'large' panel size.

Because there are no criteria against which an appropriate sample size choice could be determined, panel sizes may vary widely and this leads to disagreement on what exactly is an appropriate panel size (Akins, Tolson & Cole, 2005; Hsu & Sandford, 2007:3; Somerville, 2007:4). Rowe and Wright (1999 in Somerville, 2007:5) investigated the panel sizes in two separate studies and found that there was no consistent relationship between the panel size and effectiveness criteria. Hogart (1978) and Mitchell (1991) determined through their studies that six to 12 members were optimum (in Somerville, 2007:5).

The majority of Delphi studies used between 15 and 20 respondents (Hsu & Sandford, 2007:4). Dalkey (2001 in Day & Bobeva, 2005:109) suggests that seven is the minimum number. Hsu and Sandford (2007:3) also recommend that researchers should use the

minimally sufficient number of subjects. Delbecq, Van der Ven and Gustafson (1975 in Hsu & Sandford, 2007:4) suggest that 10-15 subjects could be sufficient for homogeneous groups. For heterogeneous groups, where expertise is drawn from different social or professional backgrounds, Clayton (1997 in Somerville, 2007:4) suggested that only five to 10 experts could be sufficient. This indicated to the researcher that there is no clear indication of the exact panel size in a Delphi study.

2.1.1.4 Key stages in the Delphi technique

Different stages characterise implementation of the Delphi technique (Day & Bobeva, 2005:105-110; Hsu & Sandford, 2007:2-3; Yousuf, 2007:3-4; Fowles, 1978 in Murat Günaydin, 2013:2-3) and they consists mainly of:

1. Establishing the criteria for the selection of the panellists
2. Establishment of the panel of experts
3. Development of the questionnaire
4. Distribution of questionnaire to panellists
5. Receive first-round responses from panellists
6. Analysis of first-round responses
7. Preparation of the second-round questionnaire
8. Second-round feedback to panellist
9. Analysis of second-round responses from panellists (Stages 7 to 9 are reiterated as long as necessary to achieve the intended stability in the results)
10. Reviewing and documentation of results

Analysis of responses and feedback to the panel depends largely on the degree of consensus between panellists and can repeat as long as necessary to achieve a satisfactory result. The process therefore varies from study to study (Hsu & Sandford, 2007:3). Number of rounds also varying between two and ten but most commonly restricted to two or three rounds (Day & Bobeva, 2005:104).

2.2 Implementing the Delphi technique for this study

Drawing on the above guidelines and information, the researcher used the Delphi technique during phase 3 of the D&D model to assist her with item analysis of the prototype for this study. Consequently, the following steps, *which also reflect the different key stages* of the Delphi technique, were implemented.

2.2.1 Establishing the criteria for the selection of the panellists

The population included all therapists in South Africa trained in The Myers Briggs Type Indicator (MBTI) or Keirsey Temperament Sorter. The **criteria** for panel experts were:

- Formally trained in the MBTI and/or Keirsey temperament sorters;
- Currently using the MBTI and/or Keirsey temperament sorters in their daily practice;
- From the service professions of social work, psychology and pastoral care, because previously training in the MBTI and the Keirsey instruments was available only to these service professions.

For details regarding the MBTI and Keirsey instruments, refer back to Chapter 1, section 3.4.1.

2.2.2 Establishment of the panel of experts

The researcher collected names by word of mouth of those experts who trained in using either the MBTI or Keirsey Temperament Sorters. The researcher used a purposive sampling method (Maree & Pietersen, 2007b:178) for selecting experts for the panel with the specific goal of ensuring heterogeneity in terms of their different fields of expertise (Addendum C). The sample included therapists from the Western Cape and Gauteng regions who trained in the Myers-Briggs Type Indicator and/or Keirsey Temperament Sorter.

The researcher officially contacted nine panellists with a thorough explanation of the aim and objectives of the study and the duties of the panel, asking for their consent to join the panel. (Refer to Addendum C.) Unfortunately, for logistical reasons only seven committed to participating in the study. The panellists were from the following service professions: social work (2), pastoral care (3) and psychology (2). Refer to Table 6.1 for details. The group was anonymous and known only to the researcher and not to each other.

A copy of the protocol of the study was sent to all seven panellists. The researcher informed the panellists of the size of the panel and that the other panellists had similar expertise to theirs. The researcher took care to communicate that each one's contributions were valued. The experts were from different locations. Refer to Table 6.1 for details.

Table 6.1 Expert panel during Phase 3 of the D&D intervention model

CODE NAME	FIELD OF EXPERTISE	REGION
A	Minister & Pastoral Care	Western Cape
B	Minister & Pastoral Care	Western Cape
C	Minister & Pastoral Care	Western Cape
D	Social Worker	Gauteng
E	Social Worker	Western Cape
F	Psychologist	Western Cape
G	Psychologist	Gauteng

2.2.3 Development of the questionnaire

During Phase 2 the researcher undertook a thorough literature study on temperament theory (see Chapter 2) to explore different dimensions of the theory (see Chapter 3), more specifically those of the Jungian-Myers-Briggs and Keirsey temperament theories. As this theory and its application is not unknown to the researcher, special care was taken by the researcher to deepen her understanding of this theory in order to be empowered with extended knowledge regarding this field.

After completion of the literature review, the researcher started compiling as many questions (items) as possible that would fit the different dimensions in the above-mentioned theories. The specific nature of each dimension and the exact preference it addressed was kept in mind. The researcher went back repeatedly to the literature for guidance. After compiling enough questions (items), the researcher started with the **designing of items** by means of a questionnaire within each of the four dimensions: extrovert-introvert; sensing-intuition; thinking-feeling and judging-perceiving. The aim of the questions was to assess the specific preference within each of the four dimensions. Guided by the key stages within the Delphi technique, the researcher distributed the questionnaire containing 226 questions to the panel of experts to assist in first-round item analysis. Refer to Table 6.2 for details.

Table 6.2 Questionnaire for panel of experts

QUESTIONNAIRE FOR THE PANEL OF EXPERTS	
DIMENSIONS	QUESTIONS = 226
Natural flow of energy Extrovert-Introvert (E/I)	60
Function of information intake Sensing-Intuition (S/N)	69
Function of decision making Thinking-Feeling (T/F)	42
Lifestyle + interaction with inner/outer world Judging-Perceiving (J/P)	55

2.2.4 Distribution of a questionnaire to the panellists

In order to understand the instructions clearly, each panellist received the following information. Logistics determined whether the instructions were sent by mail or delivered by hand by the researcher herself:

- A **copy** of the Jungian-Myers-Briggs temperamental dimensions as described in Chapter 3, section 2.3. This outlined the basics of the Jungian-Myers-Briggs and Keirsey Temperament theory and panellists could use it during item analysis, if they needed to refer back to the theory.

- **Four big envelopes:** One for each dimensions clearly marked. Colour codes were used to differentiate between dimensions.

Yellow	- for the Extrovert-Introvert dimension
Orange	- for the Sensing-Intuition dimension
Green	- for the Thinking-Feeling dimension
Blue	- for the Judging-Perceiving dimension

- In each one of the 4 big envelopes were the following:

- **One medium-size envelope** that contained:

- | |
|---|
| <ul style="list-style-type: none"> • The questions (items) cut separately from each other and numbered according to the colour code (Table 6.2); • Clear written instructions. Experts needed to work through the questions in the questionnaire (Table 6.2) and analyse the items according to their content validity. |
|---|

- **Four smaller envelopes** to be used for item analysis according to content validity:

Number of envelope and description	Rating
1. For questions or items that were analysed as most applicable and the content of which was highly valid to meet the criteria for the specific dimension.	Very good question
2. For questions that were applicable, but not as much as those in envelope number one.	Good question
3. For questions that were applicable, but only with some language or content editing. The experts were asked to make suggestions.	Good question, but with some editing to language or content
4. For inappropriate questions that did not fit the dimensions criteria. Those questions did not focus on the criteria of the specific dimension.	Poor, inappropriate question for the boo-boo bin

2.2.5 Receive first-round responses from the panel of experts

Approximately six weeks later the first-round responses were received back from the panellists. Item analysis according to each dimension is indicated in Tables 6.3 to 6.6.

Table 6.3 Expert responses on the dimension: Extrovert-Introvert preferences

EXPERT	Total questions of dimension: Extrovert-Introvert				60
	RATING				
	VERY GOOD	GOOD	EDIT	POOR	TOTAL
A	31	15	8	6	60
B	41	6	6	7	60
C	34	12	5	9	60
D	27	25	3	5	60
E	39	11	2	8	60
F	25	16	8	11	60
G	27	20	10	3	60

Table 6.4 Expert responses on the dimension: Sensing-Intuition preferences

EXPERT	Total questions for dimension: Sensing-Intuition				69
	RATING				
	VERY GOOD	GOOD	EDIT	POOR	TOTAL
A	38	15	2	14	69
B	25	23	7	14	69
C	43	12	8	6	69
D	26	31	5	7	69
E	19	31	9	10	69
F	19	30	8	12	69
G	24	25	9	11	69

Table 6.5 Expert responses on the dimension: Thinking-Feeling preferences

EXPERT	Total questions for dimension: Thinking-Feeling				42
	RATING				
	VERY GOOD	GOOD	EDIT	POOR	TOTAL
A	21	10	5	6	42
B	25	10	5	2	42
C	24	10	4	4	42
D	23	8	6	5	42
E	24	12	2	4	42
F	23	11	5	3	42
G	23	10	4	5	42

Table 6.6 Expert responses on the dimension: Judging-Perceiving preference

EXPERT	Total questions for dimension: Judging-Perceiving				55
	RATING				
	VERY GOOD	GOOD	EDIT	POOR	TOTAL
A	18	23	8	6	55
B	24	17	8	6	55
C	20	23	6	6	55
D	14	28	9	4	55
E	21	25	1	8	55
F	17	28	6	4	55
G	13	29	5	8	55

2.2.6 Analysis of first-round responses

The researcher worked through the item analysis of each panellist looking for those ‘very good’ and ‘good’ questions that received a correspondent response from all seven panellists – for example, a question that all seven panellists indicated as a *very good question*. Furthermore, if only one panellist viewed a question was inappropriate, that question was deleted no matter if the other panellists indicated it as a very good or good enough question. A **combined** response in each of the four dimensions is reflected in Tables 6.7 to 6.10.

Table 6.7 Combined responses in the dimension: Extrovert-Introvert

DIMENSION: EXTROVERT/INTROVERT	TOTAL SCORE OF QUESTIONS = 60
Type of question	Score result
Very good	22
Good	12
Needs some editing	5
Poor and inappropriate	21

Table 6.8 Combined responses in the dimension: Sensing-Intuition

DIMENSION: SENSING/INTUITION	TOTAL SCORE OF QUESTIONS = 69
Type of question	Score result
Very good	22
Good	16
Needs some editing	8
Poor and inappropriate	23

Table 6.9 Combined responses in the dimension: Thinking-Feeling

DIMENSION: THINKING/FEELING	TOTAL SCORE OF QUESTIONS = 42
Type of question	Score result
Very good	21
Good	8
Needs some editing	3
Poor and inappropriate	10

Table 6.10 Combined responses in the dimension: Judging-Perceiving

DIMENSION: JUDGING/PERCEIVING	TOTAL SCORE OF QUESTIONS = 55
Type of question	Score result
Very good	22
Good	15
Needs some editing	4
Poor and inappropriate	14

2.2.7 Preparation of the second-round questionnaire

The researcher deleted from the questionnaire all 68 questions indicated as poor and inappropriate. See Table 6.11 for details regarding the deleted questions in each of the four dimensions.

Table 6.11 Total of questions deleted from first-round item analysis

DIMENSION	Total of Questions deleted = 68
Extrovert-Introvert	21
Sensing-Intuition	23
Thinking-Feeling	10
Judging-Perceiving	14

2.2.8 Second-round feedback to the panel of experts

Second-round feedback was sent back to the panel of experts after the feedback of first-round item analysis. The panellists again received by hand or via mail **four big envelopes**, one for each of the four dimensions. Each big envelope consisted of **two smaller envelopes**. One envelope contained the remaining 158 questions, again separately cut from each other and colour coded according to the different dimensions as previously indicated. The other smaller envelope was for use in their second-round item-analysis process. See Table 6.12 for details on the distribution of questions for the second-round feedback to the panel of experts.

Table 6.12 Distribution of questions in the questionnaire for second-round feedback to the panel of experts

DIMENSION	RATING of remaining Questions	NUMBER OF QUESTIONS	TOTAL = 158
Extrovert-Introvert	Very good	22	39
	Good	12	
	Needs some editing	5	
Sensing-Feeling	Very good	22	46
	Good	16	
	Needs some editing	8	
Thinking-Feeling	Very Good	21	32
	Good	8	
	Needs some editing	3	
Judging-Perceiving	Very Good	22	41
	Good	15	
	Needs some editing	4	

The panellists received clear written instructions to repeat the process. During this round of item analysis, the panel of experts needed to assess for a second time which of the remaining 158 questions they would rate as *very good, applicable questions* in terms of addressing the specific dimension and preference. After completion, they sent it back to the researcher.

2.2.9 Analysis of second-round responses from the panellists

Approximately four weeks later the researcher received the entire second round of responses back from the panel of experts. The panel had successfully narrowed down the number of applicable questions. Only 111 *very good, applicable* questions within the four dimensions remained. Table 6.13 indicates the distributions of items or questions between the four dimensions.

Table 6.13 Questions remaining from second-round responses of the panel

DIMENSION	TOTAL OF VERY GOOD & APPLICABLE QUESTIONS = 111
Introvert-Extrovert	26
Sensing-Intuition	31
Thinking-Feeling	24
Judging-Perceiving	30

The list of applicable questions (items) was successful narrowed down by the input of the panel of experts. Therefore no need exits to continue with a third-round feedback to the panellists. The panellists were informed through electronic mail that the specific assigned goal was achieved (Addendum D).

2.2.10 Reviewing and documentation of results

The researcher used this information on item analysis to design the prototype. It took some 12-13 weeks for the entire administration of the item-analysis process to obtain the desired result. Fortunately, none of the experts dropped out of the study.

3. PHASE 4: EARLY DEVELOPMENT AND PILOT TESTING

Phase 4 addressed the objective: to pilot test the prototype and refine the designed temperament sorter by means of a questionnaire, answering sheet and score chart. This was achieved by a quantitative approach.

During STEP 1 and STEP 2, the focus was on pilot testing the designed prototype temperament sorter for reliability with 46 children using equivalent or parallel form reliability and through quantitative data analysis, and assessed to ascertain whether content, criterion and construct validity was achieved.

3.1 STEP 1: Developing a prototype or preliminary intervention

From the feedback and item analysis of the previous phase, the researcher compiled a prototype temperament sorter for children 9-15 years in the form of a **questionnaire** with instructions, an **answering sheet** and **score chart**. Refer to Addenda L and M for more details.

The researcher used this information on item analysis to design the prototype, which consisted of 88 questions, 22 items for each of the four dimensions (see Table 6.14 for details). Because there is no rule for the number of applicable questions for the questionnaire, 22 questions per dimension was decided upon because this would give children enough choices to indicate a preferred preference and temperament and type. More than 22 questions per dimension would result in a too lengthy questionnaire. Therefore the prototype consists of **88** questions in total. See Table 6.14 for details.

Table 6.14 The prototype instrument: total number of questions/ items

PROTOTYPE	
DIMENSION	TOTAL OF QUESTIONS/ items
Extrovert-Introvert	22
Sensing-Intuition	22
Thinking-Feeling	22
Judging-Perceiving	22

3.2 STEP 2: Conducting a pilot test

The researcher obtained permission from the WCOD to make use of available schools in the Somerset West area in order to distribute the prototype to a sample of children and complete this part of the intervention process. Refer to Addenda A and B for details.

Several schools were contacted (Addendum E) and one primary school indicated a willingness to participate in the study (Addendum F). The researcher targeted the school's after-care programme in order to accommodate the learning environment. The general age for primary school children was 7-13 years; therefore, the researcher also targeted new intakes at her private practice to fill the 14-15 age-group gaps.

The population for the pilot test included all children attending the after-care facility of the particular school and all new admissions to the researcher's private practice during the period May-July 2013 who fitted the criteria. Refer to Table 6.15. The researcher distributed a letter to the parents of the 134 children attending the after-care centre. A purposive sample was taken from the group of after-care children and of children referred to the private practice. Parents gave their written consent (Addenda G and H) and assent was obtained from the participating children (Addendum I). The **criteria for children to participate in the pilot test** are indicated in Table 6.15.

Table 6.15 Criteria for pilot study

<ul style="list-style-type: none">• To be in the specific age group 9-15 years;• Able to read and understand English;• Never completed the MMTIC before.
--

After receiving the necessary consent and assent, **34** after-care children from the age group 9-13 years, **five** 14-year-old children and **seven** 15-year-old children took part in the pilot test. Over a period of 6 weeks **46 children** in total completed the prototype. The children from the after-care group completed the prototype in a classroom facility suggested by the headmaster. The children from the new referrals group completed it individually in the playroom of the private practice at a time convenient for the children.

In order to determine if the prototype was reliable (Delpont & Roestenburg, 2011a:177) the researcher used the Murphy Meisgeier Type Indicator (MMTIC) as a control. The children firstly received the prototype to complete, followed directly by the MMTIC. This is a form of **equivalent or parallel reliability** (Pietersen & Maree, 2007:215). Content, criterion and construct validity (Du Plooy, 2009:135-137; Delpont & Roestenburg, 2011a:174-176) were taken into account during the data analysis to verify if the different instruments showed corresponding results (Pietersen & Maree, 2007:216-218).

It is necessary for the researcher to note the following aspects regarding the two instruments used during Phase 4, step 2 of the D&D model. The prototype is not a look-alike copy of the MMTIC. Although they differ in appearance, they share the same focus and outcome, namely

the assessment of a child’s temperament and preference functions. Both instruments function according to the Jungian-Myers-Briggs theory as described in Chapter 3. Scoring took place within the four dimensions, indicating the preference functions and temperament of the child.

However, the researcher noted the following important differences:

- The prototype and MMTIC differ in the way scoring takes place. Each instrument has different score charts and different scores on items per dimension;
- The MMTIC focuses on the child aged 7 years and older. The prototype is designed for children between the ages 9-15 years;
- Number of questions (items) per dimension differs between the two instruments. The MMTIC consists of 70 questions in total in comparison to the 88 questions of the prototype. Refer to Table 6.16 for details.

Table 6.16 Comparison of the number of questions in the prototype & MMTIC

COMPARISON OF NUMBER OF QUESTIONS IN THE PROTOTYPE AND MMTIC		
DIMENSION	PROTOTYPE	MMTIC
Extrovert-Introvert	22	16
Sensing-Intuition	22	18
Thinking-Feeling	22	18
Judging-Perceiving	22	18

- The instruments differ in their ability to indicate a **low** or **clear** score result on a specific dimension. In order to understand this aspect clearly, it is important for the researcher to note and explain the term **U-band** according to the MMTIC. The **U-band** forms the centre or middle part of the two continuums. Any score falling within the U-band indicates an undetermined preference (Meisgeier & Murphy, 1987:9). This normally happens when a child omits answers, struggles to make a choice or overlooks the question. Therefore the child chooses both answers as indicated for the item. This results in a **U-band score** (Meisgeier & Murphy, 1987:10). According to Meisgeier and Murphy (1987:9), no negative judgment should be made if a score falls within the **U-band**. It simply means that the indication of a preference was not sufficiently clear to justify assignment to one of the two preferences on the continuum.

For the sake of this data analysis, the term *unscore* will indicate a score on the U-band. An *asterisk** will be used in Tables 6.18 to 6.24 to indicate an *unscore* result in the **U-band**. This indicates that no clear preference can be detected from the score. See below for the identification of the **U-band** within each of the four dimensions as in the MMTIC:

➤	Extrovert	U-band	Introvert
	35	47,7 ----- 52,3	70
➤	Sensing	U-band	Intuition
	44	64,4 ----- 69,6	88
➤	Thinking	U-band	Feeling
	42	61,6 ----- 66,4	84
➤	Judging	U-band	Perceiving
	44	63,9 ----- 68,1	88

3.2.1 Data analysis of the pilot study

Before the researcher describes the data analysis of the pilot study, the following aspects according to the sample are noteworthy.

- A total number of **46** children took part in the pilot test. Their ages range from 9 to 15 years. See Table 6.17 for details.

Table 6.17 Number of children within each age group of the pilot test

AGE GROUP	NUMBER OF CHILDREN	% OF SAMPLE
9 years	6	13,1%
10 years	8	17,4%
11 years	7	15,2%
12 years	7	15,2%
13 years	6	13,1%
14 years	5	10,8%
15 years	7	15,2%

- The percentage amount of children within age group ranges between 10,8 and 17,4%. The 10-year-old group was best presented with 17,4 % or 8 children in total. The 14-year-old group in the sample was the smallest with only 10,8% or 5 children in total.

- Children who participated in the pilot study were not considered suitable for the sample during Phase 5 of the study.

In order to determine if the prototype was reliable (Pietersen & Maree, 2007:215), the researcher needed to verify if the two instruments showed corresponding results. For a better reading result, data analysis is discussed according to the different age groups in the pilot test. The focus was on content, construct and criterion validity (Pietersen & Maree, 2007:217).

AGE GROUP: 9 YEARS

- Results of data analysis for the age group: 9 years. Refer to Table 6.18 for details.

Table 6.18 Data-analysis for the age group: 9 years

DATA-ANALYSIS FOR AGE GROUP 9 YEARS		
TOTAL OF SAMPLE = 6 CHILDREN		
Child code number	Prototype score	MMTIC score
1	ESFP	ESFP
2 *	ENFP	E S/N FP *
3 *	ESTJ	E/I STJ *
4 *	ENFJ	ENF J/P *
5	ENTJ	ENTJ
6	ENFP	ENFP

- **Discussion of data-analysis for the age group: 9 years**

Data analysis indicated that three children (Child 1, 5 and 6) in this age group (total of 50%) scored the exact same result in type, preference functions and temperament within each of the instruments.

The other three children (Child 2, 3 and 4) produced a score in the **U-band** (indicated with an asterisk *) with the MMTIC and therefore a clear indication of type, preference functions and temperament was not possible. On the other hand, the prototype indicated a score, however low. **Child 2** *unscored* in the Sensing-Intuition dimension with the MMTIC but indicated an N (Intuition) preference score with the prototype. **Child 3** *unscored* in the Extrovert-Introvert dimension with the MMTIC but indicated an E (Extrovert) preference score with the

prototype. **Child 4** *unscored* in the Judging-Perceiving dimension with the MMTIC but indicated a J (Judging) preference score with the prototype.

The researcher concluded that because of the **U-band** in the MMTIC, it is not always possible to indicate a child’s type when a **low** preference score is present in a specific dimension. According to the MMTIC, a **clear** preference is present when the child’s score results fall outside the U-band (Meisgeier & Murphy, 1987:10). However, a **low** score does not indicate that the child has no specific preference whatsoever in a certain dimension (Meisgeier & Murphy, 1987:9). To overcome this problem, the researcher added additional questions (items) when designing her prototype in order to provide the child with more choices. The prototype consisted of 22 items in each of the four dimensions, whereas the MMTIC item scores differ between 16-18 items per dimension. Refer to Table 6.16 for detail.

Therefore, data analysis according to the prototype produced a specific score in each dimension. With four more questions now available on the Sensing-Intuition dimension, **Child 2** indicated an N (Intuition) preference score. With six more questions now available on the Extrovert-Introvert dimension, **Child 3** indicated a low E (Extrovert) preference score. With four more questions now available on the Judging-Perceiving dimension, **Child 5** indicated a low J (Judging) preference score. Refer back to Table 6.16 for details.

AGE GROUP: 10 YEARS

- Results of data analysis for the age group: 10 years. Refer to Table 6.19 for details.

Table 6.19 Data analysis for the age group: 10 years

DATA ANALYSIS FOR AGE GROUP: 10 YEARS		
TOTAL OF SAMPLE = 8 CHILDREN		
Child code number	Prototype score	MMTIC score
1	ENTP	ENTP
2	INFJ	INFJ
3	INFP	INFP
4	INFP	INFP
5 *	ESFP	E S/N FP *
6	ISFP	ISFP
7	ENTJ	ENTJ
8	ENFP	ENFP

- **Discussion of data-analysis for the age group: 10 years**

Data analysis indicated that seven children (Child 1, 2, 3, 4, 6, 7 and 8) in this age group (total of 87,5%) scored exactly the same result in type, preference functions and temperament with both instruments.

The remaining child (Child 5) produce a score in the **U-band** with the MMTIC and therefore an indication of a preference was not sufficiently clear to justify assignment to one of the two preferences on the continuum. The prototype, on the other hand, indicated a low preference score. Therefore, **Child 5** *unscored* in the Sensing-Intuition dimension with the MMTIC but indicated a low S (Sensing) preference score with the prototype.

The researcher concluded that **Child 5** *unscored* in the MMTIC because of the **U-band** and therefore this probably indicated a low preference score for either the Sensing or Intuition preferences. With four more questions now available to the child in the Sensing-Intuition dimension, a low score was successfully determined with the prototype. Refer back Table 6.16 for details.

AGE GROUP: 11 YEARS

- Results of data analysis for the age group: 11 years. Refer to Table 6.20 for details.

Table 6.20 Data analysis for the age group: 11 years

DATA-ANALYSIS FOR AGE GROUP: 11 YEARS		
TOTAL OF SAMPLE = 7 CHILDREN		
Child code number	Prototype score	MMTIC score
1	ENFP	ENFP
2	ENFP	ENFP
3 *	ENTP	I/E NTP *
4	ESFP	ESFP
5	INF J/P	INF J/P
6	INTJ	INTJ
7	ESTP	ESTP

- **Discussion of data analysis for the age group: 11 years**

Data analysis indicated that six children (Child 1, 2, 4, 5, 6 and 7) in this age group (total of 85,7%) scored the exact same result in type, preference functions and temperament in both instruments.

Child 3 *unscored* with the MMTIC in the Extrovert-Introvert dimension, but with the prototype indicated a low E (Extrovert) preference score. Although the same results were assessed with both instruments, **Child 5** *unscored* in the Judging-Perceiving dimension that indicated a preference in a specific lifestyle.

The researcher concluded that because the **U-band Child 3** indicated an *unscored* result with the MMTIC, which probably showed a low preference score in a specific preference. With six more questions now available in the Introvert-Extrovert dimension, a low score was successfully determined with the prototype. Refer back to Table 6.16 for details. The researcher interpreted **Child 5's** similar results with both instruments as an equal preference for the two lifestyle types. In real life she probably fluctuates between being structured in her approach, but also comfortable with being flexible within an unstructured lifestyle. What is important, though, is that both instruments indicate this unclear preference.

AGE GROUP: 12 YEARS

- Results of data analysis for the age group: 12 years. Refer to Table 6.21 for details.

Table 6.21 Data analysis for the age group: 12 years

DATA ANALYSIS FOR AGE GROUP: 12 YEARS		
TOTAL OF SAMPLE = 7 CHILDREN		
Child code number	Prototype score	MMTIC score
1	INFP	INFP
2 *	ENFP	I/E NFP *
3	ENFP	ENFP
4	ENFP	ENFP
5	ESFJ	ESFJ
6 *	INFJ	I/E NFJ *
7	ENFJ	ENFJ

- **Discussion of data analysis for the age group: 12 years**

Data analysis indicated that five children (Child 1, 3, 4, 5 and 7) in this age group (total of 71,4%) scored exactly the same results with both instruments in type, preference functions and temperament.

With the MMTIC both **Child 2** and **Child 6** *unscored* in the Extrovert-Introvert dimension. The prototype, on the other hand, indicated a low E (Extrovert) preference for **Child 2** and a low I (Introvert) preference score for **Child 6**.

The researcher concluded that because of the **U-band Child 2** and **Child 6** showed an unclear preference score with the MMTIC in the Extrovert-Introvert dimension. With six more questions now available in this dimension, a low E score for **Child 2** and an equally low I score for **Child 6** was successfully determined with the prototype. Refer back to Table 6.16 for details.

AGE GROUP: 13 YEARS

- Results of data analysis for the age group: 13 years. Refer to Table 6.22 for details.

Table 6.22 Data analysis for the age group: 13 years

DATA-ANALYSIS FOR AGE GROUP: 13 YEARS		
TOTAL OF SAMPLE = 6 CHILDREN		
Child code number	Prototype score	MMTIC score
1	ENTP	ENTP
2	ISFJ	ISFJ
3	ESTJ	ESTJ
4	I S/N TJ	I S/N TJ
5	INFJ	INFJ
6	ESFP	ESFP

- **Discussion of data analysis for the age group: 13 years**

Data analysis indicated that all of the six children in this age group (total of 100%) scored exactly the same result with both instruments in type, preference functions and temperament.

It is important to note that **Child 5** *unscored* in both instruments on the dimension: Judging-Perceiving. The researcher interpreted **Child 5's** similar results with both instruments as an equal preference for both Sensing and Intuition on the fourth dimension, which indicated the function for how the child will receive information. Refer back to Chapter 3, section 2.5. In real life the child probably fluctuates between being sensing as well as intuitive in his information intake and scanning of the world around him. Therefore, it was not possible to determine a specific preference with both instruments. What is important, though, is that both instruments indicated this unclear preference.

AGE GROUP: 14 YEARS

- Results of data analysis for the age group: 14 years. Refer to Table 6.23 for details.

Table 6.23 Data analysis for the age group: 14 years

DATA ANALYSIS FOR AGE GROUP: 14 YEARS		
TOTAL OF SAMPLE = 5 CHILDREN		
Child code number	Prototype score	MMTIC score
1 *	ISFJ	I/E SFJ *
2	ISFP	ISFP
3	ENFP	ENFP
4	ESTP	ESTP
5	ISTJ	ISTJ

- **Discussion of data analysis for the age group: 14 years**

Data analysis indicated that four children (Child 2, 3, 4 and 5) in this age group (total of 80%) scored exactly the same result with both instruments in type, preference functions and temperament.

With the MMTIC **Child 1** *unscored* in the Extrovert-Introvert dimension but indicated a low I (Introvert) preference score with the prototype.

The researcher concluded that because of the **U-band Child 1** showed an unclear preference score with the MMTIC in the Extrovert-Introvert dimension. With six more questions now available within this dimension, a low I (Introvert) score was successfully determined with the prototype. Refer back to Table 6.16 for details.

AGE GROUP: 15 YEARS

- Results of data analysis for the age group: 15 years. Refer to Table 6.24 for details.

Table 6.24 Data analysis for the age group: 15 years

DATA-ANALYSIS FOR AGE GROUP: 15 YEARS		
TOTAL OF SAMPLE = 7 CHILDREN		
Child code number	Prototype score	MMTIC score
1	INTJ	INTJ
2	ISTJ	ISTJ
3	ISFJ	ISFJ
4	ESTP	ESTP
5	ESFP	ESFP
6	ENFP	ENFP
7 *	ISFP	I S/N FP *

- **Discussion of data analysis for the age group: 15 years**

Data analysis indicates that six children (Child 1, 2, 3, 4, 5 and 6) in this age group (total of 85,7%) scored exactly the same result with both instruments in type, preference functions and temperament.

With the MMTIC **Child 7** *unscored* in the Sensing-Intuition dimension but indicated a low S (Sensing) preference score with the prototype. The researcher concluded that because of the **U-band Child 7** showed with the MMTIC an unclear preference score in the Sensing-Intuition dimension. With four more questions now available within this dimension, a low S

(Sensing) score was successfully determined with the prototype. Refer back to Table 6.16 for details.

3.2.2 Conclusion on data analysis

The researcher noted the following aspects regarding data analysis for the pilot study during Phase 4, Step 2 of the D&D model:

- Data analysis indicates that **37** out of 46 children scored a **100%** rating. Therefore **80,5%** of participants in the pilot study produced exactly the same outcome with both instruments regarding type, preference functions and temperament;
- The other **nine** children (**19,5%**) *unscored* according to the **U-band**, but successfully indicated a **low** score result in a certain preference with the prototype. The researcher concluded that the MMTIC mainly focuses on **clear** scores (scores outside the **U-band**). The reason for this characteristic of the MMTIC is not clear to the researcher. The researcher speculates that because the MMTIC is designed for children as young as 7 years of age, the designers of this instrument perhaps made allowance for the fact that the young child is still in the development of a specific preference and they accordingly left a gap or allowed room for development. Therefore children are allowed to omit questions and choose both answers instead of only one. This results in the instrument being restricted in showing a **low** score result.

The researcher took note of this disposition and therefore added more items to each dimension in the prototype. Refer back to Table 6.16 for details. Six more items added to the Extrovert-Introvert dimension gave the children greater scope to project their preferred attitude towards the direction of energy flow. Fewer items in the Extrovert-Introvert dimension easily produced an unclear score. This is also the researcher's point of critique against the Keirsey Temperament Sorter, namely that it consists only of 10 items for this dimension in comparison with the 20 items on the other three dimensions. (See Chapter 3 for details.) The researcher also added an additional four items to each of the other three dimensions with the same result.

The prototype gives also clear instructions to the child in order to avoid omissions. It discourages the child from choosing both answers when they are doubtful, and guides the child rather to think which answer he or she preferred the most. (Refer to Addendum I for details). The theory of psychological types assumes that a child will use his or her preferred functions and attitudes whenever possible (Meisgeier & Murphy, 1987:7). By using his or her preferred functions and attitude, the child will develop and strengthen his or her psychological type. Refer to Chapter 3, section 2.5 for details.

- The difference in score results for these **nine** children does not predict that the two instruments have different outcomes. The prototype, with the added items, brings more depth to the score results by allowing the child more room for expressing the preferred preference, no matter if it indicates a **low** preference instead of a **clear** one. (Refer back to Table 6.16 for details).
- Data analysis shows that none of the children (**0%**) in the pilot test indicated a completely different score with either the prototype or the MMTIC, resulting in a totally different type, preference function or temperament.
- The prototype shows **reliability**. The equivalent or parallel form of reliability used during the pilot test indicated efficient results and enough support that the prototype indeed measures the same **construct** as the MMTIC.
- The validity of an instrument refers to the “extent to which it measures what it is supposed to measure” (Pietersen & Maree, 2007:215). The prototype shows **content validity** (Pietersen & Maree, 2007:217; Du Plooy, 2009:135). The different items (22) in each of the four dimensions indicate a preference, i.e. one of the two opposite points of the continuum in a dimension. All 46 children in the pilot test indicated a specific preference towards an attitude or function, sometimes low and sometimes clear. The researcher used the input of a panel of experts to assist her in item analysis. This factor adds to the content validity of the prototype.

