



THE EXPERIENCES OF USERS OF THE GRIFFITHS III

JOHAN LE ROUX

S220497168

Submitted in partial fulfilment of the requirements for the degree of

**MASTER OF ARTS
IN
CLINICAL PSYCHOLOGY**

In the Department of Psychology, Faculty of Health Sciences at the
Nelson Mandela University

Supervisor: Mrs L Currin

Co-Supervisor: Prof L Stroud

Date: July 2020

Acknowledgements

I would like to express my heartfelt appreciation to the following individuals and institutions. The completion of this treatise would not have been possible without their input, guidance, and support.

Prof Louise Stroud: Without your extensive knowledge, insight, and passion, this study would not have materialised. Thank you for all your encouragement and care throughout this journey.

Dr Johan Cronje: Thank you for your guidance during the initial stages of this research study. Your assistance in composing the research proposal served me well throughout the study.

Mrs Lisa Currin: Thank you for your encouragement and for allowing me to take on this study.

Association for Research in Infant and Child Development (ARICD): It was an honour to play a small role in the research process for the next edition of the Griffiths Scales. Thank you for entrusting me with access to your data. The findings and opinions discussed in this study are those of the researcher and not that of the ARICD.

Participants: Thank you to each participant for sharing invaluable insights into your experiences of the Griffiths III.

My parents: Thank you for all your support and encouragement, not just over the last two years, but during my entire academic journey.

My family – Margaret, Israel, and Samuel: Finally, but most importantly, this research study and all previous academic ventures would not have been possible without the love, support, and selfless sacrifices of my family. Thank you for everything.

Table of Contents

Table of Figures	viii
Table of Appendices	ix
Declaration.....	x
Abstract.....	xi
Chapter One Introduction.....	1
Context of the Study.....	1
Research Question.....	4
Outline of the Study	4
General comments.....	6
Chapter Overview	7
Chapter Two Child Development	8
Nature and Nurture, Early and Later Experience, and Continuity and Discontinuity.....	9
Development Follows Sequences.....	10
Development in Different Domains Proceeds at Varying Rates.....	11
Domains are Interrelated.....	11
Effect of Early Experiences on Development	12
Critical and Sensitive Periods of Development.....	13
Children Develop at Individual Rates	13
Children Learn in a Variety of Ways.....	14
Children Display their Knowledge in Different Manners	15
Play and Development	15
Influence of Culture, Socio-economic Status, Ethnicity, and Technology.....	16

Children are Active Learners	18
Conditions for Optimal Development	18
<i>Psychoanalytic Theories</i>	20
<i>Behavioural and Social Cognitive Theories</i>	22
<i>Ethological Theories</i>	23
<i>An Integrative Orientation</i>	24
Avenues of Learning	25
Chapter Overview	28
Chapter Three Child Development Assessment	29
Psychological Assessment	30
<i>Psychological Assessment Process</i>	30
Assessment Measures	32
Child Development Assessment Measures	35
The Need for Developmental Assessment	36
Assessment Using Caregiver Reporting	37
The Structured Observation of Children at Play	38
Commonly-Used Standardised Child Development Assessment Measures	40
Revising Assessment Measures	44
<i>What is Assessment Measure Revision?</i>	44
<i>When Should an Assessment be Revised?</i>	45
<i>Process of Assessment Revision</i>	47
<i>Importance of User Feedback in Assessment Revision</i>	48
Chapter Overview	49
Chapter Four The Griffiths III	51

Dr Ruth Griffiths	51
The Griffiths Scales	53
<i>The Baby Scales</i>	53
<i>The Evolution of the Griffiths Scales</i>	54
The Griffiths III	55
<i>The Griffiths III Revision</i>	55
<i>The Griffiths Subscales</i>	60
<i>Uses of the Griffiths III</i>	62
<i>How the Griffiths III is Administered</i>	63
<i>Who Can Use the Griffiths III?</i>	64
<i>Multicultural Use of the Griffiths III</i>	65
Future of the Griffiths Scales	66
Chapter Overview	67
Chapter Five Research Methodology	68
Background to the Research	69
Problem Statement	70
Research Aim	70
Significance of the Study	70
Research Design	70
Data Collection	72
Participants and Sampling	73
Procedure and Ethical Consideration	75
Data Analysis	77
Trustworthiness	79

Reflexivity	80
Chapter Overview	81
Chapter Six Findings and Discussion.....	82
The Experiences of Users of the Griffiths III	82
Overarching Themes.....	94
<i>Purpose and Use of the Griffiths Scales</i>	<i>95</i>
<i>Domains, Content, and Structure of the Griffiths III.....</i>	<i>98</i>
<i>Psychometric Properties, Standardisation, and Norms</i>	<i>103</i>
<i>Merits, General Limitations, and Improvements.....</i>	<i>106</i>
Chapter Overview	113
Chapter 7	115
Conclusions, Limitations, and Recommendations.....	115
Conclusions	115
Recommendations to Inform the Next Edition of the Griffiths Scales.....	117
<i>Specialised Version for Children with Autism Spectrum Disorder.....</i>	<i>117</i>
<i>Psychometric Properties</i>	<i>117</i>
<i>School Readiness Element</i>	<i>118</i>
<i>Universality of the Scales</i>	<i>118</i>
<i>Administration Time.....</i>	<i>118</i>
<i>Diagnosis and Screening.....</i>	<i>119</i>
<i>Cost.....</i>	<i>119</i>
<i>Specific Items</i>	<i>119</i>
<i>Report Writing.....</i>	<i>120</i>
Limitations of the Study	120

Recommendations for Future Research	121
Chapter Overview	123
References	124

Table of Figures

Figure 1: Depiction of Avenues of Learning	25
Figure 2: A Contemporary Model of the Avenues of Learning	26
Figure 3: The Griffiths III six-phase revision process	57
Figure 4: Demographic Comparison	74
Figure 5: Areas of Speciality Comparison	75
Figure 6: Question 3	83
Figure 7: Question 4	84
Figure 8: Question 5	85
Figure 9: Question 6	86
Figure 10: Question 7	87
Figure 11: Question 8	88
Figure 12: Question 9	89
Figure 13: Question 10	90
Figure 14: Question 11	91
Figure 15: Question 12	92
Figure 16: Question 13	93
Figure 17: Question 14	94

Table of Appendices

Appendix A: ARICD Letter.....140

Appendix B: Questionnaire.....141

Appendix C: Ethics Approval Letter.....146

Declaration

I hereby confirm that the present research study, *'The experiences of users of the Griffiths III'* is solely my own work. It has not been submitted before for any degree or examination in any university and if any text passages or diagrams from books, papers, the Web or other sources have been copied or in any other way used, all references – including those found in electronic media – have been acknowledged and fully cited in the American Psychological Association (APA) (seventh edition) referencing style.



Researcher: Johan le Roux

July 2020

Abstract

The Griffiths III was published in 2016 and has since then been used internationally by practitioners. The Association for Research in Infant and Child Development (ARICD) is currently planning and reviewing, refining, and improving the 2016 version of this assessment tool. Part of this process is to obtain feedback from all the key role players in the Griffiths III. The purpose of the present study was to explore and describe how users of the Griffiths III experience the measure. A qualitative methodology was utilised, and an exploratory-descriptive design was employed. A questionnaire was created by the ARICD and distributed to all 217 registered users of the Griffiths III. A total of 72 registered Griffiths users, who were using the Griffiths III at that stage, completed and returned the questionnaires to the ARICD. The data were analysed using thematic analysis to extract themes. The findings of the study revealed four overarching themes, namely 1) the purpose and use of the Griffiths III; 2) domains, content, and structure of the Griffiths III; 3) psychometric properties, standardisation, and norms; and 4) merits, limitations, and improvements. Based on the findings, recommendations were made regarding the revision of the Griffiths III. These recommendations relate to a specialised version for children with an autism spectrum disorder, psychometric properties, school readiness elements, universality of the scales, administration time, diagnosis and screening, cost, specific items, and report writing.