- The prototype shows **construct validity** (Pietersen & Maree, 2007:217; Du Plooy, 2009:136-137). The different items within each dimension purposely assessed one of the two opposite preferences on that specific dimension. Accurate item analysis, as with the help of the panel of experts during Phase 3, adds to this validity.
- The prototype consists of no hidden or second-layer latent variables being measured beneath what is apparent, and it does not extract other latent variables that lie underneath the first-layer latent variable. The prototype focuses on the assessment of *observable traits*. Therefore it has face value, because the items measure what they appear to measure (Du Plooy, 2009:136-137). This adds to the **construct validity** of the prototype.
- The prototype shows **criterion validity** (Pietersen & Maree, 2007:217; Baruch, 2009:137) as proven with the equivalent or parallel form of reliability used during the pilot test.
- Both the prototype and MMTIC (Meisgeier & Murphy, 1987:9) focus on *criterion-referenced scaling* and not norm-referenced scaling. Neither of the scores is used to reference any norms. The MMTIC and the prototype are therefore not normative instruments (Meisgeier & Murphy, 1987:9). Both instruments are *self-report questionnaires* and *non-judgemental*, and will accept all preferences as equally valuable no matter how low or clear the score-result. There are no right or wrong answers and the outcome will correspond with the child's own perception of himself or herself. Therefore, the prototype can be assessed as an **ecometric** instrument, because it assesses the expression of the child's *interaction with his or her environment* and does not diagnose or classify the child's behaviour into a personality trait or mental disorder, as psychometric instruments do. Refer to Chapter 5 for details.

3.3 STEP 3: Applying design criteria to the preliminary intervention concept

Data analysis indicated that the prototype was reliable. It further showed content, construct and criterion validity. Therefore no adjustments were needed. The prototype was ready for use in the next phase of the intervention research process. The designed temperament sorter was called:

The *Uknowme88* Type Indicator for Children

Please note:

Because no adjustments were needed, The *Uknowme88* Type Indicator for Children replicates the same instrument as the prototype temperament Sorter in **Addendum M**.

4 SUMMARY

The aim of this study was to determine how a practice-based ecometric model could be utilised to assess temperament and preference functions that would assist in enhancing parent-child interaction. In order to assess temperament and preference functions, therapists need a temperament sorter that has content, construct and criterion validity. As there is no temperament sorter available that is sufficiently reliable to be used by social workers and other professionals other than psychologists, the researcher undertook to design and develop a reliable and valid ecometric temperament sorter that would assess the temperament and preference functions of children aged 9-15 years.

This chapter addressed Phases 3 and 4 of the D&D model used as the design for this study. During Phase 3 the researcher relied on the input of a panel of experts through using the Delphi technique to assist her in item analysis of the prototype. This added to the content validity of the prototype. This process took a couple of months to complete. Anonymity and controlled feedback are some of the advantages of using this technique. Although this technique has some disadvantages – it is expensive and time consuming – the researcher

considers it to be a valuable and worthwhile resource. Fortunately, none of the panellists dropped out of the study. The researcher could rely on their expert input. A prototype temperament sorter with 88 items (22 items per dimension) was successfully designed.

The researcher then selected a sample of 46 children for pilot testing the prototype. To add to reliability, the equivalent or parallel form of reliability was achieved by using the MMTIC equivalent along with the prototype. Data analysis indicated that the prototype was reliable and valid; therefore, no further refinement of the instrument was necessary.

The designed temperament sorter is considered fit to use in the next phase. The next chapter focuses on the collecting and analysis of data during Phase 5 the D&D model. It will assess the designed temperament sorter's effectiveness when implemented in the practice-based econometric model to assist in achieving the aim of the study.

Chapter Seven

Phase 5: Collection and analysis of data

1. INTRODUCTION

The research aimed to achieve an **applied** goal (Welman, Kruger & Mitchell, 2005:25; Fouché & De Vos, 2011:94, 98) to address an interaction problem observed in the parent-child system. In order to achieve the aim of determining how a practice-based ecometric model can be utilised to assess temperament and preference functions that assist in enhancing the parent-child interaction, the researcher developed an ecometric temperament sorter (described in Phases 3 and 4 of the study). The sorter was designed to assist social workers and other professionals other than psychologists to assess temperament and preference functions in children aged 9-15 years.

The previous chapter focused on **Phases 3** and **4** of the D&D model. It described the designing of an observational system and a prototype. **Exploratory, intervention, descriptive** and **evaluation research** was conducted in an attempt to ascertain which dimensions and items should be used in the ecometric temperament sorter (Babbie & Mouton, 1998:79-81, 337; Neuman, 2000:3; Fouché & De Vos, 2011:95-98).

During **Phase 3** the designing of items and item analysis was explored quantitatively with the help of the Deplhi technique (Stuter, 1996; Hsu & Sandford, 2007). During **Phase 4** the prototype was developed in the form of a questionnaire, an answering sheet and score chart, and then pilot tested with 46 children. The outcome of the pilot test indicated that the prototype had content, construct and criterion validity and therefore it was reliable according to the guidelines of the SACSSP for the evaluation of ecometric instruments (Struwig, 2006:2-3). It was therefore assessed as ready to be used as a temperament sorter in the next phase of the D&D model.

This chapter describes **Phase 5: Evaluation and advanced development**, as the final stage in the D&D model, because Phase 6: Dissemination will not form part of this research project. This chapter aims to answer the following research question:

How can the designed temperament sorter be implemented in the practice-based econometric model to assess its effectiveness to assist in addressing the aim of the study?

Therefore this chapter focuses on the objective of implementing the designed temperament sorter in the practice-based econometric model and assessing its effectiveness to assist in addressing the aim of the study. Refer back to Chapter 1, section 2.

2. PHASE 5, STEP 1: SELECTING AN EXPERIMENTAL DESIGN

To assess whether the designed temperament sorter effectively assisted in addressing the aim of the study, a multi-phased approach, using the **one-group pre-test post-test design** (Fouché, Delpont & De Vos, 2011:147-148) was followed.

The population for this part of the study included all married parents and their children from an intact family bond in the Western Cape Province who registered for therapy at the researcher's private practice in Somerset West during the period mid-October to November 2013. The service offered by the practice extends over a large area in the Western Cape and included parents and children who reside in Durbanville, Brackenfell, Kuilsriver, Stellenbosch, Somerset West, Strand, Gordon's Bay, Malmesbury, Vredendal, Paarl, Wellington, De Doorns, Hermanus, Gansbaai, Bredasdorp and Swellendam.

Non-probability selection (Maree & Pietersen, 2007b:176; Du Plooy, 2009:115,122; Strydom, 2011b:231-234) was utilised with purposive sampling (Berg, 2007:64; Maree & Pietersen, 2007b:178; Strydom, 2011b:232). The sampling was criterion based (Nieuwenhuis, 2007a:79), which refers to the fact that participants were selected on the basis of defining characteristics that fitted the criteria that made them bearers of the data needed for the study

(Maree & Pietersen, 2007b:178). The judgement of the researcher determined if a case was suitable for sampling. Consent from parents and assent from their children were obtained (Addenda J and K).

The **criteria for selection for parents** within participant-group C were:

- Parents of children (9-15 years) from both genders and of any culture who presented themselves at the practice for service to that child;
- Parents need to be a heterosexual married couple and within an intact relationship. Intact families are seen as families who have all the members ascribed to them, for example, parents and children where the bond between parents and their children is not interrupted by divorce or death. This aided in demarcating the study and excluded possible variables that could complicate the parent-child interaction;
- Parents should not have had any previous experience with regard to temperament analysis, whether elsewhere or at the practice;
- Parents should be able to converse in either English or Afrikaans.

Participating children were asked only to complete the designed temperament sorter. The **criteria for selection for children** within participant-group C were:

- Children (9-15 years) of any gender and culture whose parents presented them at the practice for service to that child;
- Children should be from an intact family where the bond between parents and their children is not interrupted by divorce or death. This aided in demarcating the study and excluded possible variables that could complicate the parent-child interaction;
- Children should not have had any previous experience with regard to temperament analysis, whether elsewhere or at the practice;
- Children should be able to read and understand English.

Seven parent groups (PGA, PGB, PGC, PGD, PGE, PGF, PGG) and their children (Child 1 to 9) were sampled for the study. Five parent groups had one child each and two parent groups had two children each.

Please note again:

The term **parent group** refers to the father and the mother (parent couple) of a specific family and not to a group of different parents from different families.

Refer back to Chapter 1, section 3.4.3 regarding participant-group C and to Table 7.1 for details.

Table 7.1 Participant-group C during Phase 5 of the D&D model

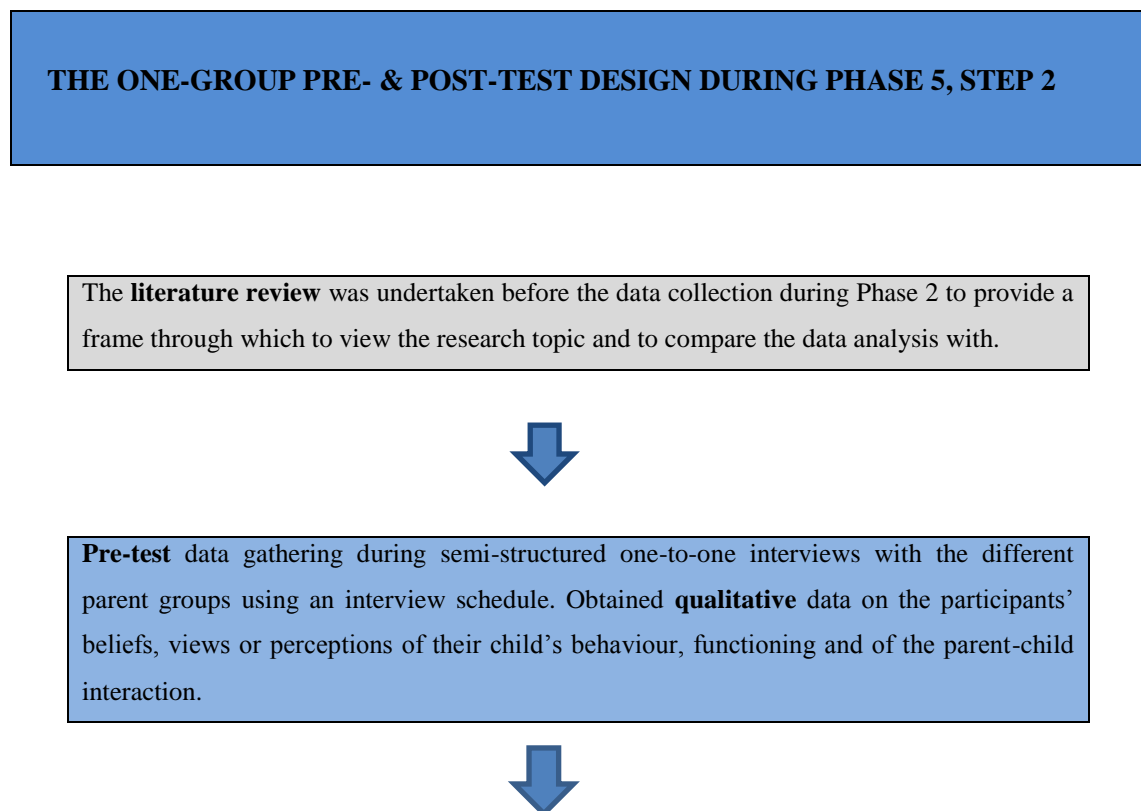
PARENT-GROUP PG	CHILD	TEMPERAMENT TYPE & PREFERENCES	GENDER	AGE	RACE GROUP
A Mother PGA1 Father PGA2	Child 1	NT temperament INTJ	Male	9	White
B Mother PGB1 Father PGB2	Child 2	SJ temperament ISTJ	Male	10	White
C Mother PGC1 Father PGC2	Child 3	SJ temperament ISTJ	Female	9	White
D Mother PGD1 Father PGD2	Child 4	SJ temperament ISTJ	Female	9	White
E Mother PGE1 Father PGE2	Child 5 Child 6	NP temperament INTP NF temperament ENFP	Male Male	11 13	White
F Mother PGF1 Father PGF2	Child 7	SJ temperament ISFJ	Female	12	White
G Mother PGG1 Father PGG2	Child 8 Child 9	SJ temperament ISTJ NF temperament ENFP	Female Female	14 11	White

According to Greeff (2011:350), there are two criteria when considering what is ‘enough’ in respect of participants for a qualitative research design. The first criterion is **sufficiency**, which takes into account whether there are sufficient numbers to reflect a range of participants. The second criterion, as discussed by Greeff (2011:350), is **saturation** of information. This occurs when the researcher starts recognising the same information being repeated and does not learn anything new.

Sampling for qualitative research can be seen as relatively limited and based on reaching saturation (Sarantakos in Strydom & Delpont, 2011:391). In respect of the research, data saturation occurred with the seven parent-child groups, as will be discussed later. Marshall (1996:523) indicates that a suitable sample size for qualitative research is one that effectively and sufficiently answers the research question. The sample as indicated in Table 7.1 was able to answer the research questions and was therefore considered as a sufficient sample size.

3. PHASE 5, STEP 2: COLLECTION AND ANALYSIS OF DATA

The researcher presents the data collection and analysis process first by means of a schematic view in Figure 6. A detailed description then follows.



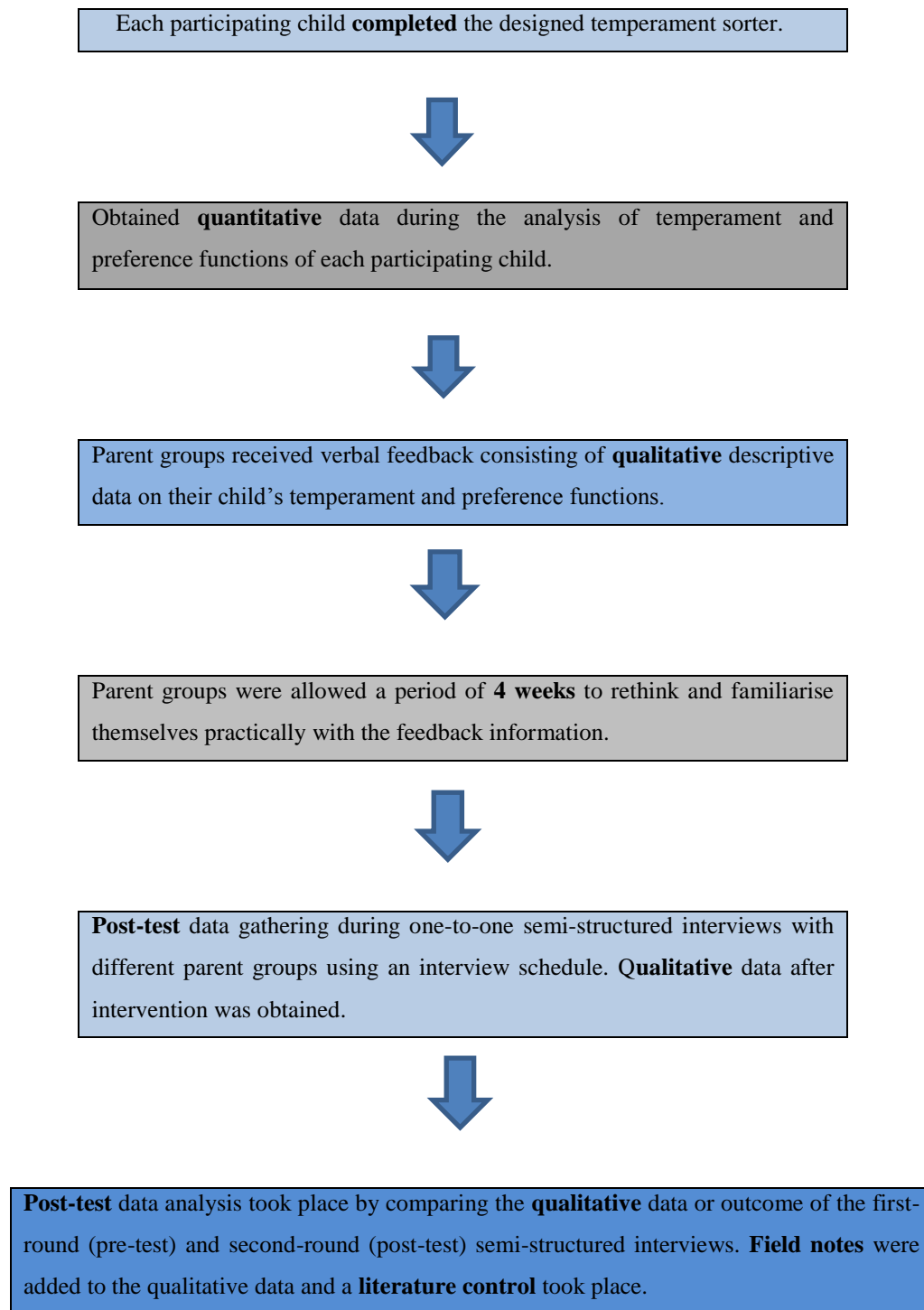


Figure 6: Schematic view of the data-collection and data-analysis process during Phase 5, Step 2

The **literature review** (Delpont, Fouché & Schurink, 2011:297-306) was undertaken before data collection to provide a frame through which to view the research topic. A **literature control** was conducted as part of the data analysis so as to compare and contrast the data with themes and categories that emerged in the literature (Creswell, 2003:30-31; Delpont, Fouché

& Schurink, 2011:305-306). After the data analysis the researcher continued to explore the literature as there were certain aspects discussed by the participants that were unexpected. Therefore the researcher added further literature to the data-analysis process to ensure thoroughness.

The researcher made use of **interviews** as the method for data collection. The aim was to experience the world through the eyes of the participants and thereby harvest rich and descriptive data (Nieuwenhuis, 2007a:87). Qualitative and quantitative data were obtained through a multi-phased approach with first-round and second-round semi-structured interviews during the **one-group pre-test post-test design** (Fouchè, Delpont & De Vos, 2011:147-148).

Semi-structured one-to-one interviews (Greeff, 2011:351-352) were conducted with the participating parent groups (as described in Chapter 1, section 3.4.3) to gain a detailed account of the participants' beliefs, views or perceptions (Greeff, 2011:351-352) regarding their child's behaviour, functioning and the parent-child interaction. The strength of the one-to-one interviews is that it elicits individual experiences, opinions and feelings. One-to-one interviews are also important when researching sensitive topics (Mack, Woodson, MacQueen, Guest & Namey, 2005:30), as was the case in this research.

During the initial intake (first-round interview) qualitative information (pre-test) was gathered through **semi-structured interviews** (Nieuwenhuis, 2007a:87-89) with the participating parent groups (mother and father). The interview was conducted at the private practice at a time convenient for the parents. An **interview schedule** defined the line of inquiry with some basic predetermined questions regarding the parents' perception of their child's behaviour; the here-and-now interaction with their child, and their knowledge regarding temperament and preference functions. Refer to Addendum N for details.

After that the children of participating parent groups were individually exposed to the intervention or designed temperament sorter. They only had to complete The *Uknowme88* Type Indicator for Children. They completed the task, which lasts approximately 40-45 minutes, at the researcher's private practice. After the **quantitative** temperament analysis took place, the parents were called back for verbal feedback regarding the outcome of the

designed temperament sorter. Feedback consisted of **qualitative** descriptive data regarding their child's temperament and preference functions, and how these influenced their child's needs and expectations. Feedback was provided at the researcher's private practice and lasted approximately 60 minutes. In order to give the parents ample time to rethink and familiarise themselves practically with the given information, second-round **semi-structured interviews** with the parents were held four weeks later. The researcher again used a semi-structured **interview schedule** (refer to Addendum O) to obtain second-round **qualitative data** (post-test) on the parent-child interaction.

Data analysis for the qualitative process (Schurink, Fouché & De Vos, 2011:399-417) took place by comparing the data or outcome of the first-round (pre-test) and second-round (post-test) semi-structured interviews in order to determine if the designed temperament sorter, the *UKnowme88* Type Indicator for Children, effectively assisted in addressing the aim of the study when implemented within the practice-based econometric model. Data analysis focused on assessing if the utilisation of the practice-based econometric model had indeed:

- assisted in helping parents to understand their child's temperament and preference function in order for them to adjust their parenting style;
- enhanced the parent-child interaction.

The first-round (pre-test) and second-round (post-test) semi-structured interviews with the parent groups occurred in a confidential space, namely the researcher's private practice. The interviews ranged in length from 60-80 minutes each. **Field notes**, which included the researcher's impressions and observations, were recorded during and immediately after the interviews (Greeff, 2005:359) and were added to the collected data. The notes guided the researcher especially in clarifying information during the interviews. They further assisted the researcher in making the data more substantial and also added the researcher's thoughts on what had been discussed.

Qualitative data analysis can be described as an on-going process, which suggests that data collection, processing, analysis and reporting are intertwined (Nieuwenhuis, 2007b:99-100). The process of data analysis involves the following: making sense of the data, conducting different analyses, representing the data and interpreting the data (Nieuwenhuis, 2007b:110-115; Schurink, Fouché & De Vos, 2011:401-419). Lincoln and Guba (cited in Schurink, Fouché & De Vos, 2011:419-421) outline four categories for validity of qualitative research: credibility, transferability, dependability and confirmability. The findings of the proposed research were tested against these four categories in order to prove the findings are valid and will be discussed in Chapter 8, section 4. Creswell's analytical spiral (Creswell, 2007:150-155) as integrated in Schurink, Fouché and De Vos (2011:404-419) was used for data analysis in this study. This method will be discussed briefly.

3.1 Planning for the recording of data

Planning for data collection included acquiring a dictaphone to use for data recording of the interviews. The researcher used a video-recorder as a back-up *sound* recorder only; the cover remained on the lens to ensure that only the audio portion of the interview was recorded.

3.2 Data collection and preliminary analysis

Schurink, Fouché and De Vos (2011:405) state that data analysis in qualitative research requires a twofold approach. The first is focused on data analysis during data collection at the research site and the second is data analysis during data collection. In qualitative research data collection and analysis are in an inseparable relationship. "Data collection and analysis thus typically go hand in hand in order to build a coherent interpretation of the data" (Schurink, Fouché & De Vos, 2011:405). The researcher attempted to note analytical insights that occurred during data collection, because too exclusive a focus on analysis while the data collection occurs can interfere with the openness of qualitative inquiry (Schurink, Fouché & De Vos, 2011:407).

3.3 Organising the data

The researcher saved and labelled the recorded data indicating the different parent-group number and the child's number. A distinction was also made between the mother and the father: i.e. **PGA**; **PGA1** (mother); **PGA2** (father) and **Child 1**. Refer back to section 2 and Table 7.1 of this chapter and note again for clarification the explanation of the term '**parent**

group’ for this study. Therefore a specific parent group with child could not be identified; only their number and the child’s number were identifiable. Field notes were also saved in the same way, as were the back-up copies of the data.

3.4 Reading and writing memos

The researcher listened to each recorded interview several times, while making notes. After that the notes were read through and key words or phrases in the text were highlighted.

3.5 Generating categories, themes and patterns

Schurink, Fouché and De Vos (2011:410) state that during this phase of the analytical spiral category formation represents the core of qualitative data analysis. This is an analytical process and themes, recurring ideas and patterns of belief begin to link and connect across the participants and their different settings. Classification involves identifying general themes; these themes then are divided into categories and sub-categories as appropriate. Categories “should be internally consistent but distinct from one another” (Schurink, Fouché & De Vos, 2011:410). Categories, themes and sub-themes generated from this research are listed in Table 7.2 to Table 7.7.

3.6 Coding the data

Once categories and themes have been generated from the data, a coding scheme is then applied to them (Nieuwenhuis, 2007b:105). Schurink, Fouché and De Vos (2011:410-411) state that coding can range from abbreviations of key words, colours, dots and so on. They also noted that while coding the data, new understandings may emerge and changes need to be made as appropriate. The researcher made use of different colours to code the data and then, as new perceptions started to emerge, the researcher used key words for coding.

3.7 Testing emergent understandings and searching for alternative explanations

This part of data analysis involves evaluating the data for their usefulness in answering the research questions (Schurink, Fouché & De Vos, 2011:415-416). The researcher attempted to look at both the ‘said’ and the ‘unsaid’ within the data. Data were viewed against the body of knowledge previously obtained during Phase Two of the D&D model. A literature control was also conducted in the data analysis (Delport, Fouché & Schurink, 2011:305-306).

3.8 Interpreting the data

Flick (2006 in Schurink, Fouché & De Vos, 2011:416) notes the importance of this phase in the qualitative data analysis process. At this point in data analysis the researcher needs to step back and adopt a wider perspective on what is going within the data. The researcher followed the *emic* or first-order interpretation approach (Schurink, Fouché & De Vos, 2011:417) by interpreting the data or making it understandable from the viewpoint of the people being studied. How the participating parents perceived their child's behaviour and their interaction, and how the parents defined the situation and what it meant to them guided the researcher in interpreting the data.

3.9 Presenting the data and writing the qualitative data report

In this final stage of the data-analysis spiral the accumulated data are presented. The data analysis and findings will be discussed below.

4. FINDINGS

During the semi-structured interviews, the parent groups expressed their opinions and perceptions on different aspects connected to temperament, troublesome behaviour of the child, the parent-child interaction and the parent-child relationship. These responses were grouped into themes, categories and sub-categories as a way to order and identify the core findings. See Tables 7.2 to 7.7 for details.

The discussion of data linked to the **one-group pre-test post-test design** (Fouché, Delpont & De Vos, 2011:147-148) used for data gathering. Qualitative data obtained during the semi-structured interviews of the pre-test and post-test will be discussed separately. See Tables 7.2, 7.3 and 7.4 for data analysis before intervention and Tables 7.5, 7.6 and 7.7 for data analysis after intervention.

In presenting the data it is important to bring the voice of the participants into the report. The researcher made use of short, eye-catching quotations (Nieuwenhuis, 2007b:115; Delpont & Fouché, 2011:426) to enrich the findings. Abbreviations were used for the seven parent groups (**PG**) indicated by alphabetical letters A-G, i.e. **PGA**, **PGB**, **PGC**, **PGD**, **PGE**, **PGF** and **PGG**, to assist in the reading process. The 9 children were referred to with numbers, i.e. **Child 1** to **Child 9**. To distinguish between the parents, the researcher used the numbers **1** for

mothers and 2 for the fathers in conjunction with the different parent groups, i.e. **PGA1** or **PGA2**. Refer back to Table 7.1 for details.

Some of the participants were Afrikaans speaking and the researcher switched to their language during the semi-structured interviews. These parents’ actual quoted comments were also indicated in the data analysis to ensure reliability.

4.1 Pre-test data analysis

To facilitate the reading of this section, each one of the three categories is presented separately, followed immediately by a discussion of the data analysis (themes and sub-themes). Tables 7.2 – 7.4 focused on pre-test data analysis **before the intervention** or implementation of the designed temperament sorter.

4.1.1 Category One: The concepts of temperament and preference functions

Table 7.2 Category One: The concepts of temperament and preference functions

Category One: The concepts of temperament & preference functions	
Theme	Sub-themes
❖ Theme One: Parents’ understanding of temperament and preference functions	• Sub-theme One: Temperament is learned
	• Sub-theme Two: Temperament is fixed and cannot change
	• Sub-theme Three: Temperament refers to emotions
❖ Theme Two: Parents’ knowledge regarding their own child’s temperament and preference functions	

❖ **THEME ONE: PARENTS' UNDERSTANDING OF TEMPERAMENT AND PREFERENCE FUNCTIONS**

The parent groups were asked to reflect on their understanding of temperament and preference functions. Different viewpoints were expressed, as discussed below.

- **Sub-theme one: Temperament is learned**

Two parent groups (**PGB** and **PGF**) stated their opinion that temperament is learned. They argued that whenever a child reacts in a certain way, the more the child learns to behave in such a way. **PGB2** explained: *“The more the child learns that he receives attention when he throws a tantrum, he will throw more tantrums in order to get what he wants”*. **PGF2** mentioned that “temperament is learned and develops as a person grows older” (*Temperament is aangeleer en ontwikkel soos 'n persoon ouer word*). **PGF1** shared the same view: “Yes, I also think temperament is learned and developed as a person grows older” (*Ja, ek dink ook temperament is aangeleer en ontwikkel soos jy ouer word*).

According to the literature (Thomas & Chess, 1977:9; Rothbart, 2011:3), temperament is an inborn quality that is biologically based and not something children learn over a period of time as they grew older. Rothbart (2005:1) noted that temperament refers to individual differences that exist before many of the more cognitive abilities of personality developed. Although temperament is linked with behaviour, Thomas and Chess (1977:9), Keogh, (2003b:15), Joyce (2010:4) and Rothbart (2011:36) have argued that it refers to *how* children react rather than *why* they react. The researcher also understood it as such: it is not whether children experienced anger for some other reason, but rather how they react when felt angry. The question is whether they usually react with a tantrum or verbal outburst, or do they most of the time react with more quiet, passive aggression. The difference in reaction to the same feeling reflects the child's individual inborn temperament.

From the above it is clear that the parents misunderstood temperament and this could easily lead to confusion and inappropriate expectations. These parents' opinions reflect their view that children can learn or for that matter unlearn certain temperamental traits.

- **Sub-theme two: Temperament is fixed and cannot change**

Parent-groups **PGC** and **PGE** expressed their opinion that temperament is more or less fixed and cannot change. **PGE1** mentioned the following: “I don’t think temperament can easily change. That would take great effort” (*Ek dink nie temperament kan maklik verander nie, dit sal baie moeite en inspanning verg*). **PGC2**’s opinion was: “If your child’s temperament is to forget easily, you can’t unlearn that trait”.

It is clear that parent-groups **PGC** and **PGE** understood some aspect of temperament (refer back to Chapter 2, section 2) correctly. Sheppard (2000:1) suggests that temperament refers to those aspects of personality that are genetically based and inborn; it is also relatively stable but could also be influenced by environmental factors (Chess & Thomas, 1989:35; Berens, 2000:4; Reed-Victor, 2004:62). The researcher understood that although the natural tendencies and preferences are inborn qualities, the environment could easily pressure the child to adapt to the expectations of the environment and therefore, even though temperamental preferences are fixed, the environment could still influence the child’s behaviour. This situation correlates with Jung’s concept of the *falsification of type* (Meisgeier & Murphy, 1987:7). According to Jung, children’s psychological health is promoted when they are able to express their natural preferences (Joyce, 2010:10), but sometimes the environment forces the child to suppress a natural tendency (Tieger & Barron-Tieger, 1997:11-13; Joyce, 2010:26). The researcher assumes that such reactions can cause children to try to change their temperamental patterns of behaviour (behavioural style) accordingly in order to fit in with their environment.

- **Sub-theme three: Temperament refers to emotions**

All parent groups were of the opinion that temperament reflects emotions and more specifically negative emotions such as anger and temper tantrums. **PGG2** explained it as follows: “I regard my child’s anger and tantrums as his temperament” (*Ek beskou my kind se woede en tantrums as sy temperament*). **PGB1** expressed the view: “His anger is part of his temperament”.

Temperament is linked with behaviour and therefore it is linked with *how* an individual experiences and shows emotions (Allport, 1961 in Joyce, 2010:4). But the literature reveals that temperament does not imply the reflection of exclusively negative emotions such as anger or temper tantrums. Prior, Sanson, Smart and Oberklaid (2000:3) note that

temperament refers to individual differences in emotional, attentional and behavioural self-regulation. Therefore, it rather refers to an “individual’s emotional nature, including his susceptibility to emotional stimulation, his customary strength and speed of response, the quality of his prevailing mood, and all the peculiarities of fluctuation and intensity of mood” (Joyce, 2010:4).

From the above it is clear that temperament rather indicates how a child will experience all aspects of different emotions and not only whether the child has a tendency to be angry, bad tempered or frustrated.

❖ **THEME TWO: PARENTS’ KNOWLEDGE REGARDING THEIR CHILD’S TEMPERAMENT AND PREFERENCE FUNCTIONS**

Parents were asked a specific question regarding their knowledge of their child’s temperament and preference functions. Parent-groups **PGA**, **PGD**, **PGF** and **PGG** indicated that they have no idea whatsoever. The parent-groups **PGB** and **PGC** indicated that they had done some prior reading on this matter and that influenced their knowledge. **PGB1** explained: *“I’ve read something about an introverted child and I think my child is an introvert”*. The father, **PGB2**, elaborated further: *“Yes, I think his shyness indicates he’s an introvert”*. **PGC1** also mentioned that she used a manual for parents to base her understanding of her child’s temperament on when she commented: *“According to Hettie Brittz’s book, she is a palm tree but that’s all I know”*. **PGE1** indicated that she had only a vague idea on this matter but could not ground it more specifically as she said: *“I think [Child 5] is an introvert and [Child 6] is an extrovert” (Ek dink [Kind 5] is ’n introvert en [Kind 6] is ’n ekstrovert)*.

The above discussion indicates that the parents lack a clear understanding of their child’s exact temperament and preference functions. **PGB** and **PGE** referred to a certain dimension of temperament when they described their children as introverted and extroverted. According to Jung, individuals tend to focus their energy and be energised in two different ways, namely through introverted energy or extroverted energy (Harkey & Jourgensen, 2004a:35-36). **PGC1**’s knowledge of her child’s temperament is based on a description in a specific temperament manual for parents, where the metaphor of different saplings (the rose bush, the

palm tree, the lollipop and the pine tree) is used to introduce different temperaments to parents (Brittz, 2008). The literature review reveals that books (Tieger & Barron-Tieger, 1997; Neville & Johnson, 1998; Harkey & Jourgenson, 2004a; Penley, 2006; Brittz, 2008) that focus on temperament analysis present parents with a questionnaire with multiple questions to help them determine which temperament characteristics correspond with the child's behaviour. According to literature, this method lacks validity and the objectivity of parents cannot be guaranteed (Kagan, 1994:55; Matheny, 2000:82; Vasta, Miller & Ellis, 2001:456-457).

A clear understanding of the child's temperament and preference functions is therefore essential in the parent-child relationship. The more parents succeed in identifying with their child's unique temperament and behavioural style, the more they become able to relate to their child in a way that creates harmony, warmth and spontaneity (Harkey & Jourgensen, 2004a:330.) This results in creating a sense of mutual understanding that is likely to build self-esteem and security in both parent and child (Greenspan, 1995:299; De Haan, Prinzie & Dekovic, 2009:1695).

Concluding the data analysis regarding Category One, the researcher found that participating parents had little understanding on temperament as a concept. Their responses further revealed they had no clear understanding of their child's temperament and preference functions. Therefore temperament as important variable in the parent-child relationship went unnoticed.

4.1.2 Category Two: Troublesome behaviour and the parent-child interaction

Table 7.3 Category Two: Troublesome behaviour and the parent-child interaction

Category Two: Troublesome behaviour and the parent-child interaction	
Theme	Sub-themes
❖ Theme One: Type of troublesome behaviour	• Sub-theme One: Talkative with high energy
	• Sub-theme Two: Shyness + unwillingness to adapt to new environment
	• Sub-theme Three: Poor social skills
	• Sub-theme Four: Strong emotional reactions
	• Sub-theme Five: Disrespectful towards others
	• Sub-theme Six: Sibling rivalry
❖ Theme Two: Parental understanding of troublesome behaviour	• Sub-theme One: Rebels against discipline
	• Sub-theme Two: Disobedience
	• Sub-theme Three: Low self-esteem
❖ Theme Three: Parental reaction to troublesome behaviour	• Sub-theme One: Discipline
	• Sub-theme Two: Favouritism
	• Sub-theme Three: Comparison
	• Sub-theme Four: Labelling
❖ Theme Four: Reflection on their own parenting and feelings	• Sub-theme One: Powerlessness and desperation
	• Sub-theme Two: Guilt
	• Sub-theme Three: Anger, frustration and irritation
	• Sub-theme Four: Worried
	• Sub-theme Five: Failure
❖ Theme Five: Children's response to parental reaction	• Sub-theme One: Emotional responses
	• Sub-theme Two: Behavioural responses

❖ **THEME ONE: TYPE OF TROUBLESOME BEHAVIOUR**

Parents were asked to describe the type of behaviour they felt concerned about. The researcher intended to explore the nature of the troublesome behaviour and whether this troubling behaviour might have something to do with the child's temperament and preference functions. According to Harkey and Jourgensen (2004b:260), not all challenges in parenting have to do with differences in temperament and preference functions, but they suspect that a great many do. The literature (Berk, 2006:417; Rothbart, Sheese & Conrard, 2009:186; Rothbart, 2011:4) indicates that children's natural temperamental styles or processes do not always fit the requirements, needs and expectations of the parents. That results in conflict between parent and child, which Chess and Thomas (1996:52) refer to as a poor-fit interaction between child and environment.