Keywords: Griffiths III, psychological assessments, test development, test user, test revision, test user experiences, test user feedback

Chapter One

Introduction

The introduction chapter lays out the foundation for this study as it provides the context for the research. This study falls in the field of child development assessments and is concerned primarily with the child development assessment measure, the Griffiths Scales of Child Development – Third Edition or Griffiths III. It is, however, important to understand the purpose and importance of developmental assessments in the 21st century, as well as the growing need for these assessment measures in today's context.

Therefore, this chapter begins with an overview of the need for developmental assessments worldwide by providing a brief up to date account of the prevalence of neurodevelopmental disorders in infants and young children, as well as the implications for those with these disorders. The focus then narrows to the subject matter of the research, the Griffiths III, and the role it fulfils in this context. Subsequently, the research question of the study is provided before the outline of the chapters is presented.

Context of the Study

'Neurodevelopmental disorders' is the collective term for mental illnesses with onset during the early developmental years of a person's life. These disorders usually become evident before the child is of school-going age and manifest in "impairments of personal, social, academic, or occupational functioning" (American Psychiatric Association, 2013, p. 31). These illnesses can lead to a general developmental deficit or impairment in only specific areas. Individuals with these disorders are also likely to suffer from various other health difficulties, such as poor quality of life and lower life expectancy compared to their peers (Kalb et al., 2019).

The two most common neurodevelopmental disorders are autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD) (Scandurra et al., 2019). ASD causes “persistent deficits in social communication and social interaction across multiple contexts” as well as “restricted, repetitive patterns of behaviour, interests, or activities” (APA, 2013, p. 31). ADHD, on the other hand, is “characterised by a pattern of diminished sustained attention, and increased impulsivity or hyperactivity” (Sadock et al., 2015, p. 2454). Other prominent neurodevelopmental disorders include intellectual disability, which is characterised by a general impairment in mental abilities, and specific learning disorders, which are characterised by deficits in specific domains (APA, 2013).

The number of children diagnosed with ASD and ADHD within the United States of America has increased drastically over the last twenty years, according to two major studies recently conducted (Baio et al., 2019; Xu et al., 2018). The prevalence of these two disorders, as well as other neurodevelopmental disorders, has also increased in children worldwide (Aschner & Costa, 2015; Jameson et al., 2016).

It is of critical importance to detect these and any other disorders, illnesses, learning problems, or slow development as early in a child’s development as possible to start an intervention. This provides the child with the best opportunity to achieve their full potential (Cioni et al., 2016). If early intervention is not implemented, the majority of children who display developmental delays will continue to demonstrate developmental deficits for the rest of their lives (Levy, 2018).

For children to be diagnosed with neurodevelopmental disorders, they need to meet the requirements as set out in the Diagnostic and Statistical Manual of Mental Disorders (Fifth Edition – DSM-5) (APA, 2013). For such a diagnosis to be made, a multi-faceted process must

first take place. This includes obtaining a detailed description from the child's caregivers and considering clinical observations made by professionals during assessments (Sadock et al., 2015). Psychological and developmental assessments, therefore, play an integral role in this process (Barry et al., 2013) as one of the most significant indicators for neurodevelopmental disorders is developmental delays. Levy (2018, p. 503) states that "disrupted developmental timing and slow acquisitional pace are hallmarks" of individuals with neurodevelopmental disorders.

One of the most recently updated developmental assessment tools for children is the Griffiths Scales of Child Development – Third Edition (Griffiths III). The Griffiths III is a comprehensive developmental measure that can be used to provide a general measure of a child's development from birth to six years, as well as an analysis of strengths and needs across the following five domains of learning: 1) Foundations of learning; 2) Language and communication; 3) Eye and hand coordination; 4) Personal-social-emotional, and 5) Gross motor (Stroud et al., 2016). Dr Ruth Griffiths published the original version of the Griffiths Scales in 1954. The Griffiths Scales is a well-known developmental assessment measure internationally, acknowledged as a reliable measure for assessing young children (Giagazoglou et al., 2005), and can contribute to the diagnosis of neurodevelopmental disorders (Stroud et al., 2016).

Although the Griffiths III, which was published in 2016, has only been in use for four years, its developers are already planning and reviewing, refining, and improving this version of the assessment tool. As more than 80 per cent of the Griffiths III consists of new and updated items, it is essential to gain a thorough understanding of how users of the assessment are currently experiencing the measure in practice. In doing so, the developers of the Griffiths III can

use this knowledge to inform its next revision as it aims to continue following sound practice principles.

Research Question

In this study, the views of practitioners, who have an intimate understanding of the Griffiths III, were obtained. These practitioners are users of the Griffiths III and are registered with the Association for Research in Infant and Child Development (ARICD). The ARICD regulates the use of the Griffiths III worldwide. The questionnaire, that was developed by the ARICD, was sent to the registered users electronically and required them to answer various questions about the assessment measure. These questions asked the participants to share their experiences of using the Griffiths III, what they believe the strengths and weaknesses of the Griffiths III are, as well as how they are using the assessment measure in their various contexts. The aim of this study was, therefore, to explore the themes that emerged from these completed questionnaires. These themes were analysed and described, and the findings will ultimately guide the revision process of the Griffiths III. In order to achieve the aim of this study, the following research question was proposed and answered:

What are the experiences of users of the Griffiths III?

As the aim of this study was to broadly explore and describe the experiences of users of the Griffiths III, multiple areas are covered in the chapters that follow. It must be noted that broad overviews rather than in-depth analyses are presented for each of the areas covered as this allowed for a better answer to be given to the research question.

Outline of the Study

This research study is presented in the following structure as it allows for a logical flow to the research. The first three chapters provide the literature review section of the study. The

research aim of this study guided how the literature review chapters are presented. Subsequently, the methodology of the study is provided, which describes the blueprint that was followed when conducting this research. The findings and discussion are presented in the following section. Finally, the conclusions, limitations, and recommendations are provided. Below, more details are furnished for each chapter of the study.

Chapter Two explores the most important principles of child development. These principles form part of the foundation for the discussion section in Chapter Six and present the views and insights of various child development experts. The most noteworthy child development theories are also briefly summarised as they each contribute uniquely to the understanding of child development. Ruth Griffiths' theory regarding the development of children, namely the Avenues of Learning, is discussed in greater detail as this theory provides the framework for the study.

Chapter Three explores the details of psychological assessment in general and what procedures are involved in the assessment process. Subsequently, the focus narrows in on child development assessment, the role that it plays in today's context, as well as the most effective way to obtain an accurate picture of a child's development. The most commonly used assessment measures are briefly described, while the intricacies involved in the revision of assessments are also discussed. These insights from the literature form an essential part of the discussion in Chapter Six.

Chapter Four focuses specifically on the Griffiths III or Griffiths Scales as they are often referred to. As this research is concerned with the Griffiths Scales, it is essential to describe this measure in detail. The original creator of the Griffiths Scales, Dr Ruth Griffiths, and the development of her theory, which is also the backbone of the current edition of the Griffiths

Scales, are discussed. At the same time, the evolution of the assessment measure over more than half a century is also depicted.

Chapter Five describes the research methodology that was followed in conducting this study. The background of the research is provided by giving an account of the events that led to the need for the research to be carried out. The problem statement, the significance of the study, research design, as well as data collection and analysis processes, are presented. The course of action that was followed to ensure that the study meets the ethical requirements, as well as trustworthiness, are also presented.

Chapter Six provides a depiction of the results of the study. It provides, question by question, the themed responses from the participants before discussing the overarching themes as they emerged from the data. These themes were also used to inform the provided recommendations for the next revision of the Griffiths Scales.