- **Sub-theme one: Talkative with high energy**

PGE and **PGG** indicated that they struggle with children who tend to be loud, noisy and talkative either in school or at home. **PGE** expressed their frustration because of continuous complaints from the school, as **PGE1** explained: "Every year it's a problem. The teachers complained that he disrupt the class with his non-stop talking" (*Dis elke jaar se probleem. Die onderwysers kla hy is steurend in die klas want hy gesels te veel*). **PGG1** voiced her personal complaint on this matter: "This child wears me out! She is always ready for a chat and usually she wants to chat when I have no energy for a conversation" (*Die kind maak my klaar! Sy is altyd reg vir 'n geselsie en gewoonlik wil sy gesels wanneer ek hoegenaamd nie energie oor het om te gesels nie*).

Both children (**Child 6** and **Child 9**) of **PGE** and **PGG** have an extroverted preference in their temperamental design. The extroverted attitude is an outward orientation in which energy is invested in events and objects in the outer world (Briggs Myers, 1998:6-7; Harkey & Jourgensen, 2004a:34-36; Carducci, 2009:145). It is important to note that the term **extrovert** does not in itself mean 'talkative' or 'loud' (Briggs Myers, 1998:10; Keirse, 1998:12-13). It rather refers to the source of energy. For an extroverted energy flow child the source of energy is outside, hence the child's tendency to actively engage in the outer world through talk and play.

Children with this preference are therefore energised through contact with people, objects and activities. Though school is a lot of fun in terms of the social environment, learning and doing is something the child wants to do with others while talking (Crawford, 2009:100). The process of speaking out, as in the case of **Child 6**, is in fact an important tool for strong extroverts. Harkey and Jourgensen (2004b:254) suggest the quiet nature of many classrooms may be difficult for the highly extroverted child.

It could easily be that **PGG1** herself has an introverted preference in her temperamental design, which implies that her preference differs from that of her extraverted energy flow child (**Child 9**). (Refer back to Chapter 4, section 4.1.2 on parental expectations of the introverted parent.) The introverted attitude reflects an inward orientation in which energy is invested in internal and personal experiences. Therefore people with this preference tend to be energised through reflection when they are away from external stimulation (Briggs Myers, 1998:6-7; Harkey & Jourgensen, 2004a:35-36; Carducci, 2009:145). Introverted parents, as their energy flow preference indicates, expect their home to be a quiet and safe space in contrast to an otherwise noisy world. They could easily assume their child shares the same preference for a quiet environment (Harkey & Jourgensen, 2004b:254). Although responsive to their child's needs, the quiet, observing nature of the introverted parent may result in more time spent watching and enjoying the child's behaviour than actually interacting with the child (Tieger & Barron-Tieger, 1997:15-16). The literature makes it clear that temperamental differences can make parenting a challenging task (Tieger & Barron-Tieger, 1997:13-14; Penley, 2006:3-5), and behavioural and emotional problems often develop as a result of negative interaction as a result of temperamental differences between children and their parents (Keirseey, 1998:200; Kurcinka, 2006:30; Heinsohn, 2009:66; Rothbart, 2011:119-138; Aamodt & Wang, 2011:153).

- **Sub-theme two: Shyness and unwillingness to adapt to new environments**

Shyness and the unwillingness to adapt to new environments was a behavioural problem identified by all seven parent groups. **PGA1** explained: *“every year at the beginning of a new school year we have the same problem over and over again! He refuses point blank to go to school. It took him weeks to settle in”*. **PGC1** had a similar experience and stated: *“She won't let go of me, I'll literally drag her into class”*. According to **PGD1**, her child *“struggles to make eye contact with new and strange people”*. **PGF1** also experienced her child as having

difficulty in new environments. She stated: *“Every time it is like this! She wanted to do ballet badly but when the day arrived and we had to go, she cried. She said she felt too shy and did not want to go anymore”*. According to **PGE1**, her child “will just refuse that I leave him amongst children he does not know” (*Hy sal net weier dat ek hom los tussen kinders wat hy nie ken nie*). Other comments regarding new environments were: “She stresses a lot when she has to talk in front of the class” (*sy stress baie as sy voor die klas moet praat*) (**PGG1**). *“Whenever there is no structure he starts panicking”* (**PGB1**). *“You must not disrupt his routine, then he is very unhappy”* (**PGB2**).

Shyness, according to the literature, is not in itself a temperamental trait but rather a response towards the environment because of temperamental tendencies such as an introverted energy flow process (Harkey & Jourgensen, 2004a:35). The researcher understands it as follows: individuals are not born as shy people, but because of introverted tendencies they prefer to connect with the outer world in a more private and controlled way. From the outside, people perceive withdrawnness in their connection with others and the world. This is then referred to as shyness.

The data analysis showed that all seven parent groups each had a child with a preference for introverted energy flow. **Introvert** does not mean “shy” or “inhibited” (Briggs Myers, 1998:10; Keirsey, 1998:12-13), but this temperamental preference could easily be mistaken by the parents as shyness or unwillingness to participate. Introverted energy flow children tend to have deep but few interests, preferring to watch before participating (Crawford, 2009:99). According to Rothbart (2011:52), the introverted child has a slow and inhibited approach towards strange and uncertain situations. Tieger and Barron-Tieger (1997:16) noted that introverted children tend to resist social events that are unfamiliar, especially when there is lots of unfamiliarity regarding the people and environment involved. They tend to be by nature more contented for a much longer time, and they prefer being with close family members and spending time alone at home in an environment that is familiar to them (Meisgeier & Murphy, 1987:4).

Child 2, Child 3, Child 4, Child 7 and Child 8 have an introverted preference combined with their **SJ** temperament. (Refer back to Chapter 3, section 2.6 for a discussion of Keirsey’s four temperament groups). The **sensing-judging (SJ)** temperament is characterised as responsible with a strong productive work ethic, dependable, conservative and stable,

(Keirse, 1998:18-20). **PGB** described their **ISTJ child** as someone that preferring routine with a strong sense for closure and order. According to the literature, the **ISTJ** preference thrives in well-defined roles and routine, and prefers to learn in a sequential manner (Kise, Stark & Hirsh, 1996:33; Tieger & Barron-Tieger, 1997:16-17; Harkey & Jourgensen, 2004b:253-255). New environments would therefore be a challenge to them.

- **Sub-theme three: Poor social skills**

According to **PGA**, **PGB** and **PGE**, their children showed poor social skills. **PGA1** mentioned that “*The teacher told us he struggles to socialise with his peers*”. According to **PGB2**, his child also “*struggles to make friends*”. **PGE1** had similar concerns [that her child] “has very few friends” (*Hy het nie baie maats nie*) to which her husband, **PGE2**, added that “he is very lonely” (*Hy is baie alleen*).

This sub-theme links closely with the one above. **Child 1**, **Child 2** and **Child 5** have a preference for an introverted energy flow process. The introverted child prefers one-to-one social contacts and wants to have one or maybe two best friends, who usually are kept for life. They therefore by nature resist big crowds. They are also equally happy to spend time on their own. According to Meisgeier and Murphy (1987:3), this child is likely to be happy in a smaller world consisting only of those people to whom he or she is the closest. Unfamiliar social events are easily resisted, especially when they involve the presence of unfamiliar people (Tieger & Barron-Tieger, 1997:16). The introverted preference can therefore easily be misinterpreted as a lack of social skills or poor social skills.

- **Sub-theme four: Strong emotional reactions**

According to **PGE** and **PGG**, their children tend to show stronger emotional reactions than other siblings or their peers. **PGE2** explained that **Child 6** “tends to be very sensitive towards others feelings” (*Hy is ongelooflike sensitief vir wat ander voel*) on which his wife **PGE1** further commented: “It’s bad for [my child] when his teacher does not understand his feelings. The other day after school he told me his teacher got very angry with him and he became very upset and started crying upon which the teacher told him to go wash his face in the bathroom. He’s not like his brother. [His brother] wouldn’t care so much about such a thing” (*Dit is vir [my kind] sleg as sy juffrou nie sy gevoelens verstaan wat hy ervaar nie. Nou die dag na skool vertel hy my hoe sy juffrou vir hom kwaad geraak het en dit hom vreeslik ontstel het. Hy het toe begin huil. Toe stuur sy hom badkamer toe om sy gesig te gaan*

was. *Hy is glad nie soos sy boetie nie. Hy sou hom nie aan so iets steur nie*). **PGG2** had similar concerns regarding **Child 9**, when she explained that “She tends to cry easily. Whenever the teacher confronted another child, she became upset herself. She is very sensitive for emotional stuff and would easily react to it” (*Sy huil baie maklik. Sy is selfs ontsteld as die juffrou net met iemand anders in die klas raas.....sy is sensitief vir emosies en sal vinnig op emosies reageer*).

Both **Child 6** and **Child 9** have the same temperamental preferences in their profile. They are both **ENFP** and function within the **NF** temperament (refer back to Chapter 3, section 2.6 for the discussion on Keirsey’s four temperament groups). The **intuitive-feeling (NF)** temperament tends to be empathic, creative, caring, intuitive and insightful. They also strive for harmony between people. Keirsey (1998:18-19) noted that these temperament group are often very passionate about social issues and their impact on humanity.

Both children also function with a **feeling** preference towards people and their emotional response fits the typical **NF** temperament profile. (Refer back to Chapter 4, section 4.2.6 on the typical expectations of the feeling child). According to the literature (Meisgeier & Murphy, 1987:3-7; Kise, Stark & Hirsh, 1996:29-61; Tieger & Barron-Tieger, 1997:15-35; Harkey & Jourgensen, 2004b:253-268; Crawford, 2009:99-113), the feeling child focuses by nature more on people than on objects. Therefore they expect things to feel right. The interactions between people and relationships are very important. They thrive in harmonious interactions between themselves and others, and can become easily upset by disagreements and disharmony, and so often avoid confrontation. Feelings influence how these children make decisions. They enjoy addressing other people’s needs and are happiest when everyone is getting along. They want to be well liked by friends and unconditionally loved by family. Having natural empathy, they are outwardly emotional. Their sense of self-esteem may often be more influenced by how well liked they are rather than how well accomplished they are. According to Harkey and Jourgensen (2004b:257-259), the feeling child has a natural need to be loved unconditionally. They thrive if well-liked by family, friends and teachers, and especially when others are sensitive to their feelings.

- **Sub-theme five: Disrespectful towards others**

The parent-groups **PGA**, **PGB**, **PGC**, **PGD**, **PGE** and **PGG** indicated during the semi-structured interviews that they all struggle with children who tend to be disrespectful towards other people and children. According to **PGB1**, her child “*can sometimes be very mean to his sister*”. **PGC**, **PGD**, **PGE** and **PGG** expressed similar concerns and mentioned that their children “*tend to be blunt and honest in what they say without acknowledgement of what anyone might feel*”. **PGA2** described his child as “*no cuddle-bug*” and both **PGE1** and **PGG1** mentioned that their children would easily speak their mind and do not care for other people’s feelings. **PGE1** stated the following: “he would speak his mind and would not consider what others feel or think” (*hy sal sê wat hy dink en steur hom nie aan wat ander voel of dink nie*). According to **PGG1**, her child also has no problem to “say exactly what she thinks” (*sal sê presies wat sy dink*). **PGG2** is of the opinion that such behaviour is the result of “*poor social skills*”.

The data analysis reveals that **Child 1**, **Child 2**, **Child 3**, **Child 4**, **Child 5** and **Child 8** have a **thinking** preference in their temperamental design. (Refer to Chapter 4, section 4.2.5 on the expectations of a child with a thinking preference). Thinking is one of the rational functions *for decision making*. It indicates a tendency to relate to the world through a logical mind and intellect. Thinking children tend to focus more on the object than on the person (Meisgeier & Murphy, 1987:6) and, according to Joyce (2010:9), children with such a preference make use of their rational, logical thinking abilities whenever they make a decision.

The literature reveals that children with a thinking preference tend to be honest, direct and straightforward about what they think and believe. For them, expressing their thoughts is more important than pleasing others. Therefore they are often honest to the point of bluntness (Kise, Stark & Hirsh, 1996:33-34; Tieger & Barron-Tieger, 1997:23-25). They are usually assertive about their needs and wants, and expect that older people (parents and teachers) make good sense. According to Harkey and Jourgensen (2004b:265), they would prefer to be liked for their good and comprehensive reasoning skills and ideas. They also enjoy competition, but struggle to cope with losing and therefore they may experience difficulty with being a good sport.

- **Sub-theme six: Sibling rivalry**

All seven parent groups indicated that they struggle to some extent with sibling rivalry. **PGA1** stated that her son “*can become very nasty towards his sister*”. The father, **PGA2**, elaborated that he thinks his son “*is jealous of [his sister]. He likes to say that we love her more*”, to which the mother, **PGA1**, commented: “*I think I might fuel his behaviour. I swore to myself that I would never compare them but I did it anyway – over and over again*”. **PGB1** expressed a somewhat different concern when she stated that her children’s “*fighting drives [her] up the wall*”. According to **PGC1**, she struggled with more or less the same situation and explained that she could “*get along with each child individually, but when the two of them are together and fight non-stop, I can’t stand either of them*”. **PGD1** drew attention to one of her children in particular when noted that she thinks “*it is [one of them] that’s looking for trouble, she won’t stop teasing her sister*”. **PGE1** expressed the same concern that “*her two children are constantly fighting*” (*Die twee is gedurig besig om te baklei*) and that “*she is tired of reprimanding and shouting which has no effect*” (*Ek is al moeg geraas en geskree en dit het geen effek*). The father, **PGE2**, also elaborated on this issue by stating that the “*competition between the two becomes almost unbearable*” (*Die kompetisie tussen die twee raak bykans onuithoudbaar*). The mother, **PGE1**, then reflected that she “*might play a role in fuelling the fights between the children due to her tendency to compare the two boys. I know it is wrong*”. She now realised her wrongdoing in this matter (*Ek mag ook ’n rol speel om die bakleiry tussen die kinders te vererger, want ek sal maklik vir [hom] met sy boetie vergelyk. Ek weet dis verkeerd*). **PGF1** also shared the same feeling when she stated that her children’s “*endless rivalry drives [her] up the walls*” (*Die bakleiry dryf my teen die mure uit*). According to **PGG1**, the sibling rivalry depends on the circumstances. “*Sometimes there is no rivalry but other times they will fight a lot*” (*Soms baklei hulle nie maar ander kere baklei hul meer*).

Sibling rivalry can be described as the jealous competition and fighting between siblings. Almost all parents struggle with this phenomenon. Sibling rivalry can be noted as one of humanity's oldest problems, as indicated by the rivalry between the two brothers Cain and Abel from the well-known Bible story. The root cause of sibling rivalry is basically one of competition for limited resources such as parental attention (Faber & Mazlish, 1999:13). According to Alfred Adler’s birth-order theory, siblings are striving for significance within the family (Wright, 1999:29; Carducci, 2009:156-159). The term ‘sibling rivalry’ was

introduced by David Levy in 1941 (Levy, 2007:3). Siblings are competing against each other in order to define who they are as individuals. Through this interaction, siblings discover who they are by distinguishing their own talents, activities and interests. Through these instinctive behavioural methods siblings try to attract parental attention to themselves. They need their parents to perceive them as separate from their siblings in order to receive uniquely defined recognition (Leman, 1998:13-16). Children may easily feel they are getting unequal amounts of parental discipline, attention and responsiveness (Wright, 1999:30-47; Levy, 2007:4-6). The sibling pairs **Child 5** and **Child 6**, and **Child 8** and **Child 9** differ in temperamental design (see Table 7.1 for details). Therefore it is no surprise that their parents will experience a great deal of contrast and demands in the different sibling relationships.

Parents are considered to be an important variable in determining whether siblings are competitive or not. **PGA1** and **PGE1** acknowledge their tendency to compare their children. According to Faber and Mazlish (1999:52) and Wright (1999:62), children as young as one year of age are responsive to differences in parental treatment. Sibling rivalry as a method to attract parental attention may increase in adolescence. The data analysis of a research study indicated that siblings in the age group 10 to 15 years reported the highest level of competition (Levy, 2007:28).

Many factors contribute to how often siblings fight and how severe the fighting gets. The children's individual temperaments are described as one of the biggest role players in sibling rivalry (Faber & Mazlish, 1999:52; Wright, 1999:12; Levy, 2007:64). Children's individual temperaments and their unique personalities are important variables in how well they get along and how each parent will respond to that child (Faber & Mazlish, 1999:12-13; Harkey & Jourgensen, 2004b:13). Parents can decrease the opportunity for rivalry by consciously refusing any comparison, possibly labelling or typecasting their children. They can focus on giving each child individual attention, refuse to label one child as a role model for the others, encourage teamwork and avoid possible favouritism. Advice to parents is to let each child be who they are. Parents should not try to pigeonhole or label them, and also not assume that one child is much like the other (Faber & Mazlish, 1999:57-60; Harkey & Jourgensen, 2004b:30).

Reflection on the six sub-themes derived from the theme of the nature of the behaviour parents were concerned about indicates that temperamental design and different preference functions did play a significant role in the behaviour of the children described above.

❖ **THEME TWO: PARENTAL UNDERSTANDING OF TROUBLESOME BEHAVIOUR**

The parent groups were asked to reflect on their understanding of their children's behaviour. The researcher was curious to explore the parents' reasoning and explanation of the abovementioned behaviour that caused concern. Different viewpoints were expressed, as discussed below.

• **Sub-theme one: Rebels against discipline**

According to **PGA** and **PGD**, their children's behaviour is the result of a rebellious reaction to discipline. **PGA2** explained that his child “*will back chat [him] and question [his] authority*”. **PGE2** expressed a similar concern and mentioned that his child “demands an explanation for behaviour of him; it's not just that he does not accept [his] authority” (*Ek moet aan hom verduidelik waarom ek wil hê hy moet so optree. Dis nie net dat hy my gesag aanvaar nie*).

Both **Child 1** and **Child 5** had intuition and thinking combined as a preference and therefore functions within the **NT** temperament group. (Refer to Chapter 3, section 2.6 and Table 3.3 for the different temperamental groups according to Keirsey). According to the literature (Tieger & Barron-Tieger, 1997:124-135, 149-160) the **INTJ (Child 1)** and **INTP (Child 5)** child will ask many questions and therefore tends to have an analytical thinking style. These children with such temperamental preferences expect parents to be fair and consistent in discipline and to explain the logical, rational reasons for decisions and rules. Therefore it is necessary for the parents of a **NT** temperament child to explain the reason for each and every limit and rule, and always frame requests in logical terms.

Say, for instance, the parents' parenting style reflects an authoritarian style, which indicates that they have a strong need to control their children and therefore impose many rules that are to be obeyed without question. (Refer to Chapter 4, section 5.1). The **NT** temperament child will in this case respond rebelliously (Harkey & Jourgensen, 2004b:147).

- **Sub-theme two: Disobedience**

According to **PGA**, **PGE** and **PGG**, their children's behaviour reflects disobedience. **PGE2** expressed his opinion that the sibling rivalry and his children's overall behaviour are "due to their disobedience" (*as gevolg van hulle ongehoorsaamheid*). He stated that "it is disobedient behaviour when they fight with each other" (*dis stoutigheid dat die twee so baklei*). The mother, **PGE1**, reflected on the father's (**PGE**) opinion: "Maybe I am too gentle. I need maybe to raise my voice or and physically use my hand and hit them whenever they are disobedient" (*Miskien is ek te sag, ek moet dalk harder raas of bietjie die plathand inlê as hulle so stout is*). According to **PGA2**, the only explanation for his child's behaviour is that "he's naughty". **PGG1** experienced the same when she stated that her children "don't listen [to her] even though they know the rules" (*Die twee luister nie na my nie al weet hul wat is die reëls*).

It is clear that the parents often think their children are disobedient whenever they reacted with behaviour perceived by the parents as misbehaving without any further consideration of what may cause such behaviour. The researcher suggests that misbehaving and disobedience are not possible variables challenging the parenting system, but rather wants to open up another perspective that several aspects, one of which could be temperament and preferences, may lead to this behavioural outcome.

Parent groups **PGA** (**Child 1**) and **PGE** (**Child 5**), as explained before, are parents of children with **NT** temperamental preferences. These children prefer reasoning and logical explanation of rules rather than a "because I said so" parental strategy from their parents. **Child 8** of parent-group **PGG** functions with a strong thinking preference, as explained earlier. If these parent-groups adopt an **SJ** temperamental approach, this will result in a behavioural response where the children will challenge the parenting system with behaviour that could easily be perceived as disobedience. **SJ** parents, as discussed in Chapter 4, focus on safeguarding their children and demand acceptable behaviour (Keirse, 1998:76-112). The **NT** child needs explanation and justification of rules, and will tend to be critical of and challenging towards the **SJ** parent's more traditional way of parenting (Harkey & Jourgensen, 2004b:294). Failing to provide such explanations and justifications will create *poor-fit* parent-child interaction.

Parent **PGE1** could easily reflect a permissive parenting style, where very few rules are applicable to their children. Baumrind (1991:56-68) argued that this parenting style was too soft because of the parents' lack of demanding control, but high on their response and warmth to their children. Feeling parents can easily fall into this trap and, according to the literature, the **NT** child needs explanation and justification of rules, and will be the most critical as an adolescent, challenging the **SJ** parent's credibility and authority. Failing to provide such explanations and justifications will create a *poor-fit* parent-child interaction. Feeling parents, on the other hand, face a different challenge with the thinking preference child and more specifically the **NT** temperament child. While the **NT** child will appreciate the feeling parent's willingness to provide reasons and justifications, this child may perceive **NF** parents as easy to control or manipulate because of their lack of willingness to impose authority (Keirse, 1998:118-157; Harkey & Jourgensen, 2004b:287-288). Without *awareness* and validation of the **NT** child's temperament and preferences, this will result in *poor-fit* parent-child interaction.

- **Sub-theme three: Low self-esteem**

According to the opinion of **PGB**, **PGC** and **PGE**, their children struggle with low self-esteem and tend to react with shyness. **PGB1** and **PGC1** both described their children as “*very shy with very little confidence to participate and engaged in new activities*”. **PGE1** shared her concern that her child (**Child 5**) also “is very uncertain of himself and is shy and hardly looks strangers in the eye” (*is baie onseker van homself en skaam en kyk skaars vreemde mense in die oë*).

Child 2, **Child 3** and **Child 4** function with an introverted energy flow combined with sensing, thinking and judging preferences and therefore function with the **ISTJ** profile combination within the **SJ** temperament group. (Refer to Chapter 4, sections 4.2.2, 4.2.3, 4.2.5 and 4.2.7). **Child 5** functions with an introverted energy flow process combined with the **NT** temperament group.

The discussion on low self-esteem links with Category One, Sub-Theme Two. According to the literature (Tieger & Barron-Tieger, 1997:174-183; Harkey & Jourgensen, 2004b:159-168), the **ISTJ** child needs plenty of time to adjust to new things. Parents must be aware of not pushing them into social situations that they resist. They tend to be socially and

physically cautious, prefer to watch from the side-lines and do not generally initiate social interactions. However, the child with a preference for introverted energy flow within the **NT** temperament group will have more or less the same expectations, but would be less focused on people and more on objects. Interpersonal contact will not be as important to this child (Keirse, 1998:163-204; Penley, 2006:23-92; Harkey & Jourgensen, 2004b:249-253).

It is therefore clear that the above behavioural tendencies could easily be misinterpreted as shyness as a result of low self-esteem. Harkey & Jourgensen (2004b:159-168) emphasise that this natural preference does not automatically reflect a child with a low self-esteem. Negative labelling can have devastating effects, because parents usually focus on and nurture what they call the child's weakness (for example, when the child is by nature more introverted they will label it as *shy*).

❖ **THEME THREE: PARENTAL REACTION TO TROUBLESOME BEHAVIOUR**

During the semi-structured interviews the researcher explored the parents' different reactions to the troublesome behaviour in order to assess the nature of the parent-child interaction.

• **Sub-theme one: Discipline**

All parents indicated that they tend to use some form of discipline as a way to deal with the troublesome behaviour. Punishment as a form of discipline seems to be a general approach. **PGE2** indicated that he resorts to punishment as form of discipline and stated: "We will reprimand them and punish them both" (*Ons sal met hul raas en hulle albei straf*). **PGF1** joined in this approach when she mentioned that she too "will physical punish her [child] and send her to her room" (*ek sal haar fisies straf en na haar kamer stuur*). **PGG1** too deals with this behavioural response the same way as she indicated that "we will punish them physically" (*Ons sal hul albei fisies straf*).

Other parents tend to follow some kind of negative enforcement as way of disciplining their children. **PGA1** resort to taking away their child's privileges and stated: "If he can't behave and talk decent to his sister he gets grounded". **PGB1** explained that she "forces [her child] to play with a friend". **PGC1** adopts more or less the same approach, threatening her child: "if you don't join the group and play we will go back home".

Behaviour problems or inappropriate behaviour is often interpreted as originating from children being unable to submit to the rules and guidance of their parents and so rebelling against conforming to parental authority (Rothbart, 2011:36). This way of thinking tends to focus only on the child's behaviour and not on the child as a unique person with specific needs and expectations according to the child's temperamental design and preference functions (Harkey & Jourgesen, 2004a:33). The researcher argues that unmet needs and unfulfilled expectations may cause the child to resort to inappropriate behaviour. When only addressing the behaviour, the parent uses some kind of punishment to force the child to change his or her behaviour without any thought given to possibly unmet needs and unfulfilled expectations.

This way of parenting links to Baumrind's parenting model, where the focus lies on parents' efforts to actively shape their child's behaviour in order to 'produce' well-mannered, obedient children (refer back to Chapter 4, section 3.1). This includes setting firm rules, limits and possible consequences for breaking rules (Lewis 1981:547-563). According to Baumrind's model, children need explicit control, especially for parents with young children, where firm rules, limits and consequences as a 'display of power' become part of a day-to-day parenting strategy. In terms of this model, strong parenting control is therefore necessary for the development of the child's social competence (Baumrind, 1983:132-142).

With the possible abovementioned parenting dilemma, where parents interpreted their children's unwillingness to cooperate as their way of rebelling against the parents' authority in mind, the researcher argued in Chapter 4, section 3.4 for a more secondary focus on behaviour and control, and a primary focus on what is needed in the present moment, keeping in mind the nature and inborn temperament of the child. The conscious parenting model (Fox, 2013) introduces parents to the concepts of *awareness* and *individuality* (Coste, 2011), the two concepts that are missing in the parenting models of both Baumrind and Greenspan. (Refer back to Chapter 4, sections 3.1 and 3.2). High awareness includes *flexibility* and is focused on understanding and addressing the needs and expectations of children according to their unique temperamental design. Conscious parenting will accommodate how both the temperaments and preferences of parent and child affect the parenting process. Therefore the researcher argues in Chapter 4 that parents who adopt a more conscious parenting style will enhance the parent-child interaction process. High control in the form of strict discipline would not be necessary, because strict control lowers a parent's awareness levels. High levels

of individuality (temperament and preference functions) and awareness of the needs and expectations of the child will reduce the need for strict control.

- **Sub-theme two: Favouritism**

Favouritism as a possible strategy to address worrisome behaviour also featured in the data analysis. **PGD** and **PGF** indicated that they use favouritism when dealing with the behaviour. **PGD1** explained that she reports to favouritism because she tends to “*connect more easily with the other sibling than with [the child] and whenever he gives [her as the mother] a hard time, she would ignore him and focus more on the other sibling*”. **PGF2** described a similar approach: “[The other sibling] is just a much easier child. It is easier to give attention to him” (*[Haar boetie] is net ‘n baie makliker kind! Dis makliker om aandag aan hom te gee*).

The researcher argues that with favouritism present, rejection becomes part of a child’s reality. The unequal love of a parent can dominate two areas in a child’s life. Wright (1999:53) emphasises that the non-favoured child can easily suffer from negative feelings about self and his or her relationship with siblings. It is not uncommon for a non-favoured child to believe something is wrong with himself or herself. But favouritism is always the parents’ problem (Wright, 1999:63). There may be many possible causes of favouritism, but one is that parents, like the participating parents **PGD1** and **PGF2**, may find it easier to connect with one child than with another. Wright (1999:60-62) argues that sometimes it is much easier for a parent to identify closely with a child who is similar in temperament and preference functions to himself or herself. The researcher is of the opinion that similarities will suggest they share the same temperamental needs and expectations, and such circumstances will unconsciously lay the pathway for positive contact and interaction.

- **Sub-theme three: Comparison**

Comparison between children also features during the data analysis. **PGC**, **PGD**, **PGE**, **PGF** and **PGG** indicated that they sometimes used comparison between siblings as an intervention to change behaviour. **PGC1** would often reprimand her child by saying: “*Your sister is smaller than you and she wouldn’t cry*”. **PGD1** adopted the same approach with: “*Look how nicely your sister plays with her friends and you only sit here and cry*” (*Kyk hoe lekker speel sussie met haar maatjies en jy sit net hier en huil*). **PGF2**’s strategy connects with the above as she told her child “*if your sister can do it, so can you*” (*as jou suster dit kan doen, behoort jy ook*).

Parent groups **PGE** and **PGG** both have two children who participated in the study. **The** data analysis indicated that they too resort to sibling comparison. This created an opportunity for exploring in detail what might possibly fuel parents' urge to compare siblings. **PGG2** would compare their two siblings (**Child 8** and **Child 9**) with: "I would show her that her sister's room is much tidier than hers" (*Ek sal aan haar uitwys haar sussie se kamer is netjieser as haar kamer*). **PGF2**'s strategy connects with the above as he addressed **Child 5**'s lack of willingness to engage with other children in comparison with his brother, **Child 6**, by saying "if your brother can play with friends, so can you" (*as jou boetie met maatjies kan speel, kan jy ook*).

Parents often fall in the trap of making comparisons between their children, sometimes intentionally and sometimes unintentionally, as a possible last resource to intervene with regard to behaviour that causes concern. Comparison is an easy trap for parents, especially when their children differ in temperament and preference functions (Parrott & Parrott, 2007:47).

The children of **PGE** (**Child 5** and **Child 6**) differ significantly in temperamental design. They are from two different temperament groups and opposites in certain preference functions. **Child 5** functions according to the **INTP** psychological type within the **NT** temperament group and **Child 6** in contrast functions according the **ENFP** psychological type within the **NF** temperament group (refer to Table 7.1 for details and also to Chapter 3, sections 2.5 and 2.6 with Tables 3.2 and 3.3). As explained previously, **Child 5** has a preference for introverted energy flow that would mean a less sociable child. His brother, **Child 6**, has the opposite preference for extroverted energy flow, which would result in a higher need for focused social interaction (Kise, Stark & Hirsh, 1996:29-61; Tieger & Barron-Tieger, 1997:15-35; Harkey & Jourgensen, 2004b:253-268). This difference in preferences and **Child 5**'s lack of willingness to engage in social interactions may cause a possible imbalance in the family system, giving the parents reason to make comparisons because of the different needs they experience from each child.

The children of **PGF** (**Child 8** and **Child 9**) also differ significantly in temperamental design. They too are from two different temperament groupings and opposites in certain preference functions. **Child 8** functions according to the **ISTJ** psychological type within the **SJ**

temperament group and **Child 9** in contrast functions according the **ENFP** psychological type within the **NF** temperament group (refer to Table 7.1 for details and also to Chapter 3, sections 2.5 and 2.6 with Tables 3.2 and 3.3). As explained previously, **Child 8** reflects the needs and expectations similar to the **SJ** temperament group, which are reinforced by her judging preference. The result is a lifestyle that consists of characteristics such as order, control, structure, predictability and routine. Her younger sister, **Child 9**, reflects the needs and expectations similar to the **NF** temperament group, which are reinforced by her perceiving preference. This result in a lifestyle that consists of characteristics such as spontaneity, flexibility, differentiation, unstructured routine and fewer rules about how things should be done. Harkey and Jourgensen (2004b:264-268) highlight how judging and perceiving preferences differ from each other. The judging child view life's journey with pre-set plans and goals in mind, while the perceiving child views life as an endless series of opportunities and therefore wishes to remain flexible. Therefore structure and routine, so comfortable to the judging child, limit the perceiving child's sense of freedom and opportunities to experience life.

The **ENFP** psychological type's natural resistance to structure and routine creates some significant problems for parents of perceiving children (Tieger & Barron-Tieger, 1997:19-24), as is the case with **PGG**. Unlike their judging **Child 8**, who is more orderly and organised, their perceiving **Child 9** resists that order and structure, resulting in a situation where the parents constantly resort to reprimanding her to be tidy like her sister.

Parenting, and more specifically the way parents connect with their children, is very important. By making comparisons, parents unconsciously intensified the sibling rivalry (Faber & Mazlish, 1999:50). Parents are warned against a possible preconceived perception they might have of what their child should be like, especially when the temperamental portrait the child presents may not be the one they expected or wanted (Kurcinka, 2006:63). Therefore parents need to understand their children's unique temperament and preference functions to keep them from making comparisons and, for that matter, favouritism.

- **Sub-theme four: Labelling**

PGC, **PGE**, **PGF** and **PGG** indicated that they use some form of labelling when dealing with the troublesome behaviour. **PGC2** expressed his concerns when he stated that “*she is our shy child*”. **PGE1** also resorted to some sort of labelling when referring to **Child 6** as “the moaner” (*die ‘moaner’*). Comparison between children based on their psychological birth-order could also create an opportunity for labelling, as in the cases of **PGF** and **PGG**. **PGF1** explained that she will reprimand her child during her excessive crying moments by saying: “Pull yourself together! You are the oldest” (*Ruk jousef reg! Jy is die oudste*). **PGG1** addresses her child with “you are the oldest and you should have known better” (*jy is die oudste en moes van beter geweet het*). The father, **PGG2**, commented further by explaining that “she’s our difficult child” (*sy is ons moeilike kind*).

Child 3, who **PGC2** referred to as their ‘shy’ child, functions according to the **ISTJ** psychological type within the **SJ** temperament group. Her introverted preference will lead to a need for one-to-one social interaction and she will therefore by nature resist big crowds (Meisgeier & Murphy, 1987:3). Keeping this aspect in mind, the researcher argues that whenever **ISTJ** children are pushed into social interaction that they are not used to or circumstances they have not experienced before, they will probably react with a reserved response, which parents may easily interpret as shyness.

A child’s psychological birth-order may also be the basis for labelling, as in the case of **PGF** and **PGG**. Both participating children (**Child 7** and **Child 8**) are first-born children with other siblings. According to the birth-order theory of Alfred Adler (1931), parental expectations of first-born children include a high demand to behave responsibly, expect the child to set the pace for other siblings to follow, and a high demands for excellent performance almost to the level of perfectionism (Leman, 1998, 75-129; Wright, 1999:30-36; Carducci, 2009:156-159).

Some labels are harmless, while other sting. Some are based upon the characteristic the parents’ do not see in their children (Wright, 1999:75). The researcher explains this phenomenon that Wright refers to as follows: parents wish for their child to show confident, outgoing, characteristics and a willingness to engage in peer-group interaction. Instead their child is reserved, resists social contact and displays shyness when engaging with people. The

parents then focus their attention on those characteristics that the child does not display. This leads to parents labelling their child as, for example, shy as in the case of **Child 3**.

The above explanation links closely with the aspect of negative labelling which occurs when parents usually focus on what they call the child's weakness and not on the child's strength. According to Wright (1999:76-77), this can have a devastating effect. Each child is born with unique gifts that include strengths and weaknesses. Parents need to be empowered with the insight to accept and understand their child's 'weaknesses' as a possible *flip-side* of their child's strengths (Harkey & Jourgensen, 2004a:80-82; Markham, 2012). (Refer back to Chapter 4, section 2 for the discussion on the Pygmalion effect in parenting.)

Therefore the researcher argues that applying labels can easily overlook who a child really is, as well as that child's unique abilities. According to the literature (Kurcinka, 2006:32-35, Parrott & Parrott, 2007:25-27; Heinsohn, 2009:67; Rothbart, 2011:119-121), parents can label their children positively or negatively. It will in either way influence parenting and the children's way of thinking about themselves, because children learn who they are from the perception that significant others have of them. Kurcinka (2006:28) warns parents that it is easy to fall into the trap of labelling children and parents need to be reminded to be careful about sticking a label on a child, because "once an expectation is set, even if it is not accurate, we tend to act in ways that are consistent with that expectation" (Kurcinka, 2006:23).

❖ **THEME FOUR: REFLECTION ON OWN PARENTING AND FEELINGS**

Parents were asked to reflect on their own parenting and feelings regarding their child and the troublesome behaviour. The researcher intended to explore how parents perceived their parenting process emotionally.

- **Sub-theme one: Powerlessness and desperation**

All the parent groups indicated that they felt some form of powerlessness regarding their child and the troublesome behaviour. Parents tried to express these feelings of powerlessness in the following comments: *"I really tried everything and still we struggle with the same*

stuff” (PGA2); “I’m at the point where I give up” (PGC1); “I don’t know what else to do” (PGD1); “My hands are tied” (*my hande voel vasgebind*) (PGF1); “We are desperate” (*Ons is raadop*) (PGF2) and “I am tired of struggling” (*Ek is moedeloos gesukkel*) (PGG1). PGE1 expressed the same concern with her comment that she “had tried everything” (*Ek het al alles probeer*) and therefore “seek advice from everyone” (*soek raad by almal*).

It is clear that the parents felt desperate and powerless about their ability to deal with the current situation. The literature also addresses this phenomenon. Brittz (2008:24) noted that parents can easily reach the end of their tether, as with abovementioned parents. Many parents wish their child came with some kind of instruction manual (Crawford, 2009:9) that they can just refer to when they experience difficulties in raising the child. Robinson (2005:12) argued that parents often struggle to balance the extremes of parenting. Parents struggle to recognise when to just ‘be’ with the child and enjoy who they are, and when to expect their children to do more than just what comes naturally to them. Lacking this particular wisdom and knowledge on how to balance these two extremes could cause parents to feel powerless and desperate in their parenting task (Robinson, 2005:13). The researcher argues that the act of conscious parenting as described in Chapter 4, section 3.4, can assist parents with some basic knowledge on how to balance these extremes. Conscious parenting will equip parents with a form of flexibility and with high levels of awareness to focus on the individuality (temperament, preference functions, needs and expectations) of their child.

- **Sub-theme two: Guilt**

PGB, PGE and PGF express some form of guilt regarding their own abilities and actions and the behaviour that is causing concern. Some parents reflected introspectively on the possibility that they might have played a role in evoking some of the troublesome behaviour. PGB1 stated: “*Sometimes I wonder if I’m not the problem here*”. PGE2 questioned his own actions when expressing his concerns: “I feel guilty that I might not always have acted accordingly” (*Ek voel skuldig dat ek dalk nie altyd reg op tree nie*). PGF1 shared the same doubt: “Maybe the problem is that I do not know how to discipline my children correctly” (*Die probleem is dalk dat ek nie weet hoe om my kinders korrek te disiplineer nie*).

The data analysis indicates that parents sense some feelings of guilt. The parents felt responsible for their child’s behaviour without a clear understanding of what is really going

on. This sub-theme links closely with the previous one. Feelings of powerlessness and desperation as well as a lack of clear answers could easily fuel parents' feelings of guilt. The researcher argues that lack of clarity generates uncertainty and uncertainty in turn result in parents feeling desperate, powerless and guilty about failing their child and therefore not to being considered 'good parents' in the eyes of society. Parental guilt does not accomplish any positive outcomes for the parent-child interaction and should therefore be resolved as soon as possible (Hatter, 2014). On the other hand, it is assumed that parents do not know everything about parenting. Parenting, like everything else, is a skill that needs to be taught (Kohn, 2005:5). It is natural for parents to experience some form of guilt and therefore parents are advised rather to focus on what they can do differently to help change the child's behaviour (Lehman, 2014). The researcher argues that guilt feelings and a bad conscience can guide parents to examine their parental actions and consider what they may perhaps have failed to do.

- **Sub-theme three: Anger, frustration and irritation**

PGB, **PGD**, **PGF** and **PGG** express feelings of anger and irritation in dealing with the troublesome behaviour. Both **PGB1** and **PGF1** described feelings of anger: "*I become so angry with him*" (**PGB1**); "*I became angry and more angry*" (*Ek raak kwater en kwater*) (**PGF1**). On the other hand **PGD2** and **PGG1** expressed their irritation and frustration: "*I become irritated with her*" (**PGD2**); "*I became frustrated and starts yelling louder*" (*Ek raak gefrustreed en skree al hoe harder*) (**PGG1**).

This sub-theme links with parental feelings of powerlessness, desperation and guilt as described earlier. The data analysis indicates that feelings such as powerlessness, desperation and guilt could easily burst out in the form of anger. According to Samalin (1991:5-6), anger is normal and inevitable in even a loving parent. Anger can be triggered by feelings of frustration when events seem out of control. Markham (2014a) noted that any parent can handle a given moment better when in a calm state of mind and argues that the child's behaviour itself does not necessarily cause the parents' angry responses, but rather the parents' own conclusions in reaction to the behaviour. Markham (2014a) mentioned the following example: the parent notices the child's behaviour (*Child hitting his sister again*). The parent draws a conclusion (*He is going to turn into a man who hits women*), which leads

the parent to draw a second conclusion (*I have failed as a mother*). This thought process could easily trigger emotions such as fear, guilt and anger.

- **Sub-theme four: Worried**

PGA, **PGC** and **PGD** indicated that they feel worried about their children. **PGA1** stated her concerns about her child as she asked: “*will he ever be okay?*” **PGC1** also indicated: “*I worry a lot*”. **PGD1** shared the same concerns as the other mothers: “*Will my child always feel lonely? It worries me*”.

The data analysis indicates some of the parent groups worried and felt some kind of despair. This sub-theme links closely with the sub-themes of parental feelings of powerlessness, desperation and guilt. Excessive worry such as the mothers expressed during the data analysis can also link with expressions of fear. Goodwyn (2013) warns that parents who parent from a position of fear could easily become overbearing and controlling parents. They tend to fearfully react to here-and-now circumstances regarding their children and end up damaging their relationship with them.

- **Sub-theme five: Failure**

Some parents indicated that they distrust their own capabilities and felt they were failures as parents. **PGA2** stated: “*Sometimes I feel I’ve failed my child*”. **PGD1** shared her distrust of her own capabilities as a mother: “*I don’t feel I’m a good mother any more*”. **PGF1** shared the same distrust and indicated that she “distrust[s] her own capabilities as a mother. Sometimes it feels the teachers think [she] can’t raise [her] child” (*Ek betwyfel my eie vermoëns as ‘n moeder. Soms voel dit die onderwysers dink ek kan nie my kind grootmaak nie*).

According to the literature, parents’ own perception of their competence has an impact on their parenting style (Coleman & Karraker, 1997; Harkey & Jourgensen, 2004b:247; Belsky & Barends, 2002 in De Haan, Prinzie & Dekovic, 2009:1696). Parents tend to resort to an authoritarian and unresponsive parenting style whenever they feel incompetent about handling their child (Belsky & Barends, 2002 in De Haan, Prinzie & Dekovic, 2009:1696). An unresponsive parenting style results in fewer positive experiences in the parent-child interaction and therefore indicates parents could experience lower levels of emotional contact with their children (Gondoli & Silverberg, 1997:868). The researcher argues that when

parents struggle with emotions such as guilt, anger, powerlessness and failure about their parenting, it is difficult to create a nurturing environment where children can feel safe, loved and cared for.

❖ **THEME FIVE: CHILD’S RESPONSE TO PARENTAL REACTIONS**

Parents were asked to reflect on their children’s responses to the parental reactions as described above. Two main sub-themes were identified.

• **Sub-theme one: Emotional response**

Feelings of **rejection** and being **unloved** by parents were described. **PGA2** mentioned that his child would tell them he feels they “*don’t love him anymore*”. **PGD1** shared the same response: “*She constantly reminded me that I loved her sister more*”. **PGG1** also indicated that her child experienced feelings of rejection: “Whenever I reprimand her she would always say that I do not her love her anymore” (*As ek met haar raas sal sy altyd sê ek’s nie meer lief vir haar nie*).

The data analysis also reveals that the children felt a desperate feeling that they were **not understood** by their parents. **PGA, PGB, PGE, PGF** and **PGG** indicated that their children felt misunderstood. **PGA2** stated: “*He would scream that we don’t understand him*”. **PGF1** shared the same comment: “He constantly commented that he does not felt understood by us” (*Hy sê gedurig hy voel ons verstaan hom nie*).

The children also respond with **anger and frustration** towards their parents. **PGB2** noted that his son “*becomes very angry*”. **PGD1** expressed a similar response that her child will “*react in anger towards [her]*”. **PGF2**’s comment also implied some kind of anger or frustration: “He will slam his door” (*Hy sal sy kamerdeur toeklap*). **PGG1** mentioned that her child also reacted with anger and frustration: “she became angry and talks back” (*Sy word kwaad en praat terug*).

The data analysis indicates that the children react with certain emotional responses towards the parental reaction to their behaviour. Children can respond with strong emotions when they felt misunderstood, unloved and rejected (Kohn, 2005:203-204). Parents often find it very difficult to deal with their children’s anger and often experienced it as the most difficult

part of their parenting task (Markham, 2014a). According to Niolan (2010), emotional reactions such as anger can be triggered by feelings such as anxiety, hurt, frustration, loneliness and embarrassment. Children respond with anger to these feelings because they feel helpless. Therefore parents need to find some kind of perspective from the child's point of view on what might evoke such emotions. The absence of such a parental perspective may cause children to feel neglected and misunderstood (Kohn, 2005:2007). It is also important for parents to distinct between anger and aggression. According to Niolan (2010), there is a clear distinction: "Anger is a feeling, while aggression is a behavior".

- **Sub-theme two: Behavioural response**

Children also respond with specific behaviour towards parental reactions and parenting style. Parents indicated they perceived their children as **disobedient**. That fuels the parents' emotion of despair even more. **PGA1** mentioned that her child "*becomes more disobedient*". **PGB1** experienced the same reaction: "He does not have ears" (*Hy het nie ore nie*). **PGB2** expressed a similar concern: "He ignores the rules in the house" (*Hy steur hom nie aan die reëls in die huis nie*). **PGG2** also referred to disobedient behaviour when he explained his child "talks back even more" (*praat net meer terug*).

The data analysis revealed that the parental response to this behaviour did not result in a positive outcome for either parent or child. Children became more disobedient than before. According to the literature (Kochanka, Friesenborg, Lange & Martel, 2004:745; Strydom, 2006:3), conflict may arise in the parent-child relationship when parents neglect to acknowledge or understand their child's unique needs. This may cause children to react with negative behaviour (Campbell, 2000:41, Lindhout, Markus, Hoogendijk & Boer, 2009:439; Aamodt & Wang, 2011:150-151; Rothbart, 2011:231; Van Staden, 2011). This unacceptable or negative behaviour may be a child's way of regulating his or her own needs (Oaklander, 1997:293, Rothbart, 2011:230-233).

The conclusion based on the data analysis regarding **Category Two** is that it is clear that the parents did experience certain behaviours that they were concerned about. Parents expressed their own of understanding why their children react with such behaviour. Parents tended to react in different ways to this behaviour and it triggered a range of different parental feelings. Parental reactions affect the parent-child interaction, resulting in children feeling rejected,

misunderstood and unloved. These feelings spiral further out of control and caused children to react disobediently, while expressing strong emotions such as anger and frustration.

4.1.3 Category Three: The parent-child dynamics

Table 7.4 Category Three: The parent-child dynamics

Category Three: The parent-child dynamics	
Theme	Sub-themes
❖ Theme One: Nature of relationship and interaction between parent and child	• Sub-theme One: Lack of respect
	• Sub-theme Two: Lack of trust
	• Sub-theme three: Negative interaction and disharmony
❖ Theme Two: Parental needs regarding the parent-child interaction	• Sub-theme One: To help my child gain self-confidence
	• Sub-theme Two: To understand my child
	• Sub-theme Three: To feel less helpless
	• Sub-theme Four: To be a good parent

❖ **THEME ONE: NATURE OF RELATIONSHIP WITH CHILD**

Parents were asked to reflect upon the parent-child relationship and gave their perception of it. The data analysis identified three sub-themes: lack of respect; lack of trust; and negative interaction and disharmony.

• **Sub-theme one: Lack of respect**

Parents indicated that they experienced a lack of respect in the parent-child relationship. **PGA2** expressed it as follows: “*he reacts disrespectfully towards us*”. **PGE2** indicated a similar response: “He has less respect for us” (*Hy het minder respek vir ons*).

According to Ireland (2013), respect works like a two-way street. Parents need to respect their child in order to expect the same in return. Ireland further argues that parents’ most important job is to shape and guide their child’s personality and behaviour. By showing respect for their children’s unique temperament and preference functions, expectations and needs, they ensure a close parent-child relationship that can result in better behaviour overall

(Tucker, 2014). The literature warns against any kind of shaming or labelling that may discourage the child, because children tend to project that same behaviour they received onto others (Ireland, 2013).

- **Sub-theme two: Lack of trust**

Parents indicated that they also experienced a lack of trust in the parent-child relationship. **PGA2** indicated that his child “*doesn’t trust us*”. **PGB1** expressed the same concern: “*He does not trust me anymore*”. **PGE1** also indicated “*maybe he does not trust us anymore*” (*Miskien vertrou hy ons nie meer nie*). According to **PGD1**, her child also showed a similar response: “*It’s as if she wouldn’t believe me if I told her that she’s important to us*”.

Trust is an extremely important and powerful concept. To earn trust takes time but it can easily be broken within a split second (Harvell, 2009). When children perceive they are listened to and understood, they start building trust as a component in their relationships (Keefer, 2014; Markham, 2014b). Ensuring that children receive individual attention from the parents is an important tool to establish trust within the parent-child relationship (Finnemore, 2014). Open communication is therefore an essential tool in the parent-child relationship, because it leads to the establishment of trust between parent and child (Harvell, 2009). The main foundation in a relationship is trust and security and when the parent-child relationship is built on this, it is much easier to deal with difficult situations (Slansky, 2009; Lavin, 2014). Parents need to provide secure and trustful relationships to their children and any violation of trust in the parent-child relationship jeopardises the child’s ability to develop happy and trusting relationships throughout life (Harley, 2012).

- **Sub-theme three: Negative interaction and disharmony**

Parents were asked to reflect upon their day-to-day interaction with their children. The data analysis revealed that parents perceived negativity and disharmony in the parent-child interaction.

PGA1 indicated that she “*feel disengaged from [her child]*”. **PGB2** experience the same and noted that he “*struggles to connect with [his child]*”. **PGE1** shared the same viewpoint and indicated that her “*interaction with [her child] feels negative*” (*My kontak met hom voel negatief*). **PGF1** indicated some form of disharmony because they constantly fight when they (parent and child) are together (*As ons bymekaar is dan baklei ons gedurig*). **PGG1**

experienced a similar situation (*Ons baklei gedurig*). The same is applicable to **PGG2**, who indicated that they “can’t find each because we always fight” (*Ons kry mekaar net nie gevind nie want ons baklei alewig*).

It is therefore clear that the parents’ perceived a negative interaction and disharmony in the parent-child relationship. Several aspects, as explained previously in Category Two, can be variables in creating this negative interaction and perceived disharmony. According to the literature, negative interaction creates a *poor-fit* situation between parent and child that result in disharmony in the parent-child interaction (Chess & Thomas, 1996:12; Keirse, 1998:35; Penley, 2006:162).

❖ **THEME THREE: PARENTAL NEEDS REGARDING THE PARENT-CHILD INTERACTION**

The data analysis revealed that all the parents expressed certain parental needs regarding their child, their parenting abilities and the parent-child relationship. These needs are outlined below.

• **Sub-theme one: To help my child gain self-confidence**

PGB, **PGC** and **PGF** wish for their child to feel more confident. **PGB2** stated: “*I wish my child can feel more positive and confident*”. **PGC1** shared the same concern when she stated that she wishes for her child “*to feel happy and confident in herself*”. **PGF1** also indicated that she wished for her child to gain self-confidence: “If only she can straighten her shoulders” (*As sy net haar skouertjies kan reguit maak*).

According to Kohn (2005:43), healthy self-esteem is critical in predicting the quality of people’s lives. Children’s self-esteem varies depending on how they perceive themselves in relation to others in their world. Kohn (2005:44) describes another important phenomenon. The problem could perhaps not be that the child’s self-esteem is too low (*I don’t feel good about myself*), but rather that the child’s self-esteem is too conditional (*I feel good about myself only when...*). Therefore the researcher argues that parents need to be very conscious of what aspects of their child’s functioning they validate in order not to create the opportunity for their child to develop conditional self-confidence.

- **Sub-theme two: To understand my child**

All parent groups expressed a parental need to enhance their understanding of their children, because they felt that they lacked clear understanding. **PGA2** reflected: *“Maybe, if we understand him better”*. **PGB1** also shared her wish for a better understanding: *“I want to learn more about my child”*. **PGC1** indicated their efforts to gain better understanding: *“We try to understand what she wants”*. **PGD1** expressed the same concern for a better understanding: *“sometimes I really don’t understand her reactions”*. **PGF1** admitted that she “does not understand her child” (*verstaan my kind nie*). **PGG1** realised that it would “help a lot if [they] can really understand [their child]” (*Dit sal help as ons haar regtig verstaan*).

Whenever parents have sufficient knowledge regarding their children’s temperament and preference functions, they are capable of creating an emotionally healthy parent-child relationship (Boyd, 2004:229; Rothbart, 2011:231). As the data analysis indicates, parents often lack perception of and insight into how to handle their children according their temperamental needs and expectations (Jaffe, 1997:145; Strydom, 2006:2; Rothbart, 2011:230). Researchers warn parents that conflicts may arise within the parent-child relationship if they lack a clear understanding of their child’s unique needs (Kochanka, Friesenborg, Lange & Martel, 2004:745; Strydom, 2006:3). Neglecting their children’s temperamental needs may lead to behavioural problems in these children (Campbell, 2000:41, Lindhout, Markus, Hoogendijk & Boer, 2009:439; Rothbart, 2011:231).

- **Sub-theme three: To feel less helpless**

Parents expressed a need to feel less helpless and powerless in their parenting. **PGA1** expressed her need to *“feel more equipped to parent this child”*. **PGB2** also indicated that he realises they *“need help”*. **PGC1** indicated that her helplessness leads to feelings of inadequacy: *“I don’t want to feel like a useless parent”*. **PGE2** expressed their “need to be helped” (*Ons wil nou gehelp word*). **PGG2** also reflected the same need “for guidance on how to handle their child” (*Moet nou leiding kry in hoe om die kind te hanteer*).

It is clear that the parents’ struggle to feel confident about their parenting. Parenting requires a significant amount of physical and emotional energy (Gordon, 2000:1; Kohn, 2005:1,7; Kurcinka, 2006:9). As parents begin this process with very little preparation (Tieger & Barron-Tieger, 1997:5; Kohn, 2005:5), they often feel trapped and resort to quick solutions.

This results in parents experiencing feelings of helplessness. Participating parents indicated a needs assessment to understand their child sufficiently and ascertain how to deal with behaviour that causes concern.

- **Sub-theme four: To be a good parent**

Parents expressed a need to feel worthy as a parent. **PGA1** stated her wish to “*to be a good mother*”. **PGD1** also expressed the same desire: “*I wish to be a good parent*”. **PGF2** reflects on his need “for them to be good parents for their children” (*Ons wil goeie ouers vir ons kinders wees*).

Parents have the urge to parent children who are clever, well behaved, obedient and respected citizens of society (Neethling & Rutherford, 2000:8; Kohn, 2005:4). When that outcome is achieved, they regard themselves as worthy and good parents.

4.2 Conclusion on pre-test data analysis

It is clear from the above discussion that the behavioural concerns expressed by the parents could all be linked in one way or another to temperamental preferences or temperamental differences. It is also clear that none of the parents considered the possibility that temperamental preferences or temperamental differences may play a significant role in their children’s behaviour. The uniqueness of each child was never addressed in the parent-child relationship, because it is clear that the parents did not understand their children’s temperament and preference functions. Instead the parents resort to more control and stronger disciplinary methods in order to address the behaviour. This led to fuelling the children’s anger and left the children with feelings that their parents do not care enough and do not understand them as a unique person. The parents are consequently left with a feeling of powerlessness and felt more disconnected than ever from their children, expressing their need to gain a better understanding of their child and his or her behaviour.

4.3 Post-test data analysis

Quantitative analysis of temperament and preference functions took place after the participating children completed the designed temperament sorter. After that the parent groups received qualitative verbal feedback regarding their children’s temperament and preference functions (outcome of the intervention). A period of four weeks passed before the second-round (post-test) **semi-structured interviews** with the parents took place in order to give parents ample time to rethink and familiarise themselves practically with the information provided. The data analysis based on these interviews will be discussed below.

To facilitate the reading of this section, each one of the two categories is presented separately, followed immediately by a discussion of the data-analysis (themes and sub-themes). The following Tables 7.5 to 7.7 focus on the data analysis after the intervention or implementation of the designed temperament sorter.

4.3.1 Category One: The concepts of temperament and preference functions

Parents again were asked during the post-test to reflect on their understanding of temperament and preference functions. The researcher intended to explore whether the parents had developed a better understanding of the temperament and preference functions of their child. Two main themes with sub-themes were identified. Refer to Table 7.5 below.

Table 7.5 Category One: The concepts of temperament and preference functions

Category One: The concepts of temperament and preference functions	
Theme	Sub-themes
❖ Theme One: Parents’ understanding of temperament and preference functions	• Sub-theme One: Temperament is inborn
	• Sub-theme Two: Underestimate the importance of taking temperament into account
❖ Theme Two: Parents’ knowledge of their child’s temperament	

❖ **THEME ONE: PARENTS' UNDERSTANDING OF TEMPERAMENT AND PREFERENCE FUNCTIONS**

Parents again were asked to reflect on their understanding of temperament and preference functions from a general perspective. Two sub-themes were identified.

- **Sub-theme one: Temperament is inborn and cannot be changed**

All parent groups indicated their understanding that temperament is an inborn trait and therefore cannot be changed. **PGA1** and **PGF2** shared the view that “*temperament is something the child has been born with*”. **PGB1** and **PGG1** both highlighted their understanding that “*one cannot change your child’s temperament*”. **PGE1**, **PGF1** and **PGF2** expressed their opinion that temperament is “*part of their children’s inner working*”.

According to Buss and Plomin, temperament refers to inherited personality traits that appear early in life (in Goldsmith, Buss, Plomin, Rothbart, Thomas, Chess, Hinder & McCall, 1987:508). Temperament therefore refers to the biologically based individual differences in people (Rothbart, 2011:2).

- **Sub-theme two: Underestimate the importance of taking temperament into account**

Parents indicated that they underestimate the importance of taking temperament into account in their parenting task. **PGA2** explained their ignorance: “*We never even once consider temperament*”. **PGB1** expressed the same view: “*I never considered temperament before*”. Both **PGD1** and **PGE2** commented that they “*never realised temperament is such an important aspect when raising a child*”.

Knowledge of temperament guides parents with knowledge about the uniqueness of every child and the way in which the child interacts with the world (Harkey & Jourgensen, 2004a:8-9). The literature highlights the fact that each child is born with a factory-installed wiring system (temperament) that determines whether the child will be easy or challenging to raise (Greenspan, 1995:7; Neville & Johnson, 1998:23; Joyce, 2010:3). The researcher argues that parents can use of this knowledge to empower themselves in the parenting task.

The data analysis above indicated that parents gained sufficient awareness and knowledge of temperament and preference functions and their value in the parenting process.

❖ **THEME TWO: PARENTS' KNOWLEDGE REGARDING THEIR CHILD'S TEMPERAMENT AND PREFERENCE FUNCTIONS**

Parents were asked specific questions regarding their child's temperament and preference functions. All of the parents indicated that they gained better understanding of their child's temperament. They all shared the belief that they were better prepared with knowledge of the way that their children preferred to interact with their environment.

Parents indicated a better understanding of their child's introverted energy flow process and their need for reflection, time away from others, and time to adapt to new situations. **PGA2** expressed their understanding that their child *"needs some quiet time away from his sister"*. **PGC1** and **PGF1** noted that they understood that her children's need *"some time to adapt to new situations"*. **PGG2** expressed a similar response *"not to rush her into doing something"* (*Om haar nie aan te jaag om iets te doen nie*). **PGD1** understood that it was necessary not to pressure her child *"to play with friends if she doesn't want to"*. **PGE1** understood for the first time *"why it is such a struggle to go to school on a Monday"* (*Hoekom dit so 'n stryd is om op 'n Maandag skool toe te gaan*).

PGE and **PGG** expressed that they had a better understanding of the social interactive needs of their extroverted energy flow children. **PGE1** mentioned they understood *"why the school frequently complains about her child's talking"* (*hoekom die skool alewig kla oor hy so baie gesels*). **PGG1** also understood their child's *"loads of energy and sometimes she has no Off button"* (*baie energie en soms het sy nie 'n off knoppie nie*). **PGG2** understood the *"reason their child struggles to play on her own"* (*verstaan nou die rede hoekom sukkel sy so om alleen te speel*).

PGB, **PGC**, **PGD**, **PGF** and **PGG** expressed that they had a better understanding of the **SJ** temperament need for security, structure and closure regarding decision making. **PGD1** stated: *"I'll prepare her in advance"*. **PGF1** mentioned that *"she realised her child does not like any change of routine"* (*Ek beseft nou sy hou nie van verandering in roetine nie*). **PGG2** noted his *"understanding of her need for structure"* (*verstaan nou haar behoefte aan struktuur*).

Parents expressed a better understanding of their children's thinking preference and logical way of decision making: *"I now understand that he doesn't mean to be rude"* (**PGB1**); *"He wants us to explain things to him in logical terms without any emotions involved"* (**PGE1**).

PGA and **PGE** expressed a better understanding of their **NT** temperament children's preference to engage in dialogue and need for parents to explain the reason for each and every limit and rule in logical terms: "*We know we need to give him time to engage in a conversation with us*" (**PGA1**); "*I now know better not to tell him: because I said so*" (**PGA2**).

PGE and **PGG** expressed a better understanding for their **NF** temperament children, who function with a feeling preference that results in high empathic emotions towards self and others: "We now understand why he so acts emotionally sensitively" (*Ons verstaan nou hoekom reageer hy so emosioneel sensitief*) (**PGE2**); "I now understand he needs time for sharing his emotions with me in his way" (*Ek weet nou hy het tyd nodig om sy gevoelens op sy manier met my te deel*) (**PGE1**); "we understand our child's emotions and where they come from" (*Ons verstaan nou ons kind se emosies en waar dit vandaan kom*) (**PGE1**).

According to the literature, temperament is connected with the *how* of behaviour rather than the *what* (Thomas & Chess, 1977:9; Keogh, 2003b:15; Joyce, 2010:4; Rothbart, 2011:36). In order to understand and recognise their children's behavioural and emotional needs, parents require sufficient knowledge of their child's temperament and preference functions (Strydom, 2006:6; Rothbart, 2011:4). Knowledge of temperament empowers parents to react with greater understanding towards their children's behaviour; therefore fewer frustrations are experienced, which may in turn lead to a more effective parent-child interaction (Greenspan, 1995:285; Kurcinka, 1998:187; Keogh, 2003a:1; Rothbart, Sheese & Conrard, 2009:184,186; Rothbart, 2011:5).

From the above data analysis it is clear that the parents had gained knowledge and understanding of their children's unique way of being. This could enhance the parent-child interaction.

4.3.2 Category Two: Troublesome behaviour and interaction between parent and child

The data analysis indicated that certain themes and sub-themes were linked with the broader subject of parent-child interaction. The data analysis revealed that knowledge regarding temperament and preference functions affect parental understanding of and reaction to the child's behaviour, which further affects the way the child reacts to this change in parental input. This again influenced the parent's feelings and responses regarding the parenting process. Refer to Table 7.6 below.

Table 7.6 Category Two: Troublesome behaviour and the parent-child interaction

Category Two: Troublesome behaviour and the parent-child interaction	
Theme	Sub-themes
❖ Theme One: Knowledge affects parental understanding	• Sub-theme One: Uniqueness of child
	• Sub-theme Two: Siblings and their interactions
❖ Theme Two: Knowledge affects parental reaction to behaviour	• Sub-theme One: Meet the child's needs and expectations
	• Sub-theme Two: Parental expectations
❖ Theme Three: Child's response to parental reaction	• Sub-theme One: Positive outlook
	• Sub-theme Two: Self-image
	• Sub-theme Three: Share more
	• Sub-theme Four: Sibling interaction
❖ Theme Four: Parental reflection on their own feelings and their parenting	

❖ **THEME ONE: KNOWLEDGE AFFECTS PARENTAL UNDERSTANDING**

The data analysis indicated that knowledge of temperament and preference functions resulted in a greater understanding of children's unique processes and in particular how this aspect influenced the parents' tendency to compare their children when a certain child's response did not meet their parental expectations.

• **Sub-theme one: Uniqueness of child**

The parents expressed a conscious effort to focus more on understanding the child as a unique human being. Parents commented on their awareness of their child's uniqueness: *"I've come to realise my child is unique and different"* (PGA2); *"It was a total revelation the moment I understood my child's unique process"* (PGA1); *"I've learned to focus on my child as a unique person. I try to understand what she's like"* (PGD1); *"We look at our child and see him as an individual"* (Ons kyk nou na ons kind en sien hom as individu raak) (PGE2); *"I now perceive my child as a unique person in her own right"* (Ek sien my kind nou as 'n unieke persoon in eie reg raak) (PGF1). The parents also expressed a heightened awareness of not comparing their children when a child's behaviour did not meet their parental expectations: *"I've stopped comparing her with her sister"* (PGC1); *"I've stopped comparing him with his sister"* (PGB2); *"I do not compare her with her sister anymore"* (Ek vergelyk haar ook nie meer met haar sussie nie) (PGF1).

A prerequisite for an emotionally healthy parent-child relationship is for parents to know and understand their child as a unique human being and respect the child's natural tendency to act in a certain way (Boyd, 2004:229; Rothbart, 2011:231). According to the literature, parents often lack perception of and insight into their children's unique processes (Jaffe, 1997:145; Strydom, 2006:2; Rothbart, 2011:230). Harkey and Jourgensen (2004b:220, 248) noted that a "major flaw in most parenting advice is the assumption that one child is much like the other". Therefore, children's individuality gets lost, their unique behaviour patterns are not accepted, and their unique behavioural needs are not accommodated by the parents (Greenspan, 1995:231; Tieger & Barron-Tieger, 1997:6; Kohn, 2005:13; Rothbart, 2011:231).

Heinsohn (2009:71) also suggests that each child needs to be raised in different ways according to his or her own temperament. Whenever parents succeed in understanding and identifying their child's unique temperament and behavioural style, the more likely they are to relate to the child in a way that generates warmth and spontaneity. This creates a sense of

mutual understanding that is likely to build self-esteem and security in both parent and child (Greenspan, 1995:299; Harkey & Jourgensen, 2004a:330; De Haan, Prinzie & Dekovic, 2009:1695).

The data analysis indicated that knowledge of their children's temperament and preference functions empowered parents to connect with the uniqueness of each child and stopped the urge to change the child to fit their preconceived idea or to resort to the comparison of children.

- **Sub-theme two: Siblings and their interactions**

The parent-child interaction is also affected by sibling relationships. Knowledge of temperament and the child's uniqueness empowers parents with a better understanding of the dynamics between siblings and sibling interactions. The following comments of the parents addressed this sub-theme: *"I now understand why he became so frustrated with her. He's an introvert that needs some quiet space"* (PGA1); *"She can't cope with her sister when she's tired"* (PGD1); *"Our kids differ in temperament. The one is an introvert and not always in the mood to play with the extrovert. What's working for one is not necessarily working for the other"* (*Ons twee kinders verskil in temperament. Die introvert is nie altyd lus om saam met ekstrovert te speel nie. Wat werk vir een werk nie noodwendig vir die ander een nie*) (PGE1); *"They are complete opposites from each other. No wonder it is sometimes difficult"* (*Hulle is teenoorgesteldes van mekaar! Geen wonder dit gaan soms moeilik nie*) (PGG1).

Parents further indicated that they addressed sibling interaction differently because of their newly gained knowledge on this topic: *"They still fight but not so intense. I think we handle it better"* (PGB1); *"I admit we caused a great deal of the fights ourselves in the past and we now try to handle it differently"* (PGB2); *"we handle the fights different than before; we do not get so involved in their arguments"* (*Ons hanteer die baklei nou anders en raak minder betrokke by hul argumente*) (PGE2). PGG2 indicated she is more able to *"anticipate when there is going to be a quarrel"* (*Ek kan nou al baie meer antisipeer wanneer daar 'n argument gaan kom*).

Temperamental differences play a significant role in sibling interaction and often may be the cause of sibling rivalry or negative sibling interaction (Wright, 1999:29). The researcher argues that parents need to understand this phenomenon in order for them to deal with sibling interaction in an emotionally healthy way. Wright (1999:30) argued that although rivalry is a

subject involving the interaction between siblings, parents are always involved in this matter. Faber and Mazlish (1998:4) concur: “It’s one thing to be the child doing the fighting. It’s another being the parent who has to cope with the fighting”.

The data analysis indicated that knowledge regarding temperament and preference functions empowered parents with a better understanding of the nature of their sibling dynamics. Parental awareness means that parents engage with sibling rivalry in a more empowered, emotionally healthy way. This newly gained knowledge and sense of understanding kept parents from resorting to overt discipline, comparison or possible favouritism as strategy to address negative sibling interaction, as indicated in the abovementioned sub-theme.

❖ **THEME TWO: KNOWLEDGE AFFECTS PARENTAL REACTION TO BEHAVIOUR**

The data analysis indicated that parents focused more on understanding behaviour instead of automatically resorting to discipline as a strategy to address or change the troublesome behaviour. Understanding behaviour implied parental awareness of certain needs and expectations of both parent and child.

• **Sub-theme one: Meet the child’s needs and expectations**

The data analysis indicated that parents tended to focus more on the child’s individual needs and expectations, and not only on the behaviour. The parents of the introverted energy flow children, **Child 1**, **Child 2**, **Child 4**, **Child 7** and **Child 8**, indicated that they were more aware of their children’s energy levels and the behaviour that could possibly be linked with their energy levels. These parents expressed heightened awareness of their children’s need for one-to-one interactions and for some quiet times to reflect. *“I stopped forcing him to play with his sister if he doesn’t feel like it” (PGA1); “I realise now he doesn’t need to have a lot of friends” (PGB1); “If she’s grumpy I know there is a good chance that she feels tired. I then would suggest she take a break and enjoy some quiet time” (PGD1).*

Parents indicated an awareness of their introverted child’s need to observe and reflect before engaging in any kind of activity: “It does not worry me anymore if she acts cautiously” (*Dit pla my nie meer as sy eers onseker en versigtig optree nie*). “I understand it is only her way to comes to terms with certain things” (*Ek verstaan dis net haar manier om in vreemde situasies*

die kat uit die boom te kyk) (**PGF1**); “We will now prepare her in advance because she needs some time to think” (*Ons sal haar nou voorberei want ons weet sy het kans nodig om daaroor te dink*) (**PGG2**).

Parents of the extroverted children, **Child 6** and **Child 9**, indicated an understanding of their children’s high energy levels, their tendency to be very talkative and their need for social interactions. **PGE2** stated: “We are now going to be less worried by complaints from the school that he talks so much in class. They must deal with that themselves” (*Ons gaan ons nou minder bekommer aan die klagtes van die skool dat hy so baie in die klas gesels....hulle moet maar self hanteer*) (**PGE2**); “Now that I understand her extrovert energy levels I feel less irritated with her talking” (*Vandat ek haar ekstrovert energievlakke verstaan, voel ek minder geirriteerd met haar baie gepraat*) (**PGG1**).

Parents of the **NF** temperament children, **Child 6** and **Child 9**, indicated their understanding of their children’s need for expression of their feeling preferences and sensitivity to the emotional climate in their surroundings: “In now understand he needs to express his feelings. I must listen without interfering or prescribing how he should feel instead” (*Ek weet nou hy het nodig om sy emosies te verwoord. Ek moet net luister en nie interfere of voorskryf hoe hy moet voel nie*) (**PGE1**); “I understand she needs lots of hugs and kisses. For her everything is about feeling” (*Ek verstaan sy het baie drukkies en liefde nodig.....alles gaan vir haar om wat sy voel*) (**PGG1**); “I understand now why she become upset herself whenever the teacher reprimands other children in the class” (*Ek verstaan nou waarom raak sy ook self ontsteld as juffrou met ander kinders in die klas raas*) (**PGG2**).

Parents of the **NT** temperament **Child 1** and **Child 5** indicated their understanding of their children’s need to ask many questions, for parents to explain the logical reasoning behind their decisions or rules, and for them to express their own opinion: “I’ve learned to understand he prefers a logic explanation for everything” (**PGA2**); “I try to listen to what he has to say” (*Ek probeer luister na wat hy te sê het*) (**PGE2**); “I understand why he always asks so many detailed questions” (**PGA1**).

Parents of the **SJ** temperament children, **Child 2** and **Child 4**, indicated parental understanding of their children’s need for closure, structure and routine. **PGD1** indicated she become aware that her child “needs closure on things before she’s able to relax and settle

down at night". **PGB1** addressed her child's need for structure and routine and therefore "decided to live according to the rules and routines he's comfortable with and used to".

Temperamental preferences are the key to a child's strengths and talents (Meisgeier & Murphy, 1987:7). When parents recognising and supporting these natural preferences, the child will be empowered to be successful (Harkey & Jourgensen, 2004a:33). Natural preferences are indicators of certain needs and expectations the child acts upon (Crawford, 2009:104-105). Therefore, the researcher argues that an important strategy in parenting is for parents to recognise, understand and address these needs and expectations accordingly.

The data analysis clearly indicated that knowledge of their children's temperaments empowered parents to understand their children's individual needs and expectations.

- **Sub-theme two: Parental expectations**

As sub-theme one above indicated, knowledge of their children's temperaments empowered parents to understand their children's individual needs and expectations. The data analysis further indicated that instead of trying to change the child's way of being, parents rather choose to respect these needs and start to adapt their parenting style accordingly.

This implies that parents became aware of their own parental expectations and consciously restricted themselves from imposing them on the child. The following comments of parents imply their change in perception: "My son doesn't need to be this social, confident, outgoing boy I had liked him to be" (**PGA2**); "I stopped criticising my child for being unfriendly and rude. I realised I do not like unfriendly people, I think they are rude" (**PGB1**); "She doesn't need to be perfect and capable like I wish for my eldest to be" (**PGC1**); "I try not to feel frustrated if she does not act spontaneously. I don't put any more pressure on her. I let her observe for as long as she wants" (**PGD1**); "I no longer force her to make quick decisions" (*Ek dwing haar nie meer om onmiddelik 'n keuse te maak nie*) (**PGG1**).

Parental expectations range from the way parents want their children to behave, to what they perceive is important for the child's future (Crawford, 2009:20). Heinsohn (2009:66) warns against the parental urge to try to fit their child into their own concept of the 'perfect child', because this usually results in parents feeling very frustrated. Keirse (1998:254) suggests that a far better approach is for parents to understand their child's unique behavioural style

and then change the way they react. The researcher argues that such knowledge and change in parental expectations will affect the parenting style beneficially. The literature indicated that parental awareness of temperament and preference functions will assist parents about when to be firm and when to be more supportive (Goode, 2001:26; Robinson, 2005:64-65; Penley, 2006:177). The researcher argues that parental awareness of their child's natural preferences and their own parental expectations will mean that parents follow a more conscious parenting style, as described in Chapter 4, section 3.4.

The data analysis therefore indicated the parents were able to adjust their own expectations because of their understanding of their children's unique processes.

❖ **THEME THREE: CHILD'S RESPONSE TO PARENTAL REACTION**

The researcher searched through the data for sub-themes on how the change in parental response affects the child's feelings and behaviour and four sub-themes emerged. These four sub-themes are linked closely together; therefore, a discussion with a literature control follows after the description of each sub-theme.

• **Sub-theme one: Positive outlook**

Parents indicated that their children showed positive emotions and reflected a positive outlook on life itself. The following comments underlined this outcome: "*He's a much happier child nowadays*" (PGA1); "*I think my child is happier*" (PGB1); "*She stopped crying for everything and smiles more often*" (PGC2); "*She is much more spontaneous and happier*" (*Sy is verseker meer spontaan en gelukkiger*) (PGF1).

• **Sub-theme two: Self-image**

Parents indicated a change in their children's self-image. PGF1 noted her child "is less negative about herself" (*is minder negatief oor haarself*) and expressed her opinion that her child "feels more positive about herself" (*Ek reken sy voel meer positief oor haarself*).

- **Sub-theme three: Share more**

Parents indicated that their children react more openly and honestly to them: *“She’s much more open towards us”* (PGC2); *“She reacts more openly towards me”* (*Sy reageer meer oper teenoor my*) (PGF2); *“Both are definitely more open and honest towards us”* (*Al twee is verseker meer oop en eerlik teenoor ons*) (PGG1).

- **Sub-theme four: Sibling interaction**

Parents indicated a difference in the dynamics within the sibling system. They commented on siblings’ positive reactions towards each other as follows: *“Since we have been reacting differently, they are much more accommodating themselves [with each other]”* (PGA1); *“He’s less negative towards her”* (PGB1). *“She’s definitely more patient with her younger brother”* (PGD1); *“They get along much better with each other”* (*Hulle kom sommer beter oor die weg met mekaar*); *“They definitely fight less since we as parents start reacting differently”* (*Hul baklei beslis minder vandat ons as ouers anders optree*) (PGG1).

In a healthy and affectionate parent-child relationship children are given the “strength to cope with stresses of their growing years” (De Haan, Prinzie & Dekovic, 2009:1696). The researcher argues that whenever children experience emotional and physical safety within the parent-child relationship, this positive outlook can to a large extent spill over into other relationships and to life itself, regardless of the fact that children may encounter possible obstacles while growing up. These other relationships could be either with themselves, with siblings, their peers and with significant others in their life.

According to Robinson (2005:26), parents have two main jobs. The first is to create a nurturing environment which draws children into a safe, healthy family that sticks together through thick and thin. Secondly, parents have to empower and encourage their children so that when they enter adulthood they can leave the family nest and enter the world. The researcher concluded that the emotional environment created by parents and through parenting is therefore an important variable to consider in a child’s life.

❖ **THEME FOUR: PARENTAL REFLECTION ON THEIR OWN FEELINGS AND THEIR PARENTING**

The parents reflected changes in their own perception of themselves as competent parents. These changes were connected to the different feelings they experienced during the parenting process. They resulted in a parental change of attitude and response: “*I feel more relaxed [as a parent]*” (PGA1); “*We are more in control of our own emotions when dealing with our child*” (PGA2); “*I feel more confident [as a parent]*” (PGC1); “*I am a much happier and nicer mom*” (PGD1); “*I am definitely more relaxed with the children and feel more relaxed*” (*Ek is beslis rustiger met die kinders en voel meer ontspanne*) (PGE1); “*I react more gently towards my children*” (*Ek reageer sagter teenoor my kinders*) (PGF1); “*We definitely have more confidence as parents. We help each other*” (*Ons het verseker meer selfvertroue as ouers. Ons help mekaar*) (PGG2).

The literature indicates that parents’ own perception of their competence or adequacy has an impact on their parenting style (Goodnow & Collins, 1990; Donovan, Leavitt & Wealsh, 1990; Coleman & Karraker, 1997; Harkey & Jourgenson, 2004b:247; Belsky & Barends, 2002 in De Haan, Prinzie & Dekovic, 2009:1696). The researcher argues that whenever parents perceive themselves as more competent in the handling of the child, the more empowered they will feel as parents. They will then be less likely to engage in parenting with strong control and restrictiveness and rather respond with more open, flexible and responsive attitudes towards their children’s temperamental needs.

The researcher concluded that parents’ own perceptions and feelings are important variables in the parenting process and therefore need to be taken into account.

4.3.3 Category Three: The parent-child dynamics

The data analysis indicated a change in the parent-child interaction as a result of the parents’ heightened awareness and consequently changed responses. These changes overall influenced the parent-child dynamics within a much broader and richer perspective.

Although some themes and sub-themes correspond with some identified above, they are still worth noting in this context. The following themes and sub-themes highlighted the changes within the parent-child relationship. Refer to Table 7.7.

Table 7.7 Category Three: The parent-child dynamics

Category Three: The parent -child dynamics	
Theme	Sub-themes
<p style="text-align: center;">❖ Theme One:</p> <p>Nature of relationship and parent-child interaction</p>	<ul style="list-style-type: none"> • Sub-theme One: Trust and openness
	<ul style="list-style-type: none"> • Sub-theme Two: Respect
	<ul style="list-style-type: none"> • Sub-theme three: Understanding
	<ul style="list-style-type: none"> • Sub-theme Four: Freedom to be
	<ul style="list-style-type: none"> • Sub-theme Five: Less conflict
	<ul style="list-style-type: none"> • Sub-theme Six: Parental change in thinking and attitude
<p style="text-align: center;">❖ Theme Two:</p> <p>Parental reflection and needs regarding newly obtained information</p>	<ul style="list-style-type: none"> • Sub-theme One: Feel more empowered and competent as parent
	<ul style="list-style-type: none"> • Sub-theme Two: Understanding behaviour versus disciplining behaviour
	<ul style="list-style-type: none"> • Sub-theme Three: Important intervention for all families with children
	<ul style="list-style-type: none"> • Sub-theme Four: Need for understanding their own temperament and preference functions

❖ THEME ONE: NATURE OF RELATIONSHIP AND PARENT-CHILD INTERACTION

The researcher searched through the data for sub-themes that possibly indicated that the nature of the parent-child relationship was influenced by the changes in parental responses. Six sub-themes emerged that in fact linked closely to one another and with sub-themes identified earlier. Therefore discussion with a literature control follows after a description of each of the sub-themes.

• Sub-theme one: Trust and openness

Parents indicated that they sense a feeling of trust and openness in their interaction with their child. The following comments indicate this change in the nature of the parent-child relationship: *“There is definitely more trust between us”* (PGA1); *“He trusts us more”* (PGB1 and PGE2); *“She’s much more open towards us”* (PGC2); *“We trust each other more”* (PGD1); *“She is more open towards me”* (Sy is meer oop teenoor my) (PGF2).

- **Sub-theme two: Respect**

Parents indicated that they sensed a feeling of mutual respect in the parent-child interaction that also implied a change in the nature of the parent-child relationship. Parents indicated this change with comments such as: *“He treats us more with respect”* (PGA2); *“There’s less incidents when he behaves disrespectfully towards us”* (PGA1); *“She behaves more respectful towards us as her parents”* (PGD1); *“He definitely acts with more respect towards us but we also focus on treating him with respect”* (*Daar’s definitief meer respek van sy kant af, maar ons focus ook om hom met respek te behandel*) (PGE1).

- **Sub-theme three: Understanding**

Parents indicated mutual understanding within the parent-child interaction. This aspect also implies a change in the nature of parent-child relationship and could be identified by the following remarks: *“The past week he not even once mentioned that we don’t understand him. That’s a first”* (PGA2); *“I understand my child much better”* (PGD1); *“We both understand our children much better”* (*Ons altwee verstaan ons kinders nou baie beter*) (PGE2); *“I think she feels we understand her better”* (*Ek dink sy voel ons verstaan haar beter*) (PGF1).

- **Sub-theme four: Freedom to be me**

Parents indicated that they focused on their child’s uniqueness and individuality and therefore encouraged their children to be themselves. This change in attitude also reflects on the nature of the parent-child relationship. Parental viewpoints were comparable: *“I want for him just to be himself”* (PGA2); *“He may just be himself”* (PGB1); *“I really try to focus on letting him do things his way”* (PGC1); *“I let her choose herself how she wants to do stuff”* (*Ek laat haar nou self besluit hoe sy dingetjies wil doen*) (PGF1).

- **Sub-theme five: Less conflict**

Parents indicated that they perceived more harmony and less conflict within the parent-child interaction. This also reflects positively on the nature of the parent-child relationship. The following comments are noteworthy: *“There’s less conflict between us”* (PGA1); *“She’s definitely not so angry with me anymore”* (PGC1); *“There’s less fighting between us”* (PGD2); *“We are on better terms with each other”* (*Ons kom beslis beter oor die weg met*

mekaar) (PGE1); “There is in general less tension in our home” (*Daar is oor die algemeen minder spanning in die huis*) (PGF1); “We now fight less” (*Ons baklei nou minder*) (PGG1).

- **Sub-theme six: Parental change in thinking and attitude**

Parents indicated that heightened levels of awareness regarding their child’s temperament and preference functions inspired them to change their own attitude and thinking about their parenting style. This led to a change in the parent-child interactions and therefore reflects on the nature of the parent-child relationship. Relevant parental responses were: “*We have changed our way of thinking. Previously we would have thought he’s just plain naughty*”. (PGB2); “*I’m not so hard [strict] on her anymore...I am so much more relaxed as a parent*” (PGC1); “*I’ve change the way I think about my child and her behaviour*” (PGD1); “We perceive our children differently. We try to listen more” (*Ons kyk definitief met ander oë na ons kinders. Ons probeer om meer te luister*) (PGE2); “We take note to treat each child differently” (*Ons maak ‘n punt daarvan om hul elkeen anders te hanteer*) (PGE1); “I am much more gentle in my approach. In the past I would immediately start to reprimand them” (*Ek is nou ‘sagter’ in my benadering, in die verlede sou ek net dadelik inspring en raas*) (PGF1); “We now look differently at our child’s behaviour than before” (*Ons kyk nou anders na ons kind se gedrag*) (PGF2); “I now think much more about things before I start yelling and scolding” (*Ek dink nou baie meer oor goed en begin nie net raas en skel nie*) (PGG1).

The literature indicated an enhancement of parent-child interaction whenever parents developed an understanding, through increased awareness levels (Mackewn, 2003:127,133; Joyce & Sills, 2006:30), as well as of how the parent and child function as a unit and system (Blom, 2004:10) within the here-and-now (Joyce & Sills, 2006:27). The researcher argues that this enhancement of the parent-child interaction will reflect in aspects such as less conflict between parent and child, mutual understanding, a freedom to be oneself in the parent-child relation and, above all, mutual respect between parent and child.

Parents who neglect this understanding and fail to address their children’s natural needs and expectations, but rather force them to submit to their will, often generates intense anger within the child (Kohn, 2005:55). This implies that there is no mutual understanding and respect between parent and child, but rather more conflict, misunderstanding and anger. This anger triggered by feelings of powerlessness and frustration turns into a negative force which sabotages the parent-child interaction (Leman, 1992:20-21; Greenspan, 1995:237-238;

Rothbart, 2011:240-241). The researcher therefore argues that the slightest change in parental attitude and reactions will affect the child's behaviour and vice versa, as indicated in data analysis of this theme. The slightest change in the parent-child relationship is therefore powerful enough to influence the parent-child dynamics from a broader perspective.

The above sub-themes indicated a positive shift in parental attitudes towards the child and his or her behaviour in the here-and now which affects the parent-child relationship. Parents indicated that they were aware of how the parent-child system functioned as a complex unit. The parents themselves identified several significant components such as trust and openness, respect, mutual feelings of understanding, less strict control over the children's behaviour and their conscious effort to guide their parenting towards understanding and accommodating the child's process. These components were active variables in the enhancement of the parent-child relationship.

❖ **THEME TWO: PARENTAL REFLECTION AND NEEDS REGARDING NEWLY OBTAINED INFORMATION**

The parents reflected on the intervention process and their own participation in the study and expressed the following aspects as a result of the outcome of the process.

• **Sub-theme one: Feel more empowered and competent as a parent**

The parents reflected that they felt less helpless, more confident and empowered in the parenting task. Different kinds of comments were expressed but overall each one pointed towards parental feelings of empowerment: *"I feel more at ease and more in control than ever before"* (PGA1); *"I've stopped feeling like a useless mother"* (PGC1); *"We still don't know everything [about parenting] but we feel a lot more confident as parents"* (PGD2); *"Each day I learn more and more about each one. That makes me feel satisfied"* (Elke dag leer ek meer en meer van elkeen. Dit laat my goed voel) (PGE1); *"I can now read my child. That gives me more confidence as a parent"* (Ek kan my kind nou lees. Dit gee my baie meer selfvertroue as ouer) (PGF1).

Parents (PGE and PGG) understood the temperamental differences between their children and how each child reacts according certain inborn needs and expectations, which added to their feeling of confidence. This empowered them with better understanding of each child's natural preferences and how these influenced the sibling interactions. PGG1 expressed

awareness and understanding of the “dynamics between her children” (*Ek is nou bewus van die dinamika tussen my kinders en verstaan dit beter*) and mentioned “It is amazing how big a difference it makes for me as a mother” (*Dit is ongelooflik hoe ’n verskil dit vir my as ma maak*). **PGE2** also “purposively focuses on perceiving [his] children as two unique human beings” (*Ek maak nou ’n punt daarvan om my kinders te sien as twee unieke menses*) and that perspective “really assists him really a lot” (*Dit help my regtig baie*). He now “reacts differently when the two of them fight” (*Ek reageer nou anders as hul twee baklei*). **PGE2** further explained that he “now tends to guide the children to solve their own conflicts” (*Ek sal nou eerder die kinders lei om self hul konflik op te los*). In the past he would “intervene with discipline in order to stop the conflict” (*In die verlede sou ek tussen beide tree met disipline in ’n poging om die konflik te stop*).

- **Sub-theme two: Understanding behaviour versus disciplining behaviour**

The parents reflected a change in their focus as parents. In the past the focus would be on the behaviour and how to change the behaviour. After the intervention their focus was rather on perceiving the child as a unique human being and on understanding behaviour by considering the different temperamental needs and expectations. The following comments from the parents supported this sub-theme: “*We are much more aware as in when to listen and when to discipline*” (**PGA2**); “*We focus more on understanding what he needs and expects from us*” (**PGB2**); “*We are much more aware of our child as someone with her own needs. We keep ourselves from not always disciplining her*” (*Ons is meer bedag op ons kind as iemand met haar eie behoeftes. Ons weerhou onself om nie healtyd haar gedrag te disiplineer nie*) (**PGF1**).

- **Sub-theme three: Important intervention for all families with children**

Parents indicated that knowledge about their children’s temperament and preference functions can be used as an important empowering tool by all parents and families. They anticipated that all parents would gain from this knowledge and therefore suggested the following: “*Every parents needs to go through this exercise*” (**PGA2**); “*I recommend this [knowledge] to all parents*” (**PGB1**); “*This will help many struggling parents*” (**PGD1**); “*It is a pity not every parent goes through this*” (*Dis ’n jammerte dat nie alle ouers hierdeur gaan nie*) (**PGE2**).

Parents also indicated a need for more extensive knowledge about the temperaments and preferences of each one of their children. **PGC1** expressed her need: *“I would like to know all of my children’s temperaments”*. **PGF1** noted too that “parents should know each child’s temperament” (*Ouers behoort elkeen van hul kinders se temperamente te ken*). **PGG1** concluded that “this knowledge is noteworthy for every parent and child” (*Hierdie inligting is waardevol vir alle ouers en kinders*).

- **Sub-theme four: Need to understand their own temperament and preference functions**

Parents indicated that knowledge about their own temperament and preference functions would add to their competence in the parenting process and empower them. The following comments underlined this particular need: *“It would help me a lot if I knew my own temperament too”* (**PGA1**); *“I want to know our temperaments as well. I know for sure it plays a role in how we parent”* (**PGC2**); *“Wish I knew my own temperament”* (**PGD1**); *“Would also like to know our own temperaments”* (*Sal graag ons eie temperamente ook wil weet*) (**PGE1**).

The literature indicates that parents are often unaware of the role their own temperament and process plays in the expression of their parenting style (Harkey & Jourgensen, 2004b:7; Rothbart, 2011:36-37). Parents prefer to regard themselves as a variable which has no influence over the child’s behavioural functioning. Behaviour problems or inappropriate behaviour is often interpreted as originating from children being unable to submit to the rules and guidance of their parents, or an inability to adjust to them.

Participating parents indicated they anticipated that this knowledge may serve as an empowering tool in the parenting process. The literature also indicates this. According to Harkey and Jourgensen (2004b:6) and Joyce and Sills (2006:30), the contact between parent and child can be increased when parents develop a better understanding of the uniqueness of their children. Penley (2006:3) noted that it is possible for parents to feel on top of the parenting game; this is the moment the parents act in sync with the child by giving the child exactly what is needed. The chances are that in that moment the parents were operating from the strengths of their own unique temperament and preference style. Knowledge regarding their inborn temperament and preferences as well as those of their children can assist parents in identifying their own strengths as well as those of their children (Penley, 2006:4). Parents

will then feel more empowered when to respond to the behaviour with discipline and when to comfort the child with understanding. In this way, optimal functioning as a family can be promoted.

The data analysis therefore indicated that parents' reflection on the intervention process included expression of their feelings of competence regarding the newly obtained knowledge. They used this knowledge to change the way they parent and wish other parents to share in this privilege.

4.4 Conclusion on post-test data analysis

The data analysis after intervention indicated a parental change in attitude, awareness, knowledge and behaviour. It is clear that the information given to parents about their child's temperament and preference functions had changed the way the parents' interact with their children. Parents reported a better understanding of temperament in general and indicated that they grasp their children's temperament and preference functions. This knowledge affects the parents' awareness and understanding of the child's uniqueness. Furthermore, it affects parental awareness of the needs of their children and guided the parents' expectations and their reactions to their children's behaviour. Parents were less inclined to act toward troublesome behaviour in a disciplinary manner and more towards understanding behaviour in the context of their child's process, temperament and preference functions.

The nature of the parent-child interaction therefore changed from lack of respect and trust to greater understanding, trust, openness and less conflict. This change in interaction affected the child's view of self and life, and the parents reported their children to reacting more happily and with a willingness to share more about themselves. Sibling rivalry, which will always be a reality in sibling dynamics, was reported to be less intense and less disturbing because the parents stopped expressing favouritism and comparing their children, but rather treated them differently according to their temperament and preference functions.

Parents with more than one child who participated in the study experienced a heightened awareness of the temperamental differences between their children. They acknowledge that their children were almost opposite in preference functions, which led to different behavioural outcomes. This knowledge kept parents from comparing and favouring one

child's process over the other. Parents noted that a change in parental attitudes towards their children affected the sibling interaction and they experienced less sibling conflict as result.

The data analysis indicated that parents felt more competent in the parenting process and therefore were more able to be responsive to their child's preferred needs and expectations. Therefore, strict control was less necessary, which indicated a change in parental reactions and attitudes towards the child's behaviour. Parents indicated a need for other parents to engage in the same process, to be equipped with knowledge regarding the temperament and preferences of their children, and to have knowledge about their own inborn qualities.

5. SUMMARY OF FINDINGS

The assumption of Carey and McDewitt (1995 in Vogel, 2003:3) that "despite abundant support of the existence and clinical importance of temperament differences in children, the phenomenon is not well understood by the general public or by health and educational professionals" still holds true. The data analysis before intervention reveals that none of the parents participating in this study identified temperament a possible variable that influenced their child's behaviour.

❖ The following aspects from the **pre-test** data analysis before the intervention are noteworthy.

- Parents' general knowledge regarding the concepts of temperament and preference functions was insufficient. Parents' viewpoint ranged from a belief that temperament is a learned action, that temperament refers to strong emotions, and that it is fixed and therefore not able to change.
- Before the intervention the parents had focused in their parenting act on discipline and behaviour, with the intended outcome being to produce obedient and well-behaved children.
- The parents' highlighted behavioural issues they were concerned about as follows: talkative with high energy levels; unwillingness to adapt to new circumstances;

shyness and lack of self-confidence; strong emotional reactions; poor social skills; and sibling rivalry.

- Parental understanding of troublesome behaviour was that it was an act of disobedience, rebellion against discipline, or possible low self-esteem.
- The parents indicated that because of their unsuccessful attempts to address troublesome behaviour, they tended to express favouritism, imposed greater discipline, resorted to labelling and comparisons as strategies to change the troublesome behaviour.
- Parents indicated that these strategies did not achieve the intended results, which left parents worried with feelings of powerlessness, anger towards their children, and guilty for not being good, competent parents.
- Parental strategies to address the troublesome behaviour were perceived negatively by the children. Children disengaged emotionally from their parents and reacted with certain undesirable emotional and behavioural responses.
- According to the parents, their children expressed feelings that they felt misunderstood and perceived some kind of rejection from parents. Children also acted with anger and frustration towards their parents. These feelings were perceived by the parents as acts of disobedience.
- Parents indicated a negative experience of the parenting process and expressed desperate feelings that they possibly had failed as parents.
- The parents described elements such as distrust, lack of respect and disharmony as elements in the parent-child relationship that reflected negatively on the parent-child interaction.

The pre-test data analysis thus indicated that the nature of the parent-child interaction was distorted, negative and perceived by both parent and child as emotionally unsafe.

❖ The following aspects from the **post-test** data analysis after the intervention are noteworthy.

- It was only after the feedback session during which the parents received a thorough explanation of the concepts of temperament and preference functions that they were able to grasp the concept with greater understanding. They indicated that they understand that temperament referred to inborn qualities and not some characteristics the child chooses to adopt.
- Parents further indicated they underestimate the importance of taking temperament and preference functions into account in the parenting process.
- The parents changed their focus and became more aware of the child's nature and started to validate the child's unique being. That resulted in parents changing from a strict, authoritarian parenting style to a more conscious parenting style with much more warmth and understanding. Parental responsiveness towards the child therefore increased.
- Parents reported that they consciously focused on understanding their children's unique inborn qualities with their preferred needs and expectations, and guided their own parenting to accommodate this.
- Children reacted to this change in a positive way. The parents reported that their children shown more respect towards them and there was less conflict noted in the parent-child interaction.
- Parents reported that they perceived sibling conflict from a different perspective and therefore were able to engage more objectively to sibling interaction. Previously they would resort to strong discipline as the only strategy, but after the intervention they were able to anticipate sibling conflict and follow a more objective approach, guiding their children to resolve the conflict themselves.
- Parents indicated that a change in parental action and behaviour towards the child impacted on the sibling dynamics. They reported less sibling conflict.

- Parents who had two children participating reported that they feel empowered with knowledge of how their children differ in temperament and preference functions. This knowledge guided them to understand each child's individual needs and expectations, and therefore they were able to stop resorting to comparison and labelling in a way to address certain troublesome behaviours.
- Parents reported positive interaction with their children and described elements of trust and respect as part of the parent-child interaction.
- Parents therefore reported a sense of control and felt more empowered in the parenting process.
- Parents reflected on the intervention process and expressed a need to understand their own temperaments and preference functions, and acknowledge the role they play in their parenting and interaction with their children.
- Parents further expressed a need to also understand the temperament and preference function of the other children in their family unit, as they grasped the concept that the family system acted as a closed system in which members influenced one another.
- Parents indicated this intervention to be helpful for all families with children and reported that they had achieved a positive interaction with their children and felt more prepared for the parenting process.

Post-test data analysis indicated that the designed ecometric temperament sorter (9-15 years), The *Unknownness* Type Indicator for Children, when implemented in the practice-based ecometric model, assisted the researcher to create awareness and better understanding amongst participating parents regarding the temperament and preference functions of their participating children.

Therefore the designed temperament sorter assisted in addressing the aim of the study and to answer the following research question:

How can a practice-based econometric model be utilised to assess temperament and preference functions that assist in enhancing the parent-child interaction?

6. PHASE 5, STEP 3: REFINING THE INSTRUMENT

According to De Vos and Strydom (2011:486), further refining of a designed instrument takes place during this stage of the D&D model. Because the designed temperament sorter, the *Uknowme88* Type Indicator for Children, was able to successfully assist the researcher in addressing the aim of this study, no further refinement was necessary.

7. PHASE 6: DISSEMINATION

A discussion of dissemination will not be part of the research project. The project concluded with a final research report with conclusions and recommendations. Marketing and dissemination will take place upon completion of the project.

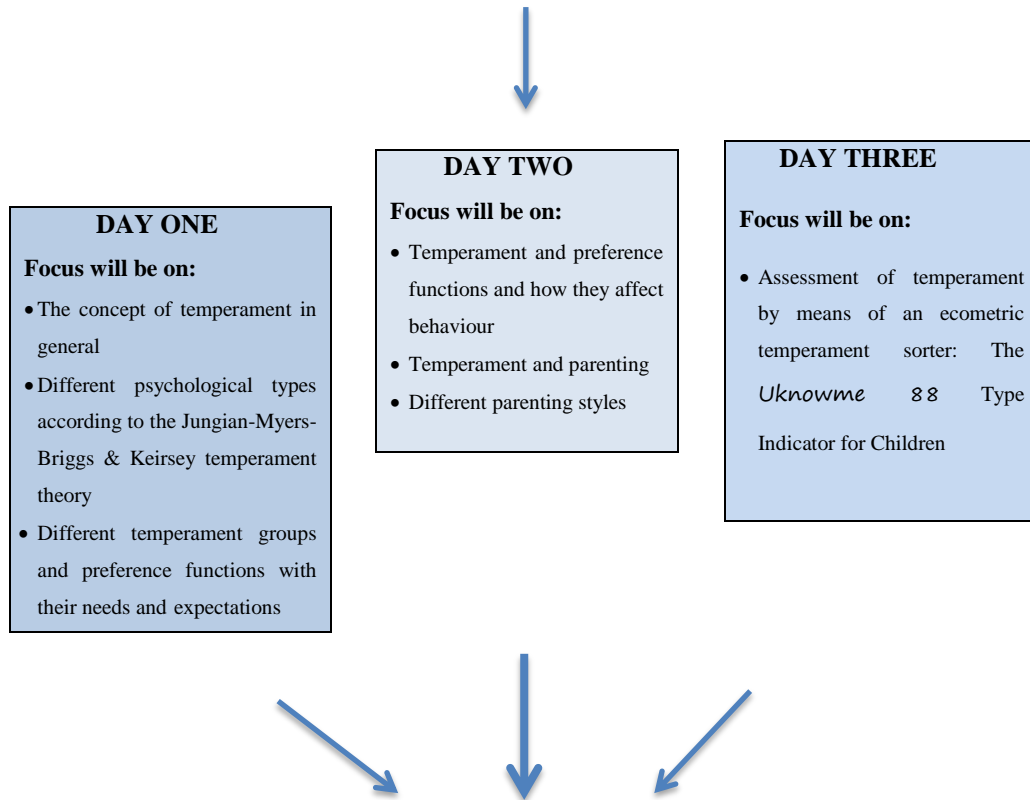
For a schematic view of the practice-based econometric model to be used by therapists and social workers refer to Figure 7:

A practice-based econometric model to assess temperament and preference functions that assists in enhancing the parent-child interaction



PHASE ONE

Social workers will be introduced to the practice-based ecometric model during a three-day workshop and also receive training in how to use the ecometric temperament sorter designed for this model.



This knowledge will empower social workers to focus their intervention on the family as a unit. Their intervention with both parent and child guided by the practice-based ecometric model will consist of the following components:



PHASE TWO



Parents are considered an equally important variable in the therapeutic process. Parents are guided by the social worker in the parenting process to understand the child's temperament and preference functions



Assess the child's temperament with the ecometric temperament sorter, The *Uknowme 88* Type Indicator for Children



Parents received feedback to address the following questions:

- What is temperament?
- What is a preference function?
- What role does temperament play in the parenting process?
- What is my child's temperament?
- What are my child's temperamental needs and expectations?
- How does my child's temperament affect his/her behaviour?
- Does my current parenting style addresses my child's temperament and preference functions?
- How can I adjust my parenting style to fit my child's temperament and preference functions?



The social worker will be able to guide parents in the understanding of their child's temperament and preference functions. The parent can make use of this knowledge to enhance the parent-child interaction. This possible change in the parent-child interaction may serve as an effective tool to support the therapeutic process.

The researcher will be available for assistance to social workers if further guidance is needed.

Figure 7: Schematic view of the practice-based ecometric model: Phase 1 and Phase 2

8. SUMMARY

Parenting and more specifically the way parents connect with their children are very important. Because each child is born with his or her own temperament, he or she needs to be raised in different ways. Parents cannot change or determine their child's temperamental style, but rather parenting needs to be moulded around the child's temperament and preference functions. Therefore parenting methods and techniques need to be attuned with their child's temperament. Parents usually end up feeling frustrated when their efforts and attempts to mould their child to fit their parental concept of the 'perfect child' do not succeed. A better approach is to observe and learn about the child's unique behavioural style and then change the way the parent reacts to the situation. With this in mind, the researcher argues that therapists need to intervene by introducing a different approach towards parenting.

Therefore the aim of the study was to determine how a practice-based ecometric model can be utilised to assess temperament and preference functions that assist in enhancing parent-child interaction. In order to address the aim of study, the practice-based ecometric model needs to include a temperament sorter as tool to obtain information on temperament and preference functions. Because a validated instrument or tool that assesses temperament and preference functions for social workers and other professionals other than psychologists was

not available in the field, the researcher designed and pilot tested a prototype temperament sorter. After content, construct and criterion validation, the designed temperament sorter, the *Unknownness* Type Indicator for Children, was considered to be used within the practice-based ecometric model.

Post-test data analysis indicates that through the intervention the parents' awareness levels regarding temperament in general and their child's temperament and preference functions in particular were heightened. Parents adjusted their parental focus towards their children's uniqueness and they were able to adapt their parenting style accordingly. Parents then reported a better understanding of their child's different needs and expectations, and were therefore able to react differently to the child's behaviour. This resulted in parents feeling more empowered in the parenting process. They also reported a better knowledge as when to be firm and when to be more supportive. Post-test data analysis further indicated that through this newly obtained knowledge, parents could change the way they deal with behaviour and this in turn resulted in enhancement of the parent-child interaction.

The designed temperament sorter successfully assisted the researcher in addressing the aim of the study. Post-test data analysis indicated that the practice-based ecometric model to assess temperament and preference functions indeed assisted in the enhancement of the parent-child interaction. The practice-based ecometric model consisted of the following important **components** that need to be addressed in order to enhance the parent-child interaction:

- The concept of temperament in general;
- Different psychological types according the Jungian-Myers-Briggs and Keirsey temperament theory;
- Different temperament groups and preference functions with their needs and expectations;
- The assessment of temperament by means of an ecometric temperament sorter;
- Temperament and preference functions and behaviour;
- Temperament and parenting;
- Different parenting models with the focus on conscious parenting.

The aim of the study was achieved and the research question and sub-questions were therefore successfully answered. The next final chapter focuses on an integration of the evaluation, conclusions, and recommendations of the study.

Chapter Eight

Evaluation, conclusions and recommendations

1. INTRODUCTION

This chapter reflects on the research study from an evaluative perspective. The researcher comes to certain conclusions, makes recommendations and discusses limitations. The success in reaching the aim and objectives of the study will be evaluated, and it will be argued that the research questions were answered and the hypotheses were accepted. The chapter concludes with suggestions for possible future research.

2. HAVE THE AIM AND OBJECTIVES BEEN ACHIEVED? AN EVALUATION

2.1 Reaching the aim

This aim of the study was to determine how a practice-based ecometric model can be utilised to assess temperament and preference functions that will in turn assist in enhancing the parent-child interaction. This was achieved by following the D&D model through different phases and steps.

During Phase 1 the research problem was identified and the project was planned accordingly. During Phase 2 a solid literature base was created for the study. Dimensions within the Jungian-Myers Briggs and Keirsey's temperament theories were described for use in the prototype and ecometric temperament sorter. Different parenting styles and the way temperament affects the parenting process were explored and described in order to understand how temperament and preference functions affect the parent-child interaction. Ecometrics with the social work profession and guidelines in the Ecometrics Technology Policy (SACSSP, 2011) that underpinned the fundamental principles in social work were explored and described, and this assisted the researcher in acquiring knowledge regarding ecometrics and how to use ecometrics within the assessment process. The focus was also on assessing how the aim of the study related to the ecometric perspective. The literature study guided the researcher towards certain important components that were required within a

practice-based econometric model to assess temperament and preference functions which would assist in enhancing parent-child interaction.

During Phases 3 and 4 the focus was on designing the prototype temperament sorter. The observational system consisted of a panel of experts who assisted with item analysis in each dimension. The Delphi technique was used as the method of quantitative data gathering. The prototype was pilot tested quantitatively for reliability with 46 children using equivalent or parallel form reliability. The results indicated that the prototype was reliable. The designed temperament sorter was refined for use in the next phase and was called the *Unknownness* Type Indicator for Children.

During Phase 5 a multi-phased approach using the one-group pre-test post-test design was followed. The objective was to implement the designed temperament sorter within the practice-based econometric model and assess its effectiveness in addressing the aim of the study. Seven parent groups with their children participated during this phase.

The parent-child interaction was assessed through first-round **pre-test** semi-structured interviews with the different parent groups. An interview schedule guided the researcher during the data-gathering process. Thereafter, the children from the participant parent groups were asked to complete the designed temperament sorter. Quantitative temperament analysis then took place. The researcher gave verbal feedback to each parent group individually. Verbal feedback consisted of qualitative data regarding their child's temperament and preference functions and how these affect the child's behavioural needs and expectations. After four weeks the researcher again saw the parent groups for second-round **post-test** semi-structured interviews. Qualitative data were gathered regarding the parent-child interaction. The data analysis, through Creswell's analytical method, indicated that parents developed a greater awareness of their child's temperament and preference functions, and how their child's temperament influenced different needs and expectations. Parents conveyed their insights into how to adjust their parenting style accordingly. Consequently the parent-child interaction was enhanced. The designed temperament sorter was assessed as effective enough when implemented in the practice-based econometric model to assist in addressing the intended outcome/aim of the study. Therefore, it is clear that the applied goal of the study was successfully achieved.

2.2 Reaching the objectives

The researcher reached the following **objectives** to achieve the applied goal aimed for.

- **To analyse the problem and plan the project accordingly.**
 - ☛ This objective was achieved through Phase One, Steps 1- 4 of the D&D model as described in Chapter 1.

- **To explore and describe through a literature study the different components required in a practice-based econometric model to assess temperament and preference functions.**
 - ☛ This objective was achieved through Phase Two, Steps 1-3 of the D&D model as described in Chapters 2-4.

- **To explore and describe various dimensions required within an econometric temperament sorter.**
 - ☛ This objective was achieved through Phase Two, Steps 1-3 of the D&D model as described in Chapters 2-4.

- **To explore and describe how the econometric perspective can contribute to the development of a temperament sorter.**
 - ☛ This objective was achieved through Phase Two, Steps 1 and 3 of the D&D model as described in Chapter 5.

- **To develop an observational system in order to assist with item analysis of the prototype.**
 - ☛ This objective was achieved during Phase Three, Step 1 of the D&D model as described in Chapter 6.

- **To pilot test the prototype and refine the instrument by means of a questionnaire, answering sheet and score chart.**
 - ☛ This objective was achieved during Phase Four, Steps 1-3 of the D&D model as described in Chapter 6.

- **To implement the designed product within the practice-based ecometric model and assess its effectiveness in assisting to address the aim of the study.**
 - This objective was achieved during Phase Five, Steps 1-3 of the D&D model as described in Chapter 7.

3. HAVE THE RESEARCH QUESTIONS BEEN ANSWERED? AN EVALUATION

The following **research question** was posed:

- How can a practice-based ecometric model be utilised to assess temperament and preference functions to assist in enhancing the parent-child interaction?

It was followed by seven **sub-questions**:

- How can the problem be analysed and a project be planned accordingly?
- What components are required within a practice-based ecometric model to assess temperament and preference that assist in enhancing parent-child interaction?
- What dimensions are required within an ecometric temperament sorter?
- How can the ecometric perspective contribute to the development of an ecometric temperament sorter?
- How can an observational system assist in the item analysis of a prototype?
- How can a pilot study be implemented to assist in the validation of the prototype in order to refine the instrument?
- How can the designed temperament sorter be implemented in the practice-based ecometric model to assess its effectiveness in assisting to address the aim of the study?

These research questions were successfully answered as seen in the discussion below.

- ***RESEARCH QUESTION: How can a practice-based ecometric model be utilised to assess temperament and preference functions that assist in enhancing the parent-child interaction?***

This question was answered by addressing the abovementioned sub-questions of the study.

- ***SUB-QUESTION ONE: How can the problem be analysed and project be planned accordingly?***

After a need assessment identified in private practice, the researcher undertook the study. A protocol was written and the North-West University gave permission for the study to be undertaken according to their guidelines. Phase 1, Steps 1-4 as described in Chapter 1 assisted the researcher in addressing this objective.

- ***SUB-QUESTION TWO: What components are required within a practice-based ecometric model to assess temperament and preference that assist in enhancing parent-child interaction?***

A thorough literature study undertaken during Phase Two, Steps 1-3 of the D&D intervention research process as described in Chapters 2-5. This guided the researcher to explore the components within the practice-based ecometric model to assess temperament and preference that assist in enhancing parent-child interaction. The following important components were identified:

- The concept of temperament in general;
- Different psychological types according the Jungian-Myers-Briggs and Keirseu temperament theory;
- Different temperament groups and preference functions with their needs and expectations;
- The assessment of temperament by means of an ecometric temperament sorter;
- Temperament and preference functions and behaviour;
- Temperament and parenting;
- Different parenting models with the focus on conscious parenting.

- ***SUB-QUESTION THREE: What dimensions are required within an ecometric temperament sorter?***

A thorough literature study undertaken during Phase Two, Steps 1-3 of the D&D model as described in Chapters 2-5 guided the researcher to explore the dimensions for the ecometric temperament sorter. The **four dimensions** and **eight preferences** within the Jungian-Myers Brigg and Keirsey’s temperament theory that were explored and described in Chapter 3 were used in the ecometric temperament sorter.

DIMENSION 1: Natural flow of energy. The E-I preferences	
EXTROVERSION	INTROVERSION

DIMENSION 2: Function of information intake. The S-N preferences	
SENSING	INTUITION

DIMENSION 3: Function of decision-making. The T-F preferences	
THINKING	FEELING

DIMENSION 4: Life style and interaction with outer or external world. The J-P preferences	
JUDGING	PERCEIVING

- ***SUB-QUESTION FOUR: How can the ecometric perspective contribute to the development of an ecometric temperament sorter?***

A thorough literature study undertaken during Phase Two, Steps 1 and 3 of the philosophical basis of ecometrics guided the researcher in understanding how ecometrics relates to the social work profession. The perceived outcome of this study and designed temperament sorter were compared against the important assumptions in the field of ecometrics as underpinned by the SACSP (2011) and the major principles in the social work profession. The assessed outcome was positive. Therefore the temperament sorter that was designed and developed during Phases 3 and 4 of the D&D model can be called a practice-based *ecometric* instrument.

- ***SUB-QUESTION FIVE: How can an observational system assist in item analysis of a prototype?***

A panel of seven experts assisted the researcher in item analysis of the prototype. The key stages in the Delphi technique were used for data gathering. After the data analysis of the second round of responses from the panellists, the lists of items successfully narrowed down the number of applicable questions from which the researcher could design the prototype.

- ***SUB-QUESTION SIX: How can a pilot study be implemented to assist in the validation of the prototype in order to refine the instrument?***

During phase 4 a pilot study consisting of 46 children in the age group 9-15 years assisted with the validation of the prototype. Equivalent or parallel reliability was used to verify if the prototype and the MMTIC (used as control) showed corresponding results. The data analysis indicated that the prototype was reliable, so no further adjustments were needed. It was ready for use in the next phase of the D&D model. The designed temperament sorter was named the *UKnowme88* Type Indicator for Children.

- ***SUB-QUESTION SEVEN: How can the designed temperament sorter be implemented in the practice-based ecometric model to assess its effectiveness in assisting to address the aim of the study?***

This question was answered during Phase 5 of the D&D model. Within a multi-phased approach the researcher used the **one-group pre-test post-test design** to obtain qualitative data from during semi-structured interviews from participating parents and children. The data analysis during the **pre-test** first-round semi-structured interviews with the parent groups indicated that the parents had little knowledge of temperament in general and also little knowledge about their own child's temperament and preference functions. They reasoned that the cause of their children's troublesome behaviour was that they were rebelling against discipline, or that it was simply disobedience or the result of low self-esteem. Parents felt a lack of control, powerlessness, anger, worried with despair, guilt and perceived themselves as failures in parenting. Because of these negative feelings, the parents react with stronger disciplinary actions, or they would favour one child over another, or start comparing and labelling their children. The children in turn reacted to these parental reactions with feelings of anger and they felt rejected. They felt more misunderstood and started to behave even more disobediently. Parents therefore experienced disharmony and perceived the parent-child

interactions as negative. They furthermore described elements of distrust and disrespect in the perceived parent-child relationship. Parents expressed their need to help their children gain more self-confidence, to better understand their child, to feel less helpless, and to be a good parent.

After receiving the pre-test data, the children of participating parents were asked to complete the designed temperament sorter. **Quantitative** temperament analysis took place after the children completed the score chart. The parent groups were called back and received verbal feedback consisting of **qualitative** details regarding their children's temperament and preference functions, and how their children's temperament affects their behavioural and emotional needs and expectations. After a four-week period, **post-test** second-round semi-structured interviews with the parent groups took place.

The researcher made use of a literature control to assist her with the data analysis using Creswell's analytical spiral. The data analysis indicated that the knowledge parents' obtained during the feedback session empowered them to perceive both their children and their own behaviour differently. Parents gained knowledge about temperament in general and understood that temperament is an inborn trait rather than something their child had learned through his or her behaviour. They stated that they had completely underestimated the role that temperament plays in behaviour and therefore never even considered it before in their parenting task. The knowledge gained affected parental awareness of the uniqueness of the child and equipped parents to better understand, for example, sibling dynamics because of temperamental differences. This increased knowledge further affected the parents' awareness regarding their child's specific temperamental needs and they therefore changed their parental expectations. Parents felt more competent in their handling of their child and tended to react more warmly and more responsively towards their children. It was clear that the designed temperament sorter, implemented within the practice-based ecometric model assisted in addressing the intended outcome or aim of the study.

4. CONFIRMING AND ACCEPTING THE HYPOTHESES

Two hypotheses were identified for the study:

- If parents are made aware of their child's temperament, they will develop a greater awareness and better understanding of their child's needs and expectations as well as gain insight into how to adjust their parenting style accordingly.

Post-test data analysis indicated that parental knowledge regarding temperament and preference functions resulted in a greater awareness and better understanding of their child's needs and expectations. The parents indicated that they were conscious of their efforts to adjust their parenting style accordingly.

- If a practice-based ecometric model is utilised, the parent-child interaction will be enhanced.

Post-test data analysis indicated that parents perceived elements of trust and respect as part of the parent-child interaction. It was therefore clear to the researcher that through this newly obtained knowledge parents could change the way they deal with behaviour and this in turn resulted in enhancement of the parent-child interaction. It is clear that the hypotheses of the study were confirmed and can be accepted.

5. CONSIDERATIONS AND RECOMMENDATIONS

Through this study the researcher became aware of various considerations and recommendations for social work practice.

5.1 Considerations

The researcher considers the following:

- The promotion of family functioning and the development of the family as a unit have been identified as a priority by the South African government (White Paper for Social Welfare, 1997:44; White Paper on Families in South Africa, 2012). This is a call to all social workers, counsellors and therapists to focus their professional service on the nurturing of the dynamics within the family system.
- Parenting and more specifically the hidden dynamics in the parent-child relationship are important variables in the development of a child's emotional, interpersonal and social wellbeing.
- Parents create an environment that produces experiences that affect the emotional growth of the individual child. These experiences that children have during the process of growing up have a significant impact on their attitudes, skills and childrearing practices they will use with their own children.
- Parenting involving a healthy interaction between the parent and child is an important phenomenon in the healthy development of the child.
- The parenting process becomes complex for parents because there is no official training for parenthood. A type of 'one-size-fits-all' attempt at parenting is usually followed, with few positive results, which may leave the parents feeling even more discouraged and incompetent.
- The more competent parents feel in the handling of the child, the more inclined parents will be to adopt a warmer and responsive parenting style. If a parent feels incompetent in the handling of the child, that parent is inclined to adopt a more authoritarian and unresponsive parenting style.
- Inadequacy creates a feeling of hopelessness, which leads to parents having fewer positive experiences from their interaction with their children, which in turn leads to lower levels of emotional contact with their children.

- A prerequisite for an emotionally healthy parent-child relationship is that parents must know and understand their children.
- Conflict may arise within the parent-child relationship if parents do not acknowledge or understand their child's unique needs, which may lead to behavioural problems in these children.
- This unacceptable behaviour can be seen as children's way of regulating their own needs, while irrelevant and inadequate parenting can contribute to behavioural problems in children.
- Parents regard (sometimes unconsciously) their children as carbon copies of themselves. Therefore, children's individuality gets lost, their unique behaviour patterns are not accepted, and their unique needs are not accommodated by the parents. This affects the parent-child interaction negatively.
- When children's natural temperament styles or processes fit within the requirements, needs and expectations of the parents, positive interaction and adjustment (*good fit*) is expected, but when children's temperaments and natural processes clash with the expectations, needs and requirements of their parents, negative interaction (*poor fit*) occurs, which results in conflict within the parent-child relationship.
- For parents to understand and recognise their children's temperamental needs and expectations, knowledge of the child's temperament is required. Knowledge of temperaments leads to parents having a better understanding of their children's behaviour and fewer frustrations are experienced, which may in turn lead to more effective parent-child interaction.
- If knowledge regarding their children's temperaments is available, parents will gain insight into their child's unique being and the parents can be guided to adjust their parenting style, requirements and expectations to fit in with the temperaments of their children.
- If parents can develop an understanding through increased awareness levels of how parent and children function as a unit and system within the here-and-now, the contact between parent and child can be increased. Through this, optimal functioning as a family through enhanced parent-child interaction can be promoted.

5.2 Recommendations

With the abovementioned considerations in mind, the researcher recommends the following:

- ☛ For all social workers, counsellors and therapists working within the field with families and children to consider the abovementioned argument and approach parents as important variables to be included within the therapeutic process;
- ☛ For all social workers, counsellors and therapists working within the field with families and children to equip themselves with knowledge regarding temperament and how temperament shapes the parent-child interaction via the extensive literature studies and formal training available;
- ☛ For all social workers, counsellors and therapists working within the field with families and children to focus on understanding the parents' temperament and not only that of the child. If knowledge regarding the parents' temperaments is available, the social worker, counsellor, therapist will gain insight into the natural parenting style of the parents involved. The parents can then be guided to adjust their parenting style, requirements and expectations to fit in with the temperaments of their children. Participating parents in this study expressed a need to also understand their own temperament and not only that of their child.

6. RECOMMENDATIONS FOR FURTHER RESEARCH

Recommendations for future research include:

- Qualitative research focusing on how knowledge regarding the parent's own temperament and preferences influences their perspective on parenting;
- Qualitative research focusing on how knowledge regarding temperament in the parenting process facilitates existential dialogue as a collaborative reciprocal process in the parent-child relationship;
- Qualitative research focusing on how knowledge regarding temperament in the parenting process facilitates existential dialogue as a collaborative reciprocal process in the parent-adolescent relationship;
- The quantitative development of an ecometric temperament sorter for children 6-7 years;

- Quantitative and qualitative research regarding the use of the designed product within different culture groups;
- Qualitative research to determine how the practice-based ecometric model could assist in enhancing parent-child interaction within divorced families;
- Qualitative research to determine how the practice-based ecometric model could assist in enhancing parent-child interaction within blended families;
- Qualitative research to determine how the practice-based ecometric model could assist in enhancing parent-child interaction within different culture groups;
- Qualitative research focused on exploring the knowledge of social workers working with the family and children regarding temperament theories and how the temperaments of both parent and child shape the parent-child interaction.

7. CONTRIBUTION OF STUDY

The promotion of family functioning and the development of the family as a unit have been identified as a priority by the South African government (White Paper for Social Welfare, 1997:44; White Paper on Families in South Africa, 2012:1-63). In order to meet this priority in the field, the researcher argued for an approach where the parents are considered an equally important variable within the therapeutic process. The practice-based ecometric model to assess temperament and preference functions aimed to assist in the enhancement of the parent-child interaction. By following this model, social workers will be empowered in implementing this approach. The practice-based model also consists of an ecometric temperament sorter to be used by the social worker to assist in the assessment of temperament and preference functions.

Assessment and scale development in social work today are run by the Ecometric Committee for the South African Council for Social Service Professions (SACSSP). A valid and reliable instrument that has been validated, which the therapist who is not qualified as a psychologist can use for temperament analysis, was not available in the field. The study addressed this void by developing a practice-based temperament sorter for children aged 9-15 years to be used within this practice-based ecometric model to assess temperament and preference functions that assist in enhancing the parent-child interaction.

8. LIMITATIONS AND POSSIBLE FUTURE RESEARCH OPPORTUNITIES

The researcher notes the following important limitations of this study:

- Participating parents and children during Phase 5 of the D&D model were all from the white population. Therefore, the outcome of the study cannot be made applicable to all culture groups. Consequently, a possible future research opportunity will be to apply the focus of this study to a more heterogeneous group of parents from different cultural groups.
- Participating parents and children were all from intact families. Therefore the outcome of the study cannot assume the same enhancement within parent-child groups where divorce or death is variables. Consequently, a possible future research opportunity will be to apply the focus of this study to parents and children from divorced families, or single-parent families after the death of a parent.
- The designed temperament sorter is only suitable for children who can read and understand English. Children with a limited proficiency in *English* will not be able to complete this designed ecometric temperament sorter. Therefore, the next step will be to professionally translate this instrument into different languages.
- The pilot study focused only on the reliability and validity of the designed temperament sorter and did not assess its application within different cultural groups;
- The qualitative data in this study were focused only on the child's temperament and preference function. If the focus were broadened to include the temperament assessment of both parent and child, richer data would be available on how temperament shapes the parent-child interaction.

9. CONCLUDING STATEMENT

This study promotes the importance of dealing with the family to be treated as a unit. It allows for a greater understanding of some of the challenges that parents face in parenting and in the parent-child interaction. It highlights the importance of the need for parents to understand and respect their children as unique human beings instead of considering them as

‘carbon copies’ of themselves. It further highlights the importance of parents being included as important variables within the therapeutic process with a child.

The designed temperament sorter focuses on assessment of the temperaments and preference functions of children 9-15 years. When the sorter is used by social workers within the practice-based ecometric model, parents can be equipped with knowledge regarding their child’s temperament and preference functions. That assists parents to develop greater awareness of their child’s temperamental needs and expectations. Parents are therefore able to change their parental expectations accordingly. This strategy creates harmony within the parent-child relationship and parents can work consciously towards the enhancement of their interaction with their child.

LIST OF REFERENCES

- AAMODT, S. & WANG, S. 2011. Welcome to your child's brain. Oxford: Oneworld Publications.
- AKINS, R.B; TOLSON, H & COLE, B.R. 2005. Stability of response characteristics of a Delphi panel application of bootstrap data expansion. *BMC Medical Research Methodology*, 5:37. Electronic version online <http://www.biomedicalcentral.com/1471-2288/5/37> Date of access: 23 Jan. 2014.
- AKISDAL, H.S. & AKISDAL, K.K. 2007. In search of Aristotle: Temperament, human nature, melancholia, creativity and eminence. *Journal of Affective Disorders*, 100(1):1-6.
- BABBIE, E. & MOUTON, J. 1998. The practice of social research. Cape Town: Oxford University Press.
- BALLESTEROS, R.F. 2003. Temperament. *Encyclopedia of Psychological Assessment*, 1 (2): 949-951.
- BATES, J.E. 2001. Adjustment Style in Childhood as a product of parenting and temperament. (In Wachs, T H. & Krohnstamm, G.A., eds. Temperament in Context. Mahwah, New York, London: Lawrence Erlbaum Associates. p. 61-79).
- BAUMRIND, D. 1983. Rejoinder to Lewis' reinterpretation of parental firm control effects: Are authoritative families really harmonious? *Psychological Bulletin*, 94(1):132-142.
- BAUMRIND, D. 1991. The influence of Parenting Style on Adolescent competence and substance use. *The Journal of Early Adolescence*, 11(1):56-95.
- BAUMRIND, D. 1996. Parenting: The Discipline Controversy Revisited. *Family Relations*, 45(4):405-414.
- BAVOLEK, S. 2009. Research and validation report of the Nurturing Parenting Programs. www.nurturingparenting.com Date of access: 30 June 2011.

- BENSON, N. 2005. Cross-National Construct Equivalence of School-age Children's Temperament Types as measured by the Student Style Questionnaire. Florida: University of Florida. (Thesis – PhD).
- BERENS, L.V. 2000. Understanding yourself and others. California: Telos Publications.
- BERG, B.L. 2007. Qualitative Research methods for the Social Science profession. USA: Pearson.
- BERK, L.E. 2000. *Development through the lifespan*. 3rd ed. Boston: Pearson Education, Inc.
- BERK, L.E. 2006. *Development through the Lifespan*. 4th ed. Boston: Pearson Education.
- BERNDT, T.J. 2001. *Child Development*. 3rd ed. New York: Times Mirror Educational Group.
- BLESS, C. & HIGSON-SMITH, C. 1995. *Fundamentals of Social research methods. An African perspective*. 2nd ed. Cape Town: Creda.
- BLOM, R. 2004. *Handbook of Gestalt Play Therapy*. Bloemfontein: Published by author.
- BOYD, C.F. 2004. *Different children, Different needs*. New York: Multnomah Publishers.
- BRIGGS MYERS, I. 1998. *Introduction to Type. A guide to understanding your results on the Myers Briggs Type Indicator*. 6th ed. Revised by Linda K. Kirby & Katherine D. Myers. Palo Alto, California: Consulting Psychology Press.
- BRINKMANN, S. & KVALE, S. 2008. Ethics in qualitative psychological research. (*In* Willig, C. & Staiton-Rogers, W., eds. *The Sage handbook of qualitative research in psychology*. London. Thousand Oaks. New Delhi: SAGE Publishers. p. 263-279).
- BRITZ, H. 2008. *Growing kids with character. As the sapling is bent so the tree grows*. Vanderbiljpark: Carpe Diem Media.

- BUSS, A.H. & PLOMIN, R. 1975. A temperament theory of personality development. New York: John Wiley.
- BUSS, A. 1989. Temperaments as personality trait. (*In* Kohnstamm, G.A., Bates, J.E. & Rothbart, M.K., *eds.* Temperament in childhood. New York: John Wiley. p. 49-58).
- CAMPBELL, R. 2000. Relational Parenting. New York: Robert Brooks Publishers.
- CARDUCCI, B.J. 2009. The Psychology of Personality. Viewpoints, research and applications. 2nd ed. Chichester: Wiley-Blackwell.
- CAREY, W.B. & McDEVITT, S.C. 1995. Coping with children's temperament: A guide for professionals. New York: Basic Books.
- CARLSON, R. 1980. Studies of Jungian typology: II. Representations of the personal world. *Journal of Personality*, 38(5):801-810.
- CHESS, S. & THOMAS, A. 1989. Temperament in Clinical Practice. New York: The Guilford Press.
- CHESS, S. & THOMAS, A. 1996. Temperament. Theory and practice. New York: Brunner/Mazel Publishers.
- COLEMAN, P.K. & KARRAKER, K. 1997. Self-efficacy and parenting quality: Findings and future applications. *Developmental Review*, 18(1):126-148.
- COLLINS POCKET DICTIONARY AND THESAURUS. 2003. London: HarperCollins Publishers.
- COSTE, B. 2011. Taking the wraps of your positive parenting. <http://www.positive-parenting-ally.com/positive-parenting.html> Date of access: 2 Feb. 2012.
- CRAWFORD, C. 2009. The highly intuitive child. A guide to understanding and parenting unusually sensitive and empathic child. Alameda: Hunter House Publishers.

CRESWELL, J.W. 2003. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. California: Sage Publications.

CRESWELL, J.W. 2007. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. California: Sage Publications.

DAY, J. & BOBEVA, M. 2005. A generic toolkit for successful management of Delphi studies. *The electronic Journal of business Research Methodology*, 4(2)103-116.

www.ejbrm.com Date of access: 13 Sept. 2013.

DE HAAN, A.D., PRINZIE, P., & DEKOVIC, M. 2009. Mother's and Father's personality and parenting: The mediating role of sense of competence. *Developmental Psychology*, 45(6):1695-1707.

DELPORT, C.S.L. & DE VOS, A.S. 2011. Professional research and professional practice. (In De Vos, A.S., Strydom, H., C.B., Fouché, C.B. & Delport, C.S.L., eds. *Research at Grass Roots for the social sciences and human service professions*. 4th ed. Pretoria: Van Schaik Publishers. p. 45-60).

DELPORT, C.S.L. & FOUCHÉ, C.B. 2011. The qualitative research report. (In De Vos, A.S., Strydom, H., C.B., Fouché, C.B. & Delport, C.S.L., eds. *Research at Grass Roots for the social sciences and human service professions*. 4th ed. Pretoria: Van Schaik Publishers. p. 425-430).

DELPORT, C.S.L., FOUCHÉ, C.B. & SCHURINK, W. 2011. Theory and literature in qualitative research. (In De Vos, A.S., Strydom, H., C.B., Fouché, C.B. & Delport, C.S.L., eds. *Research at Grass Roots for the social sciences and human service professions*. 4th ed. Pretoria: Van Schaik Publishers. p. 297-306).

DELPORT, C.S.L. & ROESTENBURG, W.J.H. 2011a. Quantitative data-collection methods: questionnaires, checklists, structured observation and structured interview schedules. (In De Vos, A.S., Strydom, H., C.B., Fouché, C.B. & Delport, C.S.L., eds. *Research at Grass Roots for the social sciences and human service professions*. 4th ed. Pretoria: Van Schaik Publishers. p. 171-205).

- DELPOR, C.S.L. & ROESTENBURG, W.J.H. 2011b. Quantitative data-collection methods: indexes and scales. (In De Vos, A.S., Strydom, H., Fouché, C.B. & Delpor, C.S.L., eds. Research at grass roots: for the social sciences and human service professions. 4th ed. Pretoria: Van Schaik. p. 206-220).
- DE VOS, A.S. & STRYDOM, H. 2011. Intervention research. (In De Vos, A.S., Strydom, H., Fouché, C.B. & Delpor, C.S.L., eds. Research at grass roots: for the social sciences and human service professions. 4th ed. Pretoria: Van Schaik. p. 473-489).
- DI FABIO, A. & MAREE, J.G. 2012. Ensuring quality in scholarly writing. (In Maree, J.G., ed. Complete your thesis or dissertation successfully: Practical guidelines. Cape Town: Juta. p. 136-144).
- DILALLA, L.F. & JONES, S. 2000. Genetic and environmental influences on Temperament in preschoolers. (In Molfese, V.J. & Molfese, D.L., eds. Temperament and Personality across the Life span. Mahwah, New Jersey, London: Lawrence Erlbaum Associates. p. 33-51).
- DOHERTY, K. & COLERIDGE, G. 2008. Seven Secrets of Successful Parenting or how to achieve the almost impossible from toddlers to teens. London, Toronto, Sydney, Auckland, Johannesburg: Bantam Press.
- DONNELLAN, M. B. & ROBINS, R.W. 2009. The development of personality across lifespan. (In Corr, P.J & Matthews, G., eds. The Cambridge Handbook of Personality. Cambridge: University Press. p. 191-204).
- DONOVAN, W.A., LEAVITT, L.A. & WALSH, R.O. 1990. Maternal self-efficacy: Illusory control and its effect on susceptibility to learned helplessness. *Child Development*, 61(5):1638-1647.
- DU PLOOY, G.M. 2009. Communication Research. Techniques, methods and applications. 2nd Edition. Lansdowne: Juta.
- FABER, A. & MAZLISH, E. 1999. Siblings without rivalry. London: Piccadilly Press.

FAUL, A. 1995. Scale development in Social Work. Johannesburg: Rand Afrikaans University. (Thesis – PhD).

FAUL, A.C. & HUDSON, W.W. 1999. Scale development for research and practice. Pretoria: Perspective Training College.

FAWCETT, S.B., SUAREZ-BALCAZAR, Y., BALCAZAR, F.E., WHITE, G.W., PAINE, A.L., BLANCHARD, K.A. & EMBREE, M.G. 1994. Conducting intervention research: the design and development process. (In Rothman, J. & Thomas, E.J., eds. *Intervention research: design and development for human service*. New York: Haworth. p. 25-54).

FRASER, M.W. 2004. Intervention research in Social Work: Recent advances and continuing challenges. *Research on social work practice*, 14(3):210-222.

FIGUEREDO, A.J., SEFCEK, J.A., VASQUEZ, G., BRUMBACH, B.H., KING, J.E. & JACOBS, W.J. 2005. Evolutionary Personality Psychology. (In Buss, D.M., ed. *The Handbook of Evolutionary Psychology*. Hoboken, New Jersey: John Wiley. p. 851-877).

FINE, J.L. & FINE, D. 2009. *The Art of Conscious Parenting. The natural way to give birth, bond with and raise healthy children*. Vermont: Healing Arts Press.

FIRCHOW, N. 2002. Your child's Temperament: Some Basics.

<http://www.greatschool.net/cgi-bin/showarticle/2495> Date of access: 8 Aug.2012.

FOUCHÉ, C.B. & DE VOS, A.S. 2011. Formal formulations. (In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L., eds. *Research at grass roots: for the social sciences and human service professions*. 4th ed. Pretoria: Van Schaik. p. 89-100).

FOUCHÉ, C.B. & DELPORT, C.S.L. 2011a. Introduction to the research process. (In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L., eds. *Research at grass roots: for the social sciences and human service professions*. 4th ed. Pretoria: Van Schaik. p. 61-77).

FOUCHÉ, C.B. & DELPORT, C.S.L. 2011b. Writing the research proposal. (In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L., eds. *Research at grass roots: for the*

social sciences and human service professions. 4th ed. Pretoria: Van Schaik. p. 101-112).

FOUCHÉ, C.B., DELPORT, C.S.L. & DE VOS, A.S. 2011. Quantitative research designs. (*In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L., eds. Research at grass roots: for the social sciences and human service professions. 4th ed. Pretoria: Van Schaik. p. 142-157).*

FOX, A. 2013. Conscious parenting. How to parent in the here-and-now and leave the past behind. <http://www.psychologytoday.com> Date of access: 13 Nov. 2013.

FRASER, M.W. 2004. Intervention research in Social Work: recent advances and continuing challenges. *Research on social work practice*, 14(3):210-222.

FINNEMORE, B. 2014. The building blocks of trust: Trusting relationships between parents, kids grow from clear rules, practical tools and quality time. <http://www.portlandfamily.com/the-building-blocks-of-trust-trusting-relationships-between-parents-kids-grow-from-clear-rules-practical-tools-and-quality-time/> Date of access: 4 Feb. 2014.

GERSHOFF, E. T. 2002. Corporal Punishment by Parents and Associated Child Behaviours and Experiences: A Meta-analytic and Theoretical Review. *Psychological Bulletin*, 128(4):539–579.

GOLAFSHANI, N. 2003. Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report*, 8(4):597-607.

GOLDSMITH, H.H. 1996. Studying temperament via construction of the Toddler Behavior Assessment Questionnaire. *Child Development*, 67(3):219-235.

GOLDSMITH, H.H. & CAMPOS, J.J. 1986. Fundamental issues in the study of temperament: The Denver twin temperament study. (*In Lamb, M.E. & Brown, A.L., eds. Advances in Developmental Psychology. Hillsdale: Erlbaum. p. 231-283).*

GOLDSMITH, H.H., BUSS, A.H., PLOMIN, R., ROTHBART, M.K., THOMAS, A., CHESS, S., HINDER, R.A. & McCALL, R.B. 1987. Roundtable: What is temperament? Four approaches. *Child Development*, 58(2):505-529.

GOLDSMITH, H.H. & RIESER-DANNER, L.A. 1992. Assessing early temperament. (In Reynolds, C.R. & Kamphaus, R.W., eds. Handbook of psychological and educational assessment of children: Personality, behaviour, and context. New York: Guilford Press. p. 245-278).

GONDOLI, D.M. & SILVERBERG, S.B. 1997. Maternal emotional distress and diminished responsiveness: The mediating role of parenting efficacy and parental perspective taking. *Developmental Psychology*, 33(5):861-868.

GOODE, C.B. 2001. Nurture your child's gift. Inspired parenting. Oregon: Beyond Words Publishers.

GOODNOW, J.J. & COLLINS, W.A. 1990. Developing according to parents: The nature, sources, and consequences of parents' ideas. Hillsdale: Erlbaum.

GOODWIN, H. 2013. Parenting Out of Faith, Not Fear.

<http://www.cbn.com/family/parenting/parenting-out-of-faith-not-fear-goodwyn.aspx> Date of access: 3 Feb. 2014.

GORDON, T. 2000. PET. Parent Effectiveness Training. New York: Blume Books.

GRAVETTER, F.J. & FORZANO, L.B. 2009. Research Methods for the Behavioural Sciences. Belmont: Wadsworth Cengage Learning.

GREEFF, M. 2011. Information Collection: Interviewing. (In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L., eds. Research at grass roots: for the social sciences and human service professions. 4th ed. Pretoria: Van Schaik. p. 341-374).

GREENSPAN, S.I. 1995. The Challenging Child. Understanding, raising and enjoying the five "difficult" types of children. Washington: Da Capo Press.

GREENSPAN, S. 2006. Rethinking “Harmonious Parenting” Using a Three-factor Discipline Model. *Child Care in Practice*, 12(1):5-12.

GROBBELAAR, S.S. 2006. R & D in the National system of innovation: A system dynamics model. Pretoria: University of Pretoria. (Thesis – PhD).

GURLAND, C.T. & GROLNICK, W.S. 2005. Perceived threat, controlling parenting and children’s achievement orientations. *Motivations and Emotions*, 29(2):103-121.

HASSON, F., KEENEY, S. & MCKENNA, H. 2000. Research guidelines for the Delphi survey technique. *Journal for Advanced Nursing*, 32(4):1008-1015. (Abstract).

HALLOWELL, E. 2002. *Happy Child Happy Adult*. London: The Ballantine Publishing Group.

HALVERSON, C.F., KOHNSTAMM, G.A. & MARTIN, R.P. 1994. The developing structure of temperament and personality from infancy to adulthood. Hillsdale: Laurence Erlbaum Associates.

HARKEY, N.J. & JOURGENSEN, T.L. 2004a. Raising Cuddlebugs and Bravehearts. Volume 1. Measuring and understanding your child’s temperament. Bloomington: Author House.

HARKEY, N.J. & JOURGENSEN, T.L. 2004b. Raising Cuddlebugs and Bravehearts. Volume 11. Adult Temperament and Parenting Styles. Bloomington: Author House.

HARLEY, M. 2012. Are you a good enough parent? <http://ezinearticles.com> Date of access: 4 July 2012.

HARVELL, S.S. 2009. The Parent-Child Relationship - How to Earn and Keep Your Children's Trust. <http://ezinearticles.com/?The-Parent-Child-Relationship---How-to-Earn-and-Keep-Your-Childrens-Trust&id=1970075> Date of access: 7 Feb. 2014.

HATTER, K. 2014. How to deal with parental guilt. <http://everydaylife.globalpost.com/deal-parental-guilt-3122.html> Date of access: 9 Feb. 2014.

HEDGES, P. 1997. Personality discovery: Personality discovery in teachers and their pupils. <http://wwb.ukonline/member/p.hedges/paper.html> Date of access: 10 June 2012.

HEINSOHN, L.L. 2009. Cracking the parenting code. Six Clues to solving the mystery of meeting your child's needs. Birmingham: New Hope Publishers.

HEMPHILL, S. & SANSON, A. 2001. Matching parenting to child. *Family Matters*, Winter 2001, 59:42-47.

HENDRIX, H. & HUNT, H. 1997. Giving the love that heals. A guide for parents. New York: Pocket Books.

HEPWORTH, D.H. & LARSON, J.A. 1982. Direct Social Work Practice: Theory and Skills. Illinois: The Dorsey Press.

HERZBERG, P.Y. & ROTH, M. 2006. Beyond Resilients, Undercontrollers, and Overcontrollers. *European Journal of Personality*, 20(1):5-28.

HSU, C. & SANFORD, B.A. 2007. The Delphi technique. Making sense of consensus. *Practical Assessment, Research & Evaluation*, 12(10):2-8. A Peer reviewed electronic Journal. <http://pareonline.net/getvn.asp?v=12&n=10> Date of access: 10 July 2011.

IPHOFEN, R. 2009. Ethical decision-making in Social Research. A practical guide. New York: Palgrave Macmillan.

IRELAND, K. 2013. The Importance of Mutual Respect between Parents and Children. <http://www.livestrong.com/article/497907-the-importance-of-mutual-respect-between-parents-and-children/> Date of access: 7 Feb. 2014.

JAFFE, M.L. 1997. Understanding parenting. 2nd ed. New York: WMC Brown.

JOYCE, D. 2010. Essentials of Temperament Assessment. A practical guide to conducting a comprehensive temperament assessment. New Jersey: Wiley.

JOYCE, D. & SILLS, C. 2006. Skills in Gestalt Counselling & Psychotherapy. London. Thousand Oaks. New Delhi: Sage publications.

KAGAN, J. 1994. Galen's Prophecy: Temperament in Human Nature. London: Free Association.

KAGAN, J. & SNIDMAN, N. 2004. The long shadow of temperament. Cambridge: The Belknap press of Harvard University Press.

KAGEE, A. & TOWNSEND, L. 2008. Personality assessment. (In Swartz, L., De la Rey, C., Duncan, N & Townsend, L., eds. Psychology. An Introduction. 2nd ed. Johannesburg: Oxford University Press. p. 143-149).

KEEFER, A. 2014. How to build trust in Kids and Teens.
<http://everydaylife.globalpost.com/build-trust-kids-teens-5130.html> Date of access: 3 Feb. 2014.

KEIRSEY, D. 1998. Please understand Me II. Del Mar: Prometheus Nemenis Book Company.

KEIRSEY, D. & BATES, M. 1978. Please Understand me. 5th ed. Del Mar: Prometheus Nemesis Book Company.

KEOGH, B.K. 2003a. Understanding child temperament can have far reaching impact on behavior and quality of life. *Brown Child and Adolescent University Behaviour, Letter* 9(10): 13-24. www.EBSCOhost.co.za Date of access: 11 July 2011.

KEOGH, B. K. 2003b. Temperament in classroom. Baltimore: Brookes Publishing.

KISE, J.A.G., STARK, D. & HIRSH, S. K. 1996. LifeKeys. Discovering who you are, Why you are here and What you do best. Minnesota: Bethany House Publishers.

KOCHANKA, G., FRIESENBERG, A.E., LANGE, L.A. & MARTEL, M.M. 2004. Parents' personality and infants' temperament as contributors to their emerging relationship. *Journal of Social Psychology*, 86(5):744-759.

KLINE, A. 2007. Prioritization Process Using Delphi Technique.

<http://www.iit.edu/it/delphi.html> Date of access: 4 June 2011.

KOHN, A. 2005. Unconditional Parenting. Moving from rewards and punishments to love and reason. New York, London, Toronto, Sydney: Atria Books.

KOMSI, N., RAIKKONEN, K., PESONEN, A., HEINONEN, K., KESKIVAARA, A. & STRANDBERG, T.E. 2006. Continuity of temperament from infancy to childhood. *Infant Behavior and Development*, 29(4):494-508.

KROEGER, O. & THUESEN, J. M. 1989. Type Talk. The 16 Personality Types that determine how we live, love and work. New York: Dell Trade, Tilden Press.

KROEGER, O., THEUSEN, J. & RUTLEDGE, H. 2002. *Type Talk at Work. How the 16 Personality Types Determine Your Success on the Job*. New York: Dell Trade, Tilden Press.

KOHNSTAMM, G.A., BATES, J.E. & ROTHBART, M.K. 1989. Temperament in Childhood. Chichester: John Wiley & Sons.

KURCINKA, M.S. 1998. Raising your spirited child. A guide for parents whose child is more intense, sensitive, perceptive, persistent, and energetic. New York: HarperCollins Publishers.

KURCINKA, M.S. 2006. Raising your spirited child. A guide for parents whose child is more intense, sensitive, perceptive, persistent, and energetic. Revised Edition. New York: HarperCollins Publishers.

LAVIN, J.L. 2014. Building trust when kids have special issues.

<http://www.parentingchallenges.com/pages/articles25.htm> Date of access: 4 Feb. 2014.

LEHMAN, J. 2014. Am I a Bad Parent? How to Let Go of Parenting Guilt.

<http://www.empoweringparents.com/Am-I-a-Bad-Parent-Letting-Go-of-Parenting-Guilt.php#>

Date of access: 9 Feb. 2014.

LEIBRANDT, E. 2011. The MBTI and users of instrument (telephonic conversation with Mrs Leibrandt, employer of Jopie van Rooyen and Associates). 12 July. Somerset West.

LEMAN, K. 1992. 10 Secrets for raising sensible, successful kids. Practical advice for parents. Wheaton, Illinois: Tyndale House Publishers.

LEMAN, K. 1998. The New Birth Order Book. Why you are the way you are. Michigan: Fleming H. Revell.

LEVY, D.M. 2007. Studies in Sibling Rivalry. New York: Kessinger Publishing.

LEWIS, C.C. 1981. The effects of parental firm control: A reinterpretation of findings. *Psychological Bulletin*, 90(3):547-563.

LINDHOUT, I.E, MARKUS, M., HOOGENDIJK, T.H.G. & BOER, F. 2009. Temperament and parental child-rearing style: unique contributions to clinical anxiety disorders in children. *European Child & Adolescent Psychiatry*, 18(7):439-446.

MACCOBY, E. E. & MARTIN, J.A. 1983. Socialization in the context of the family: Parent-child interaction. (In Mussen, P.H & Hetherington. E.M., eds. Handbook of child psychology: Vol. 4. Socialization, personality, and social development. 4th ed. New York: Wiley. p. 1-101).

MACK, N; WOODSONG, C; MACQUEEN, K.M; GUEST, G & NAMEY, E. 2005. Qualitative Research Methods: A Data Collector's Field Guide. Web survey methodology http://www.websm.org/db/12/14617/Bibliography/Qualitative_research_methods_A_data_collector39s_field_guide/ pdf. Date of access: 9 Nov. 2011.

MACKEWN, J. 2003. Developing Gestalt Counselling. London. Thousand Oaks. New Delhi: SAGE Publishers.

MARAIS, A. 2011. Parenting and temperament and preference functions (personal interview with Dr. A. Marais. Psychologist and presenter of parental guidance and parenting courses). 30 June. Stellenbosch.

MATHENY, A.P. 2000. Standardized Play assessment of infant and toddler temperament. (In Weiner, K.G., Sandgrund, A. & Schaefer, C., eds. Play Diagnosis and assessment. 2nd ed. Toronto: John Wiley. p. 1-792).

MAREE, K. & VAN DER WESTHUIZEN, C. 2007. Planning a Research proposal. (In Maree, K., ed. First steps in Research. Pretoria: Van Schaik Publishers. p. 24-44).

MAREE, K. & PIETERSEN, J. 2007a. The Quantitative research process. (In Maree, K., ed. First steps in Research. Pretoria: Van Schaik Publishers. p. 145-153).

MAREE, K. & PIETERSEN, J. 2007b. Sampling. (In Maree, K., ed. First steps in Research. Pretoria: Van Schaik Publishers. p. 172-181).

MARKHAM, L. 2012. Nurturing parenting. <http://www.aha!parenting.com>. Date of access: 27 Oct. 2011.

MARKHAM, L. 2014a. How to Handle Your Anger at Your Child. <http://www.ahaparenting.com/parenting-tools/positive-discipline/handling-anger> Date of access: 3 Feb. 2014.

MARKHAM, L. 2014b. Can your child trust you? <http://www.ahaparenting.com/parenting-tools/communication/trust> Date of access: 2 Feb. 2014.

MARSHALL, M.N. 1996. Sampling for Qualitative Research. *Family Practice*, 13(6):522-525.

MARTIN, C. 1995. Looking at Type and Career. Gainesville: Centre for Applications of Psychological Type.

MATHENY, A.P. 2000. Standardized Play assessment of infant and toddler temperament. (In Weiner, K.G., Sandgrund, A. & Schaefer, C., eds. Play Diagnosis and assessment. 2nd ed. Toronto: John Wiley. p. 1-792).

MAY, S., POSTERSKI, B., STONEHOUSE, C. & CANNELL, L. 2005. *Children Matter. Celebrating their place in the family and community.* Michigan: William B Eerdmans Publishing Company.

MEISGEIER, C. & MURPHY, E. 1987. *Murphy-Meisgeier Type Indicator for Children MANUAL.* Palo Alto: Consulting Psychology Press.

MEISGEIER, C., MURPHY, E. & MEISGEIER, C. 1989. *A Teacher's guide to Type. A New Perspective on Individual Differences in the Classroom.* Palo Alto: Consulting Psychology Press.

MURAT GÜNAYDIN, H. 2013. The Delphi method.

<http://web.iyte.edu.tr/~muratgunaydin/delphi.htm> Date of access: 21 Sept. 2013.

MURPHY, E. & MEISGEIER, C.H. 2008. *A guide to the development and use of the Murphy-Meisgeier Type Indicator for Children.* Gainesville: Centre for Applications of Psychological Type.

MYERS BRIGGS TRAINING MANUAL. 2001. Compiled by J. van Rooyen, J., De Beer, J. & Proctor, D. 5th Edition. Johannesburg. P. 1-140.

MYERS, I.B. & MYERS, P. 1991. *Gifts differing: Understanding Personality Type.* Palo Alto: Consulting Psychology Press.

MYERS, I.B., McCAULLY, M.M., QUENK, N. & HAMMER, A.L. 1998. *Manual: A guide to the Development and Use of the Myers-Briggs Type Indicator.* 3rd ed. Palo Alto: Consulting Psychology Press.

NAIDOO, P., TOWNSEND, L. & CAROLISSEN, R. 2008. Mainstream theories and non-mainstream approaches to personality. (*In Swartz, L., De la Rey, C., Duncan, N & L. Townsend, L., eds. Psychology: An Introduction.* 2nd ed. Cape Town: Oxford University Press. p. 117-143).

NEETHLING, K. & RUTHERFORD, R. 2000. *Oopkop ouers.* Vanderbijlpark: Creda Communications.

- NEUMAN, W.L. 2000. Social Research methods. Qualitative and Quantitative Approaches. 4th ed. Boston: Allyn and Bacon.
- NEVILLE, H.F. & JOHNSON, D.C. 1998. Temperament Tools. Working with Your Child's inborn Traits. Washington, Seattle: Parenting Press.
- NEWCORBE, P. 1998. Occupational and Psychological Type as measured by the Myers Briggs Type Indicator. Johannesburg: University of the Witwatersrand. (Dissertation – MA).
- NICHOLS, D.S. 2001. Essentials of MMPI-2 Assessment. New York: John Wiley & Sons.
- NIEUWENHUIS, J. 2007a. Qualitative research designs and data gathering techniques. (In Maree, K., ed. First steps in Research. Pretoria: Van Schaik Publishers. p. 70-97).
- NIEUWENHUIS, J. 2007b. Analysing qualitative data. (In Maree, K., ed. First steps in Research. Pretoria: Van Schaik Publishers. p. 99-122).
- NIOLAN, R. 2010. Dealing with anger in children.
<http://www.psychpage.com/family/angry.html> Date of access: 3 Feb. 2014.
- OAKLANDER, V. 1997. The therapeutic process with children and adolescents. *Gestalt Review*, 1(4):292-317.
- OAKLANDER, V. 1988. Windows to our Children. New York: Gestalt Journal Press.
- PARROTT, L. & PARROTT, L. 2007. The parent you want to be. Grand Rapids, Michigan: Zondervan.
- PENLEY, J.P. 2006. MotherStyles. Using personality type to discover your parenting strengths. Cambridge: Da Capo Press.
- PIETERSEN, J. & MAREE, K. 2007. Standardisation of a questionnaire. (In Maree, K., ed. First steps in Research. Pretoria: Van Schaik Publishers. p. 215-223).

PLUGG, C., MEYER, W.F., LOUW, D.A. & GOUWS, L.A. 1993. Psychology dictionary. Johannesburg: Lexicon Publishers.

PRIOR, M., SANSON, A., SMART, D. & OBERKLAID, F. 2000. *Pathways from infancy to adolescence: Australian Temperament project 1983-2000*.
www.aifs.gov.au/institute/pubs/rereport4/main.html pdf. Date of access: 12 May 2012.

REED-VICTOR, E. 2004. Individual differences and early school adjustment: teacher appraisals of young children with special needs. *Early Child Development and Care*, 174(1):59-79.

RICE, F.P. 1992. Human Development. 3rd ed. New Jersey: Prentice Hall.

ROBINSON, R. 2005. Walking the parenting tightrope. Raising kids without losing your balance. Michigan: Baker Books.

ROESTENBURG, W.J.H. 2007. Ecometrics as methodology towards promoting accountable Social Work Practice. *The Social Work Researcher- Practitioner*, 19(2):53-66.

ROESTENBURG, W.J.H. 2011. Ecometrics in Social Work. Pre-production Manual. Johannesburg: Afri.Yze Publishing.

ROESTENBURG, W.J.H. & VAN BRED, A.D. 2003. Ecometrics: Dynamic new direction in accountable Social Work. Paper presented at the Joint Universities Conference 2003: Contemporary Issues in Social Work. University of South Africa, Pretoria, South Africa. 8 October 2003.

ROSENTHAL, R. & BABAD, E.Y. 1985. Pygmalion in the gymnasium. *Educational Leadership*, 43(1):36-39.

ROTHBART, M.K. 2005. Early Temperament and Psychosocial Development. *Encyclopedia on Early Childhood Development*. Centre of Excellence for Early Childhood Development. Published online 12 July 2005.

- ROTHBART, M.K. 2011. *Becoming who we are. Temperament and Personality in Development.* New York. London: The Guilford Press.
- ROTHBART, M.K., SHEESE, B.E. & CONRADT, E.D. 2009. *Childhood Temperament.* (In Corr, P.J. & Gerald Matthews, G., eds. *The Cambridge Handbook of Personality Psychology.* Cambridge: Cambridge University Press. p. 177-190).
- RUDD, B. 2009. *Help your child develop emotional literacy. The parent guide to happy children.* New York: Network Continuum.
- SAMALIN, N. 1991. *Love and Anger. The parental dilemma.* New York: Penguin Books.
- SARANTAKOS, S. 2013. *Social research.* 4th ed. Basingstoke, Hampshire: Palgrave Macmillan.
- SCHAFFER, H.R. 2006. *Key Concepts in Developmental Psychology.* London. Thousand Oaks. New Delhi: SAGE Publishers.
- SCHOO, A. 2008. *Counselling: Working with different Personalities and Behaviours to improve and Maintain Mental and Physical Health.* *International Journal of Reality Therapy*, 38(1):34-40.
- SCHURINK, W; FOUICHE, C.B. & DE VOS, A.S. 2011. *Qualitative data analysis and interpretation.* (In De Vos, A.S., Strydom, H., Fouché, C.B. & Delpont, C.S.L., eds. *Research at grass roots: for the social sciences and human service professions.* 4th ed. Pretoria: Van Schaik. P. 397-423).
- SHAFFER, H.R. 2006. *Key concepts in Development Psychology.* London. Thousand Oaks. New Delhi: SAGE Publishers.
- SHEPPARD, P. 2000. *The Eysenck Personality Questionnaire (EPQ).*
<http://www.trans4mind.com/personality/EPQ.html> Date of access: 22 June 2012.
- SHORTER, E. 1997. *A history of Psychiatry. From the era of the asylum to the age of Prozac.* New York: John Wiley.

SHUTTLEWORTH, M. 2009. Hawthorne Effect. <http://www.experiment-resources.com/hawthorne-effect.html> Date of access: 12 Nov. 2013.

SILVERMAN, D. 2009. Doing qualitative research. 3rd ed. London: SAGE.

SLANSKY, A. 2009. The Importance of Forgiveness and Trust in a Parent-Child Relationship. <http://voices.yahoo.com/the-importance-forgiveness-trust-parent-2567635.html> Date of access: 4 Feb. 2014.

SOMERVILLE, J.A. 2008. Effective use of the Delphi Process in Research: Its characteristics, strengths and limitations. Exerts from Somerville, J.A. 2007. *Critical factors affecting the meaningful assessment of student learning outcomes: A Delphi study of the opinion of community college personnel*. Corvallis: Oregon State University. (Thesis – PhD). jasomerville.com/wp-content/uploads/2011/DelphiProcess0806176. Date of access: 21 Sept. 2013.

SOUTH AFRICAN COUNCIL FOR SOCIAL SERVICE PROFESSIONS (SACSSP). Policy guidelines for course of Conduct, code of Ethics and the rule for social workers. www.sacssp.co.za/website/wp-content/uploads/.../CODE-of-Ethics.pdf. Date of access: 23 Aug. 2010

SOUTH AFRICAN COUNCIL FOR SOCIAL SERVICE PROFESSIONS. *Position Paper on Ecometrics and other Measurement Instruments*. November 2011. *Ecometrics Technology Policy*. Pretoria: SACSSP. <http://www.sacssp.co.za/website/wp-content/uploads/2012/06/ECOMETRICS-TECHNOLOGY-POLICY.pdf> Date of access: 20 April 2012.

SOYDAN, H. 2010. Intervention research in social work. *Research on social work practice*, 20(5):457-458.

STRUWIG, A. 2006. ‘n Kritiese beskouing van die Keirse model (vir karakter en temperamenttipering) vanuit ‘n ekometriese perspektief in Suid Afrika. Johannesburg: Universiteit van Johannesburg. (Verhandeling – MA).

STRUWIG, A. 2011. Temperament assessment for children (telephonic conversation with Me. Struwig. Social Worker and expert in the use of the Keirsey temperament sorter). 7 July. Somerset West.

STRYDOM, C. 2006. *Die benutting van temperamentanalise in 'n bemagtigingsprogram vir ouers met kinders in die middelkinderjare*. Pretoria: Universiteit van Pretoria. (Proefskrif – PhD).

STRYDOM, H. 2011a. Ethical aspects of research in the social sciences and human service professions. (*In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L., eds. Research at grass roots: for the social sciences and human service professions. 4th ed. Pretoria: Van Schaik. P. 113-129).*

STRYDOM, H. 2011b. Sampling in the quantitative paradigm. (*In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L., eds. Research at grass roots: for the social sciences and human service professions. 4th ed. Pretoria: Van Schaik. P. 222-234).*

STRYDOM, H. & DELPORT, C.S.L. 2011. Sampling and pilot study in qualitative research. (*In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L., eds. Research at grass roots: for the social sciences and human service professions. 4th ed. Pretoria: Van Schaik. p. 390-396).*

STUTER, L.M. 1996. How to achieve a workable consensus within time limits. <http://www.nco.ie/upload document/> delphi technique. A literature review. Date of access: 17 July 2011.

SWART, E.C. 2009. Die optimale hantering van die Graad 0 kind se temperamentele patrone: 'n Gestaltriglyn. Pretoria: Universiteit van Suid Afrika. (Verhandeling – MA).

THOMAS, A. & CHESS, S. 1977. Temperament and development. New York: Bruner/Mazel Publishers.

THOMAS, A. & CHESS, S. 1989. Temperament and personality. (In Kohnstamm, G.A., Bates, J.E. & Rothbart, M.K., eds. Temperament in Childhood. New York: John Wiley & Sons. p. 249-261).

THOMAS, G. 2004. Sacred Parenting. How Raising Children Shapes our Souls. Michigan: Zondervan.

THOMPSON, C.L. & RUDOLPH, L.B. 2000. Counselling Children. 5th ed. Toronto, Sydney: Brooks/Cole.

TIEGER, P.D. & BARRON-TIEGER, B. 1997. Nurture by Nature. Understanding your child's personality type and becoming a better parent. New York: Little, Brown and Company.

TIEGER, P. D. & BARRON-TIEGER, B. 2000. Just your Type. Create the relationship you've always wanted using the secrets of Personality Type. Boston, New York, London: Little, Brown & Company.

TIEGER, P. D. & BARRON-TIEGER, B. 2001. Do what you are. Discover the perfect career for you through the secrets of Personality Type. Boston, New York, London: Little, Brown & Company.

TRACY, S.J. 2010. Qualitative quality: eight "big tent" criteria for excellent qualitative research. *Qualitative Inquiry*, 16(10): 837-851.

TUCKER, K. 2014. The Importance of Mutual Respect between Parents and Children. <http://everydaylife.globalpost.com/importance-mutual-respect-between-parents-children-4031.html> Date of access: 7 Feb. 2014.

VAN BREDA, A.D. 2004. Multicultural Scale Development in Social Work. Johannesburg: Rand Afrikaans University. (Thesis – PhD).

VAN ROOYEN, J., DE BEER, J. & PROCTOR, D. 2001. *Myers Briggs Training Manual*. 2001. 5th Edition. Johannesburg, Gauteng, South Africa. P. 1-140.

VAN STADEN, S. 2011. Parenting styles and temperament. (Personal interview with Dr. S. van Staden. Social Worker and lecturer with a speciality in Family and marriage). 30 June 2011. Stellenbosch.

VAN ZYL, M. 1995. 'n Ekometriese model vir Maatskaplike welsynsbeplanning. *Die Maatskaplikewerk-Navorsing-Praktisyn*, 8(1):30-46.

VASTA, R., MILLER, S.A. & ELLIS, S. 2004. *Child Psychology*. 4th ed. Hoboken: John Wiley.

VOGEL, J. 2003. Exploring temperaments in the mother-child relationship: An educational-psychological perspective. Pretoria: University of South Africa. (Dissertation – MA).

WACHS, T.D. & KOHNSTAMM, G.A. 2001. *Temperament in context*. Mahwah, New Jersey: Laurence Erlbaum Associates.

WELMAN, C., KRUGER, F. & MITCHELL, B. 2005. *Research methodology*. 3rd ed. Goodwood, Cape Town: Oxford University Press.

WIKIPEDIA. Diana Baumrind: biography. http://en.wikipedia.org/wiki/Diana_Baumrind
Date of access: 7 July 2012.

WHITE PAPER FOR SOCIAL WELFARE. 1997. Number 59. *Government Gazette*, Volume 59, No. 16943. Pretoria: Government Printer.

WHITE PAPER ON FAMILIES IN SOUTH AFRICA. 2012. Department of Social Development, Republic of South Africa. October 2012.
http://www.dsd.gov.za/index.php?option=com_docman&task=cat_view&gid=33&Itemid=39
Date of access: 4 July 2014.

WRIGHT, H.N. 1999. *Sisters and Brothers forever. How they influence, enhance and even control your life*. Ventura: Regal.

YOUSUF, M.I. 2007. Using experts' opinions through the Delphi Technique. *Practical Assessment, Research & Evaluation*. A Peer reviewed electronic Journal. 12(4).
<http://pareonline.net/getvn.asp?v=12&n=4> Date of access: 10 July 2011.

ADDENDUM A



Centre for Child, Youth and Family Studies

Corner of East and College Street

Wellington

7655

Tel: 021 8643593

Fax: 021 8642654

4 March 2013

Dr Audrie Wyngaard

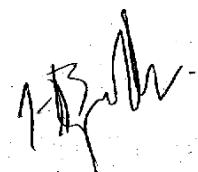
Western Cape Department of Education

RE: CONFIRMATION OF STUDENT APPLICATION – BE JANSEN VAN RENSBURG (23317388)

I hereby confirm that the above student is currently enrolled as a PhD (Social Work) student at the North-West University. I am her promoter and confirm that her research project, **A practice-based ecometric model to assess temperament and preference functions that assists in enhancing parent-child interaction**, will be running under the approved Research Ethics project: *“Developing Sustainable Support to Enhance Quality Of Life and Wellbeing for Children, Youth and Families in South Africa: A Trans-Disciplinary Approach”*. The approval number is: *NWU—00060-12-A1*.

Please contact me if you have any queries.

Thank you



Herman Grobler
Research Promoter/Senior Lecturer
Centre for Child, Youth and Family Studies
Faculty of Health Sciences
North-West University
Potchefstroom (Wellington office)

ADDENDUM B

Audrey.wyngaard2@pgwc.gov.za

tel: +27 021 467 9272

Fax: 0865902282

Private Bag x9114, Cape Town, 8000

wced.wcape.gov.za

REFERENCE: 20130305-7229

ENQUIRIES: Dr A T Wyngaard

Mrs Beatrix E Jansen van Rensburg
1 Mcleodstreet
Somerset West
7130

Dear Mrs Beatrix E Jansen van Rensburg

RESEARCH PROPOSAL: A PRACTICE-BASED ECOMETRIC MODEL TO ASSESS TEMPERAMENT AND PREFERENCE FUNCTIONS THAT ASSIST IN ENHANCING PARENT-CHILD INTERACTION

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Approval for projects should be conveyed to the District Director of the schools where the project will be conducted.
5. Educators' programmes are not to be interrupted.
6. The Study is to be conducted from **22 July 2013 till 20 September 2014**
7. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
8. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
9. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
10. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
11. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
12. The Department receives a copy of the completed report/dissertation/thesis addressed to:

**The Director: Research Services
Western Cape Education Department
Private Bag X9114
CAPE TOWN
8000**

We wish you success in your research.

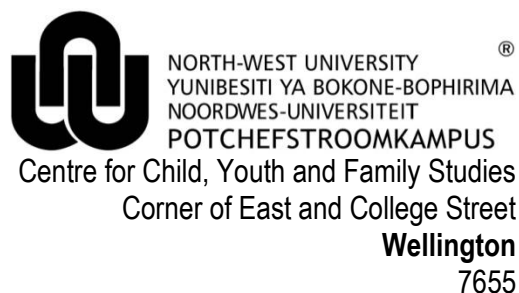
Kind regards.

Signed: Dr Audrey T Wyngaard

Directorate: Research

DATE: 21 July 2013

ADDENDUM C



Tel: 021 8643593
Fax: 021 8642654

18 February 2013

LETTER TO PANEL OF EXPERTS **A research study of the North-West University**

Title: A PRACTICE-BASED ECOMETRIC MODEL TO ASSESS TEMPERAMENT AND PREFERENCE FUNCTIONS THAT ASSIST IN ENHANCING THE PARENT-CHILD INTERACTION

Dear Colleague

My name is Beatrix Jansen van Rensburg and I am a PhD student in Social Work at the North-West University. The School of Psychosocial Behavioural Sciences (subject group Social Work), the Faculty of Health Sciences at the North-West University's Potchefstroom Campus and the NWU ethical committee have given permission to me to conduct a research study under project NWU-00060-12-A1.

The promotion of family functioning and the development of the family as a unit are identified as a priority by the South African government as stipulated in the White Paper for Social Welfare, 1997 and the White Paper on Families in South Africa, 2012. Parenting, where a healthy interaction between the parent and child exists, is an important concept within child development. Parents create an environment that produces experiences that affect the growth of the individual child. Research reveals that the hidden dynamics in the parent-child relationship is therefore an important variable in the development of a child's emotional, interpersonal and social wellbeing. A prerequisite for an emotionally healthy parent-child relationship is that parents must know and understand their children. According to literature parents are often lacking perception and insight with regards to the handling of their children. When parents do not acknowledge and understand their child's uniquely inborn temperamental needs, conflict may arise within the parent-child relationship which may lead to behavioural problems in the child.

For parents to understand and recognise their children's needs, knowledge of the child's temperament is required. From experience within her private practice the researcher is aware that parents seldom have knowledge regarding their child's temperament and is often unaware of the concept and the role it plays in the behaviour of their child. Parents prefer to regard themselves as an impossible variable which has no influence over the child's behavioural functioning. Therefore, the researcher promotes a model where the parents are considered to be an equal important variable in the therapeutic process. Parents need to be guided by the therapist to understand their child's temperament and preference functions.

The temperament theory on psychological types of Carl Jung will serve as the theoretical framework for this study due to the fact that the most important contribution on psychological temperament types and temperament assessment, derive from his theory. Jung's theory also clarifies the normal differences between healthy persons. From his viewpoint several other theorists like the Myers and Briggs team and Keirsey developed their theories on psychological types and temperament. Jung's theory is further stipulated as a Type theory and not a Trait theory. The goal within Social Work is to enable people and the environment to fit in with one another, and *ecometrics* is the technology in Social Work that relates to quantification of people-in-environment. Ecometrics differs from psychometrics and is used as part of a broader assessment phase with the main purpose to gain greater understanding of the person in the context of interaction with the environment.

However, in practice, there lacks an instrument/tool or temperament sorter to determine temperament and preference functions in children to be used by those professionals, such as social workers, whom are not trained as psychologists.

The researcher therefore tends to present a practice-based model to assess temperament and preference functions that assist in enhancing the parent-child interaction. The aim of the study is: To determine how a practice-based ecometric model can be utilised to assess temperament and preference functions that assist in enhancing parent-child interaction. Through the different phases of the Design and Development model of intervention, the following objectives will be addressed:

- To analyse the problem and plan the project accordingly;
- To explore and described through a literature study the different components required in a practice-based ecometric model to assess temperament and preference functions;
- To explore and described different dimensions required within a ecometric temperament sorter;
- To explore and described how the ecometric perspective can contribute to the development of a temperament sorter;
- To develop an observational system in order to assist with item-analysis of the prototype;
- To pilot test the prototype and refine the instrument by means of a questionnaire, answering sheet and score chart;

- To implement the designed temperament sorter within the practice-based ecometric model and assess its effectiveness to assist in addressing the aim of the study.

You are identified as an expert to assist the researcher in item-analysis of the prototype temperament sorter because you fit the following criteria:

- Formally trained in the MBTI and/or Keirsey temperament sorters;
- Currently using the MBTI and/or Keirsey temperament sorters in their daily practice;
- From the service professions of Social Work, Psychology and pastoral care because previously training in the MBTI and the Keirsey instruments was only available to these service professions.

The researcher will use the principles and guidelines of the Delphi technique to obtain this result. The Delphi technique is a method of structuring a group communication process and integrates the judgements of a group of experts. It is appropriate to use when the researcher seeks the informed opinion of participants who have knowledge of a specific topic. The aim is therefore to achieve a merging of opinion on a specific issue or topic. It is therefore well suited as a method for consensus building by using questionnaires to collect data from a panel of selected experts. The Delphi technique is a flexible process that is built on four basic features:

- Structured questioning and flow of information
- Feedback
- Control feedback
- Anonymity of responses

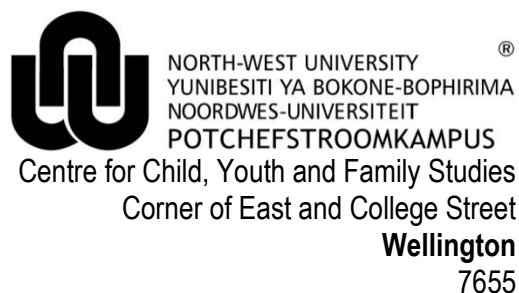
Should you agree to assist the researcher in data-analysis of the prototype temperament sorter you will receive clear instructions to follow. Depending on the logistics you will receive it either through mail or will be delivered in person myself.

Your assistance will be voluntary and therefore you may, at any time, drop out of the process. You will also receive no compensation in any form for your input towards data-analysis or contribution to the study. You will be notified in person when the end result regarding data-analysis is achieved and no further responses are needed. Should you agree to assist the researcher in her study, please send an email to beatrixvr@mweb.co.za or contact her on **082 779 5293**. If you have any further questions or concerns about the research, please feel free to contact her promoter Dr Herman Grobler, Senior Lecturer, Centre for Child, Youth and Family Studies, Faculty of Health Sciences, North-West University, Potchefstroom on 0027 21 864 3593 (tel) or 0027 21 864 2654 (fax).

Kind regards

Beatrix Jansen van Rensburg
(Researcher)

ADDENDUM D



Tel: 021 8643593
Fax: 021 8642654

14 May 2013

NOTIFICATION TO PANELLIST THAT DATA-ANALYSIS IS OBTAINED **A research study of the North-West University**

Title: A PRACTICE-BASED ECOMETRIC MODEL TO ASSESS TEMPERAMENT AND PREFERENCE FUNCTIONS THAT ASSIST IN ENHANCING THE PARENT-CHILD INTERACTION

Dear Panellist

This is a written notification that data-analysis was obtained and therefore no further feedback will be necessary. With your input as expert panellists the items for the prototype temperament sorter were successfully narrowed down and the objective to develop an observational system in order to assist in item-analysis of the prototype was addressed.

The next step will be to compile the temperament sorter in the form of a questionnaire with instructions, answering sheet and score chart. The questionnaire will consist of 22 questions per dimensions. It will be pilot test with children to assess its reliability and validity using the equivalent or parallel form reliability with the MMTIC as control.

Thanks again for your expert input on this matter.

Kind regards

Beatrix Jansen van Rensburg
(The Researcher)

ADDENDUM E



Centre for Child, Youth and Family Studies
Corner of East and College Street
Wellington
7655
Tel: 021 8643593
Fax: 021 8642654

22 July 2013

LETTER TO HEADMASTERS OF SCHOOLS IN SOMERSET WEST **A research study of the North-West University**

Title: A PRACTICE-BASED ECOMETRIC MODEL TO ASSESS TEMPERAMENT AND PREFERENCE FUNCTIONS THAT ASSIST IN ENHANCING THE PARENT-CHILD INTERACTION

Dear sir/madam

My name is Beatrix Jansen van Rensburg and I am a PhD student in Social Work at the North-West University. The School of Psychosocial Behavioural Sciences (subject group Social Work), the Faculty of Health Sciences at the North-West University's Potchefstroom Campus and the NWU ethical committee have given permission to me to conduct a research study under project NWU-00060-12-A1. An application to conduct the above-mentioned research in schools in the Western Cape, Somerset West area has been approved by the WCOD. A photocopy of the WCOD's letter is attached to this document.

The promotion of family functioning and the development of the family as a unit are identified as a priority by the South African government as stipulated in the White Paper for Social Welfare, 1997 and the White Paper on Families in South Africa, 2012. Parenting, where a healthy interaction between the parent and child exists, is an important concept within child development. Parents create an environment that produces experiences that affect the growth of the individual child. Research reveals that the hidden dynamics in the parent-child relationship is therefore an important variable in the development of a child's emotional, interpersonal and social wellbeing. A prerequisite for an emotionally healthy parent-child relationship is that parents must know and understand their children. According to literature parents are often lacking perception and insight with regards to the handling of their children. When parents do not acknowledge and understand their child's uniquely inborn temperamental needs, conflict may arise within the parent-child relationship which may lead to behavioural problems in the child.

For parents to understand and recognise their children's needs, knowledge of the child's temperament is required. From experience within her private practice the researcher is aware that parents seldom have knowledge regarding their child's temperament and is often unaware of the concept and the role it plays in the behaviour of their child. Parents prefer to regard themselves as an impossible variable which has no influence over the child's behavioural functioning.

Therefore, the researcher promotes a model where the parents are considered to be an equally important variable in the therapeutic process. Parents will be guided by the therapist to understand their child's temperament and preference functions. The researcher therefore intends to present a practice-based model to assess temperament and preference functions that assist in enhancing the parent-child interaction. The goal within Social Work is to enable people and the environment to fit in with one another, and *ecometrics* is the technology in Social Work that relates to quantification of people-in-environment. However, in practice, there lacks an instrument/tool or temperament sorter to determine temperament and preference functions in children to be used by those professionals, such as social workers, whom are not trained as psychologists. According to the above mentioned problem formulation and in order to present a model, it is necessary to design and develop an instrument or sorter to assess temperament and preference functions in children age 9-15 years. One of the objectives of the study is to pilot test the prototype using equivalent or parallel form reliability.

Seeing that your school is one of the schools within the Somerset-West area I would appreciate if your school can assist me during pilot testing the prototype instrument. Children will be asked to complete both the prototype and the *Murphy-Meisgeier Type Indicator for Children*. The researcher will follow ethical procedures to obtain the necessary consent and assent from both parent and children. To prevent possible disruption in participated children's learning programme during school hours, the researcher will take a purposive sample from the children who attend the school's after-care programme. The criteria for children to partake in the pilot test are as follows:

- To be in the specific age group 9-15 years;
- Able to read and understand English;
- Never completed the MMTIC before.

Should you agree on behalf of your school to assist the researcher in the study, please send an email to beatrixvr@mweb.co.za or contact me on **082 779 5293**. If you have any further questions or concerns about the research, please feel free to contact my promoter Dr Herman Grobler, Senior Lecturer, Centre for Child, Youth and Family Studies, Faculty of Health Sciences, North-West University, Potchefstroom on 0027 21 864 3593 (tel) or 0027 21 864 2654 (fax).

Kind regards

Beatrix E Jansen van Rensburg (Researcher)

ADDENDUM F

[REDACTED]

Aan wie dit mag behaag

Bevestiging dat Me Beatrix Jansen Van Rensburg, [REDACTED] Laerskool
leerders mag betrek by haar navorsingstudie met die titel:

A PRACTICE-BASED ECOMETRIC MODEL TO ASSESS TEMPERAMENT AND
PREFERENCE FUNCTIONS THAT ASSIST IN ENHANCING THE PARENT-CHILD
INTERACTION

Hiermee wil ek [REDACTED], adjunkhoof van [REDACTED] Laerskool, u in
kennis stel dat ons Bestuurspan die aansoek op Dinsdag, 06 Augustus 2013,
bespreek het en die toestemming vir bogenoemde dame gegee het om van ons
leerders in die navorsingstudie te betrek. Ek sal as die skakelpersoon optree.

Baie dankie

[REDACTED]

ADDENDUM G



Centre for Child, Youth and Family Studies
Corner of East and College Street
Wellington
7655
Tel: 021 8643593
Fax: 021 8642654

06 August 2013

INFORMED CONSENT FROM PARENTS FOR THEIR CHILD TO PARTICIPATE IN THE PILOT STUDY AT THE SCHOOL

A research study of the North-West University

Title: A PRACTICE-BASED ECOMETRIC MODEL TO ASSESS TEMPERAMENT AND PREFERENCE FUNCTIONS THAT ASSIST IN ENHANCING THE PARENT-CHILD INTERACTION

Dear Parent

My name is Beatrix Jansen van Rensburg and I am a PhD student in Social Work at the North-West University. The School of Psychosocial Behavioural Sciences (subject group Social Work), the Faculty of Health Sciences at the North-West University's Potchefstroom Campus and the NWU ethical committee have given permission to me to conduct a research study under project NWU-00060-12-A1. An application to conduct the above-mentioned research in schools in the Western Cape, Somerset West area has been approved by the WCOD. [REDACTED] Primary School indicated a willingness to assist the researcher in her study.

The promotion of family functioning and the development of the family as a unit are identified as a priority by the South African government as stipulated in the White Paper for Social Welfare, 1997 and White Paper on Families in South Africa, 2012. Research reveals that the hidden dynamics in the parent-child relationship is therefore an important variable in the development of a child's emotional, interpersonal and social wellbeing. A prerequisite for an emotionally healthy parent-child relationship is that parents must know and understand their children. For parents to understand and recognise their children's needs, knowledge of the child's temperament and preference functions are required. However, in practice, there lacks an instrument/tool or temperament sorter to determine temperament and preference functions in children to be used by those professionals, such as social workers, whom are not trained as psychologists. Therefore, one of the objectives of the study is to design and

develop a prototype temperament sorter and test its validity and reliability (effectiveness) by means of a pilot study. The criteria for children to partake in the pilot test are as follows:

- To be in the specific age group 9-15 years;
- Able to read and understand English;
- Never completed the MMTIC before.

The focus of the prototype instrument will be on the child and his or her *interaction with the environment*. It will therefore be concerned with the measurement and description of interactions the child will have with his or her environment. The proposed instrument will focus on the assessment of *observable traits*. Therefore, it will have face value because the items (question and possible answers) will measure what they appear to measure. The prototype instrument will not facilitate the making of analysis, diagnosis or classifying the child's behaviour into a personality trait or mental disorder. The instrument will be *focused on assessment of preferences* and will derive out of the *Type theory* (16 Psychological Type Theory of Jung and Myers & Briggs). It will be a *self-report questionnaire* and *non-judgemental*. It will accept all preferences as equally valuable. There will be no right or wrong answers and the outcome will correspond with the child's own perception of him or herself.

Seeing that your child is a learner at [REDACTED] Primary school and attends the after-care facility, your informed consent is asked for your child to join the pilot test. Your child only needs to complete two temperament sorters. One will be the prototype temperament sorter and the other will be the *Murphy-Meisgeier Type Indicator for Children* (MMTIC). The MMTIC will be used as a control to assess whether the different instruments showed corresponding results. The school will identify the classroom fit to be used where the completion of both instruments from which first will be the prototype, followed by the MMTIC, will take place. Once informed consent of parents is received the children will be gathered for the pilot test session. They will also be asking for their assent to participate in the pilot test.

If you have any further questions or concerns about the research or pilot test, please feel free to contact my promoter Dr Herman Grobler, Senior Lecturer, Centre for Child, Youth and Family Studies, Faculty of Health Sciences, North-West University, Potchefstroom on 0027 21 864 3593 (tel) or 0027 21 864 2654 (fax) or the researcher on 082 779 5293 or beatrixvr@mweb.co.za

You are hereby requested to familiarise yourself with the content before you sign the form below and send it back to the school.

In signing this form I declare that:

I have been informed what the purpose of the research is and that I hereby give informed consent for my child to partake in the pilot test because my child fit the criteria for children to partake. The pilot test will take place during

the time that my child attends the after-care facility and at a time and place convenient for the school and the researcher. My child will be asked to complete two temperament sorters: The prototype temperament sorter and the MMTIC. The focus of the prototype instrument will be on my child's *interaction with the environment*. The prototype instrument will not analyse, diagnose or classify my child's behaviour into a personality trait or mental disorder. The instrument will be *focused on assessment of my child's natural inborn preferences*. It will be a *self-report questionnaire* and *non-judgemental*. It will accept all preferences as equally valuable. There will be no right or wrong answers and the outcome will correspond with my child's own perception of him or herself.

I understand that there are no foreseeable risks or discomforts when I give consent for my child to participate in the pilot study. I also understand that I, as the parent of my child, may withdraw my consent for my child's participation in the pilot study. I understand that the quantitative results of the pilot study may be published, but that my child's name or any identifying information will not be revealed. I understand that the result of my child's natural preferences and Type and the outcome of the pilot study will not be revealed to me or my child due to the fact that the pilot test's focus is only to test the prototype temperament sorter ability to achieve the same outcome of the MMTIC. The researcher will maintain confidentiality of all records and/or material. I have been informed that nor I or my child will be compensated for participating in the study.

I have been informed that any questions I may have (before or after my consent) concerning the research or concerning my participation or my child's participation, will be answered by the researcher of this study. I also give permission to the researcher to show this document to my child so that he/she can see that I, the parent gave informed consent for him/her participate in the study. My child will also be asked to sign a form by which he/she will give written consent to participate in the pilot study. Furthermore, in signing this consent form, I am waiving any legal claims, rights and remedies.

Name and surname of child obtaining informed consent for:

Date of birth of child obtaining informed consent for:

Name and Surname of parent:

Signature: Date:

Name and Surname of researcher:

Signature: Date:

ADDENDUM H



Centre for Child, Youth and Family Studies
Corner of East and College Street
Wellington
7655
Tel: 021 8643593
Fax: 021 8642654

15 July 2013

**INFORMED CONSENT FROM PARENTS FOR THEIR CHILD TO PARTICIPATE IN THE PILOT
STUDY AT THE PRIVATE PRACTICE
A research study of the North-West University**

**Title: A PRACTICE-BASED ECOMETRIC MODEL TO ASSESS TEMPERAMENT AND PREFERENCE
FUNCTIONS THAT ASSIST IN ENHANCING THE PARENT-CHILD INTERACTION**

Dear Parent

My name is Beatrix Jansen van Rensburg and I am a PhD student in Social Work at the North-West University. The School of Psychosocial Behavioural Sciences (subject group Social Work), the Faculty of Health Sciences at the North-West University's Potchefstroom Campus and the NWU ethical committee have given permission to me to conduct a research study under project NWU-00060-12-A1.

The promotion of family functioning and the development of the family as a unit are identified as a priority by the South African government as stipulated in the White Paper for Social Welfare, 1997 and White Paper on Families in South Africa, 2012. Research reveals that the hidden dynamics in the parent-child relationship is therefore an important variable in the development of a child's emotional, interpersonal and social wellbeing. A prerequisite for an emotionally healthy parent-child relationship is that parents must know and understand their children. For parents to understand and recognise their children's needs, knowledge of the child's temperament and preference functions are required. However, in practice, there lacks an instrument/tool or temperament sorter to determine temperament and preference functions in children to be used by those professionals, such as social workers, whom are not trained as psychologists. Therefore, one of the objectives of the study is to design and

develop a prototype temperament sorter and test its validity and reliability (effectiveness) by means of a pilot study. The criteria for children to partake in the pilot test are as follows:

- To be in the specific age group 9-15 years;
- Able to read and understand English;
- Never completed the MMTIC before.

The focus of the prototype instrument will be on the child and his or her *interaction with the environment*. It will therefore be concerned with the measurement and description of interactions the child will have with his or her environment. The proposed instrument will focus on the assessment of *observable traits*. Therefore, it will have face value because the items (question and possible answers) will measure what they appear to measure. The prototype instrument will not facilitate the making of analysis, diagnosis or classifying the child's behaviour into a personality trait or mental disorder. The instrument will be *focused on assessment of preferences* and will derive out of the *Type theory* (16 Psychological Type Theory of Jung and Myers & Briggs). It will be a *self-report questionnaire* and *non-judgemental*. It will accept all preferences as equally valuable. There will be no right or wrong answers and the outcome will correspond with the child's own perception of him or herself.

Seeing that your child fit the age group and criteria for participants in the pilot study, your informed consent is ask for your child to join the pilot test. Your child needs to complete two temperament sorters. One will be the prototype temperament sorter and the other will be the *Murphy-Meisgeier Type Indicator for Children* (MMTIC). The MMTIC will be used as a control to assess whether the different instruments showed corresponding results. Your child will complete both instruments from which first will be the prototype, followed by the MMTIC, during an individual session at the private practice. Once informed consent of you as the parent is received, a time convenient for you and your child will be scheduled. Your child will be asking his/her assent to partake in the pilot test.

If you have any further questions or concerns about the research or pilot test, please feel free to contact my promoter Dr Herman Grobler, Senior Lecturer, Centre for Child, Youth and Family Studies, Faculty of Health Sciences, North-West University, Potchefstroom on 0027 21 864 3593 (tel) or 0027 21 864 2654 (fax) or the researcher on 082 779 5293 or beatrixvr@mweb.co.za

You are hereby requested to familiarise yourself with the content before you sign the form below and send it back to the researcher.

In signing this form I declare that:

I have been informed what the purpose of the research is and that I hereby give informed consent for my child to partake in the pilot test because my child fit the criteria for children to partake. The pilot test will take place during a time convenient for me and my child at the researcher's private practice. My child will be asks only to complete two temperament sorters: The prototype temperament sorter and the MMTIC. The focus of the prototype instrument will be on my child's *interaction with the environment*. The prototype instrument will not analyse, diagnose or classify my child's behaviour into a personality trait or mental disorder. The instrument will be *focused on assessment of my child's natural inborn preferences*. It will be a *self-report questionnaire* and *non-judgemental*. It will accept all preferences as equally valuable. There will be no right or wrong answers and the outcome will corresponds with my child's own perception of him or herself.

I understand that there are no foreseeable risks or discomforts when I give consent for my child to participate in the pilot study. I also understand that I, as the parent of my child, may withdraw my consent for my child's participation in the pilot study. I understand that the quantitative results of the pilot study may be published, but that my child's name or any identifying information will not be revealed. I understand that the result of my child's natural preferences and Type and the outcome of the pilot study will not be reveal to me or my child due to the fact that the pilot test's focus is only to test the prototype temperament sorter ability to achieve the same outcome of the MMTIC. The researcher will maintain confidentiality of all records and/or material. I have been informed that nor I or my child will be compensated for participating in the study.

I have been informed that any questions I may have (before or after my consent) concerning the research or concerning my participation or my child's participation, will be answered by the researcher of this study. I also give permission to the researcher to show this document to my child so that he/she can see that I, the parent gave informed consent for him/her participate in the study. My child will also be ask to sign a form by which he/she will give written accent to participate in the pilot study. Furthermore, in signing this consent form, I am waiving any legal claims, rights and remedies.

Name and surname of child obtaining informed consent for:

Date of birth of child obtaining informed consent for:

Name and Surname of parent:

Signature:Date:

Name and Surname of researcher:

Signature: Date:

ADDENDUM I



Centre for Child, Youth and Family Studies
Corner of East and College Street
Wellington
7655
Tel: 021 8643593
Fax: 021 8642654

15 July 2013

INFORMED ASSENT FOR CHILDREN TO PARTICIPATION IN THE PILOT STUDY

A research study of the North-West University

Title: A PRACTICE-BASED ECOMETRIC MODEL TO ASSESS TEMPERAMENT AND PREFERENCE FUNCTIONS THAT ASSIST IN ENHANCING THE PARENT-CHILD INTERACTION

Dear Child

My name is Beatrix Jansen van Rensburg and I am a PhD student in Social Work at the North-West University. The North-West University gave me permission to undertake a research study. As part of the study I am busy with the designing of a temperament sorter to be used by Social workers and other therapists working with children and families.

A temperament sorter is an instrument that assesses your natural style of engagement or functioning and behaviour within your environment such as school, friends, family and other people. In order for me to give this instrument to other therapists to use with other children, I need to obtain if it is fit to be use and its outcome compare positively with another temperament sorter, *The Murphy-Meisgeier Type Indicator for Children (MMTIC)*.

The temperament sorters you are about to complete is a *self-report questionnaire* and *non-judgemental* in other words the way you prefer to act most of the time will not be judge as good or bad. It will accept all preferred ways of behaving as equally important and valuable. There will be no right or wrong answers and the outcome will corresponds with your own perception of yourself.

You are chosen to participate in the pilot study because your parent(s) already gave their written consent for you to participate and because you are:

- In the specific age group 9-15 years;
- Able to read and understand English;
- Never completed the MMTIC before.

You are instructed to first complete the prototype temperament sorter I had designed and then directly thereafter the MMTIC. Just follow the instructions that are clearly indicated on both questionnaires.

Because the focus of the pilot test is to see how the two instruments compare with each other, you are not going to receive the result of your score. Your score will be kept confidential and when I revealed the score in a document I had to compile and deliver to the University, I will not mention your name. Your true identity will never be revealed in any form whatsoever.

You may sign this letter with your name and surname, date of birth and today's date. Your signature will indicate to me that you gave me written consent to participate; that you clearly understand what are expected from you and that you have been informed that you will not be compensated for participating in the study.

Name and Surname of child:

Date of birth:

Today's date:

Name and Surname of researcher:

Signature of the researcher:

Date:

ADDENDUM J



Centre for Child, Youth and Family Studies
Corner of East and College Street
Wellington
7655
Tel: 021 8643593
Fax: 021 8642654

10 October 2013

**INFORMED CONSENT FROM PARENT TO PARTICIPATE IN THE ONE GROUP PRE-TEST &
POST-TEST SEMI-STRUCTURED INTERVIEWS**
A research study of the North-West University

Title: A PRACTICE-BASED ECOMETRIC MODEL TO ASSESS TEMPERAMENT AND PREFERENCE FUNCTIONS THAT ASSIST IN ENHANCING THE PARENT-CHILD INTERACTION

Dear Parent

My name is Beatrix Jansen van Rensburg and I am a PhD student in Social Work at the North-West University. The School of Psychosocial Behavioural Sciences (subject group Social Work), the Faculty of Health Sciences at the North-West University's Potchefstroom Campus and the NWU ethical committee gave me permission to conduct a research study under project NWU-00060-12-A1.

The promotion of family functioning and the development of the family as a unit are identified as a priority by the South African government as stipulated in the White Paper for Social Welfare, 1997 and White Paper on Families in South Africa, 2012. Research reveals that the hidden dynamics in the parent-child relationship is therefore an important variable in the development of a child's emotional, interpersonal and social wellbeing. A prerequisite for an emotionally healthy parent-child relationship is that parents must know and understand their children. When parents do not acknowledge and understand their child's uniquely inborn temperamental needs, conflict may arise within the parent-child relationship which may lead to behavioural problems in the child.

For parents to understand and recognise their children's needs, knowledge of the child's temperament is required. Therefore, the researcher promotes a model where the parents are considered to be an equally important variable in the therapeutic process. Parents will be guided by the therapist to understand their child's temperament and preference functions. The researcher therefore tends to present a practice-based model to

assess temperament and preference functions that assist in enhancing the parent-child interaction. In order to present this model the utilisation of the practice-based ecometric model to assess temperament and preference functions that assist in enhancing the parent-child interactions need to be evaluate through research. The researcher tends to make use of the *one group pre-test and post-design* to obtain this outcome. Different parent-groups from intact families will be targeted to participate in the semi-structured interviews. The criteria for parents to participating are:

- Parents of children (9-15years) from both gender and any culture who presented themselves at the private practice for service to the child;
- Parents need to be heterosexual married and within an intact relationship;
- Parents should not have had any previous experience with regard to temperament analysis, whether elsewhere or at the practice;
- Parents should be able to converse in either Afrikaans or English.

You are targeted because you and your child fit the abovementioned criteria. Should you agree to participate and give permission that you and your child may participate in this study the following will be expected:

- You as parent(s) will be subjected to an intake session at the researcher's private practice. During this semi-structured interview, pre-test information will be obtain about you're here-and-now beliefs, views or perceptions of your child's behaviour, functioning and of the parent-child interaction. The researcher will make use of an interview schedule to guide her in the data-gathering. A video recorder will record the audio but the lens will remain covered during the session. The researcher will also take notes during the session. This will enable the researcher to repeatedly revisiting the information obtained during the session, ensuring that all the information are been gathered during the semi-structured interview and that she understands not only your parental perspectives of your child, his/her behaviour but also your parental views on parenting and the parent-child interaction in the here-and-now.
- Arrangements will be make for your child to visit the private practice to complete the designed temperament sorter: The *Uknowme 88* Type Indicator. The researcher will not engage in any kind of interview with your child therefore the focus will only be for the child to complete the designed temperament sorter. Afterwards, the researcher will analyse your child's temperament and preference functions.
- You as parents will then ask to join the researcher at the private practice for a feedback session during which your child's temperament and preference function will be explain to you in detail. Focus will be on your child's specific temperamental needs and expectations.
- The researcher will grant you as parents a four week period in which you can rethink and familiarize yourselves with the information received during the feedback session.
- You will then be call back for a second semi-structured interview at the private practice. With the aid of an interview schedule post-test information will be obtain regarding your here-and-now beliefs, views or

perceptions of their child's behaviour, functioning and of the parent-child interaction. The researcher again will make use of a video recorder to record the audio but the lens will again remain covered during the session. The researcher will also take notes during the session. This will enable the researcher to repeatedly revisiting the information obtained during both session, ensuring that all the information are gathered during the semi-structured pre-test and post-test interviews and that she was able to follow your parental perspective of your child, his/her behaviour and of your parental views on parenting and the parent-child interaction.

The researcher will use this information to determine how a practice-based econometric model can be utilised to assess temperament and preference that assists in enhancing the parent-child interaction. All information will be kept securely locked away in a cabinet in the researcher's private practice. No one other than herself will have entrance to the physical data or information. Because the findings will be documented as part of the research project and submit in a final report to the University, all identification will be deleted and pseudonyms will be used instead of real names. The pre-test and post-test semi-structured interviews will be schedule at a time that will be convenient to you. You may also indicate a time of your convenience when to bring your child to complete the designed temperament sorter and when to receive the feedback.

If you have any further questions or concerns about the research, please feel free to contact my promoter Dr Herman Grobler, Senior Lecturer, Centre for Child, Youth and Family Studies, Faculty of Health Sciences, North-West University, Potchefstroom on 0027 21 864 3593 (tel) or 0027 21 864 2654 (fax) or myself, the researcher on 082 779 5293 or beatrixvr@mweb.co.za

If you are willing to participate in this study you are hereby requested to familiarise yourself with the content before you sign the form below.

In signing this form I declare that:

- I have been informed what the true purpose of the research study is and that I hereby give informed consent for myself and my child to participate in the study. I declare that I and my child fit the criteria for participation as stipulated above. The pre-test and post-test semi-structured interviews; the session when my child complete the designed temperament sorter and the feedback-session will take place during a time convenient for me and my child at the researcher's private practice. My child only needs to complete the designed temperament sorter. The focus of the designed temperament sorter will be on my child's *interaction with the environment*. The instrument will be *focused on assessment of my child's natural inborn preferences*. It will be a *self-report questionnaire* and *non-judgemental*. There will be no right or wrong answers and the outcome will corresponds with my child's own perception of him or herself.
- I understand that there are no foreseeable risks or discomforts when I give consent for both me and my child to participate in the study. I understand that the newly gain information will address the parent-child

interaction and will challenge my parental perception on parenting. I also understand that I, as the parent of my child, may withdraw at any time my consent for both me and my child's participation in the study.

- I understand that the quantitative and qualitative results of the study may be published, but that both my name and that of my child, and any identifying information will not be revealed. Pseudonyms will be used instead. The researcher will maintain confidentiality of all records and/or material.
- I have been informed that nor I or my child will be compensated for participating in the study.
- I understand that if I voice a need for further intervention and therapy due to the outcome of the study, the researcher will arrange for intervention by other Child and Family therapists from nearby location.

I have been informed that any questions I may have (before or after my consent) concerning the research or concerning my participation or my child's participation, will be answered by the researcher of this study. I also give permission to the researcher to show this document to my child so that he/she can see that I, the parent gave informed consent for him/her participate in the study. My child will also be ask to sign a form by which he/she will give written accent to participate in the pilot study. Furthermore, in signing this consent form, I am waiving any legal claims, rights and remedies.

Name and surname of child obtaining informed consent for:

Date of birth of child obtaining informed consent for:

Name and Surname of parent (father):

Signature:Date:

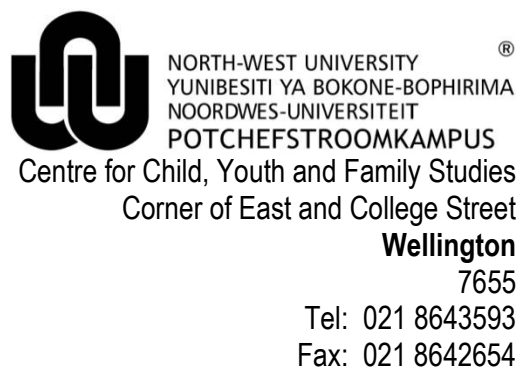
Name and Surname of parent (mother):

Signature:Date:

Name and Surname of the researcher:

Signature: Date:

ADDENDUM K



10 October 2013

INFORMED ASSENT FROM CHILDREN TO PARTICIPATE IN THE ONE GROUP PRE-TEST & POST-TEST DESIGN

A research study of the North-West University

Title: A PRACTICE-BASED ECOMETRIC MODEL TO ASSESS TEMPERAMENT AND PREFERENCE FUNCTIONS THAT ASSIST IN ENHANCING THE PARENT-CHILD INTERACTION

Dear Child

My name is Beatrix Jansen van Rensburg and I am a PhD student in Social Work at the North-West University. The North-West University gave me permission to undertake a research study. The research study focuses on the interaction between the parent and the child and possible input that can enhance their interaction. To help me achieving this goal, a temperament sorter is design to assess temperament and preference functions of children.

A temperament sorter is an instrument that assesses your natural style of engagement or functioning and behaviour within your environment such as school, friends, family and other people. In order for me to and your parents to understand your unique way of being, you need to complete the designed temperament sorter with the name: The *Uknowme* 88 Type Indicator. The temperament sorter is a *self-report questionnaire* and *non-judgemental*, in other words the way you prefer to act most of the time will not be judge as good or bad. It will accept all preferred ways of behaving as equally important and valuable. There will be no right or wrong answers and the outcome will corresponds with your own perception of yourself.

You are asking to complete the temperament sorter during your visit to the private practice. Just follow the instructions that are clearly indicated on the questionnaire. As soon as you are finish you may leave immediately.

After your temperament is assessed by me, your parents will receive verbal feedback thereof and regarding your unique way of being. I will then assist in helping your parents to understand your need and expectations better.

You are chosen because your parent(s) already gave their written consent for you to participate and because you are:

- A child (9-15years) from any gender and any culture whose parents presents them at the private practice for service to the child;
- A child within an intact family;
- A child who have not any previous experience with regard to temperament analysis whether elsewhere or at the practice;
- A child that can read and understand English.

Because this is part of a research study, your name and score will be kept confidential and when I revealed it in a document I had to compile and deliver to the University, I will not mention your name. Your identity and those of your parents will therefore be kept confidential.

You will now sign this letter with your name and surname, date of birth and today's date. Your signature will indicate to me that you gave me written consent to participate; that you clearly understand what are expected from you and that you have been informed that you will not be compensated for participating in the study.

Name and Surname of child:

Date of birth:

Today's date:

Name and Surname of the researcher:

Signature of the researcher:

Date:

ADDENDUM L

PROTOTYPE TEMPERAMENT SORTER

Questionnaire

Instructions

You are about to answer some questions about what you like. These questions give you the opportunity to say which answer you like best – the answer that is most like you!

We want to know and understand how you feel and think about things. Please do not answer the questions the way you think your parents, teachers or friends might want you to answer. Answer the way you really believe you are. Simply pick the answer that you prefer the most. Remember, **there are no right or wrong answers.**

Below each question are two possible answers. Choose which answer fits you the best and then mark your answer on the separate answer sheet. You are only to fill in **one** answer for each question. This is very important. If both answers seem like you, please choose the one that you like the **most**.

Here is a **sample question** to show you how to complete the answer sheet:

Which do you like more?

- A. Pizza
- B. Hamburgers

You may like both choices, but you would probably like one more than the other. If you prefer to eat pizza, then you make an X in the A section. If you prefer hamburgers, then you make an X in the B section

Please remember:

- Do not make any marks on this questionnaire
- Mark all of your answers on the separate answer sheet

1. You prefer to have:
 - A. Lots of friends
 - B. A couple of close friends

2. You tend to make friends:
 - A. Easily and openly
 - B. Cautiously and selectively

3. You like to read:
 - A. Favourite books over and over
 - B. New and different books

4. You prefer stories about:
 - A. Real people and their experiences
 - B. Creative stories about imaginary characters

5. A team should:
 - A. Play well and win
 - B. Get along with each other and win

6. It is worse to:
 - A. Be unfair
 - B. Hurt someone's feelings

7. Rules of the games:
 - A. Should stay the same each time
 - B. Can be changed if they need to be

8. You should:
 - A. Do what you need to do first, before you start doing something else
 - B. Have fun while you can, because you can complete the task later

9. Having people/children around:
 - A. Gives you someone to talk to
 - B. Makes you feel tired after a while

10. In the classroom you are more likely to:
 - A. Raise your hand and speak up often
 - B. Hold back and not participate unless the teacher ask you something

11. You tend to focus more on:
 - A. Today. What happen now and its excitements
 - B. Tomorrow. The future and its possibilities

12. You feel more comfortable with:
 - A. Remembering facts and details of how you have done things before
 - B. Thinking up new ideas to do something

Contact the researcher at beatrixvr@mweb.co.za for any enquiries regarding the complete version of the designed Temperament Sorter used within in this research study.

ADDENDUM N

Interview schedule for first-round PRE-TEST semi-structured interview

Pre-test data gathering will be focus on parental knowledge regarding temperament in general and their child's temperament and how the parent perceived the child's behaviour and their interaction. The following open-ended questions will guide the researcher in the data-gathering process:

- 1.1 Describe your understanding of temperament in general.
- 1.2 If possible, describe your child's temperament.
- 1.3 Describe the aspects of your child's behaviour that you are concerned/troubled about?
- 1.4 What is your understanding of the reason(s) your child reacts the way he/she did?
- 1.5 How did you usually react onto your child's behaviour?
- 1.6 How did your child react onto your way of dealing with the situation?
- 1.7 Regarding the aspect of concern and the way you dealt with it, how would you describe your relationship and interaction with your child?

ADDENDUM O

Interview schedule for second round POST-TEST semi-structured interview

Post-test data gathering will be focus on parental knowledge regarding temperament in general and their child's temperament and how the parent perceived the child's behaviour and their interaction. The following open-ended questions will guide the researcher in the post-test data-gathering process:

- 2.1 Describe your understanding of temperament in general.
- 2.2 Describe your understanding of your child's temperament.
- 2.3 In what way did the knowledge of your child's temperament and preference functions affects your **understanding** of your child and his/her behaviour?
- 2.4 In what way did the knowledge of your child's temperament and preference functions influence your **reaction** towards your child?
- 2.5 In what way did the knowledge of your child's temperament and preference functions influence your **interaction** with your child?
- 2.6 If applicable, in what way did the change in interaction with your child, influence his/her behaviour?
- 2.7 Any other comments or suggestions?