The study draws to a close with Chapter Seven. It provides a summary of the conclusions and discusses the limitations of the study. The chapter also provides recommendations for further research in this area of study.

General comments

For the sake of uniformity and simplicity, specific terms are used throughout this research study.

Various technical terms are used to identify tools used in psychological assessments. In this study, the terms ‘assessment measure’, or at times only ‘measure’, is used. Various designations could be used to denote someone who administers assessment measures. The term “practitioner” is used primarily throughout this research study. The personal pronoun ‘he’ and

'his' are also used at times in this study for simplicity and are by no means an indication of gender bias.

More specifically related to the topic of this study, the term 'Griffiths Scales' is used when referring to the assessment measure in general as it has been used over the last 66 years. When the researcher is explicitly referring to a specific edition of the assessment measure, he will apply its particular name, for example, the Griffiths III.

Chapter Overview

The first chapter of this document provides the foundation for this research study as it describes the context within which this research took place. This was achieved by providing an overview of the need for child developmental assessments worldwide. The research question, which this study aims to answer, the outline of the chapters, as well as general comments that are important to be cognisant of during this study, are also provided.

Chapter Two

Child Development

Childhood development refers to the changes that human beings go through from birth to adulthood (Louw & Louw, 1998). However, developmental psychology does not focus on all the changes a person experiences, but rather, what Louw and Louw (1998) describe as the most relevant to a person's development. These are changes that are "relatively permanent", "related to other important changes" and changes that form part of "one or more developmental patterns" (Louw & Louw, 1998, p. 5).

Although a person's development should be seen as a whole, different aspects of development occur at varying speeds and in different stages of life. Therefore, specific aspects of a person's development can be studied and how they relate to a person's development as a whole. As the Griffiths III is used to assess children from birth to six years of age, the focus of this research will be on the infancy stage (birth to approximately age two) and the early childhood stage (approximately age two to six) (Louw & Louw, 2014).

Development can also be measured across various domains. For the purpose of this research study, the domains that will be considered include the five that the Griffiths III measure specifically, namely 1) Foundations of learning; 2) Language and communication; 3) Eye and hand coordination; 4) Personal-social-emotional; and 5) Gross motor. These will be discussed in further detail in Chapter Four.

In this chapter, the most important principles of child development will be explored. Child development is a multifaceted process that is influenced by numerous factors that are constantly evolving. It is, therefore, not possible to consider all the principles that are involved in

this complex process. Instead, this chapter will focus on specific aspects that are particularly important in early child development. Firstly, three key questions that Santrock (2014) proposes as the most important to answer when reviewing child development will be examined. The focus will then shift to eleven other principles that are vital to be aware of when discussing child development.

Subsequently, the most noteworthy child development theories that were developed based on scientific research will briefly be explained. As this research is concerned with the Griffiths III, which is steeped in Ruth Griffith's (1954) theory of Avenues of Learning, this framework will be discussed in more detail.

Nature and Nurture, Early and Later Experience, and Continuity and Discontinuity

Santrock (2014) postulates that there are three questions which are most important to consider when assessing the development of children, namely:

1. Nature and Nurture: The nature versus nurture question is concerned with whether development is determined mainly by a person's biological makeup or by their environment. The biological makeup is described by Louw and Louw (2014) as causal factors such as the genetic makeup and neurological structure of a person while the environmental factors include social aspects such as the parenting styles of the child's caregivers and their social-economic environment.

2. Early and Later Experience: The early and later experience question is concerned with the extent to which experiences in a child's early years or experiences in later life shape their development. The theorists who suggest that early experiences play a more significant role in the development of a child believe that any developmental problems that are experienced can be traced back to the initial years of a child's life (Santrock, 2014). Those who emphasise the

later experience; however, believe that adverse encounters early in a child's life can be overcome later as development is a constantly evolving process.

3. Continuity and Discontinuity: The continuity-discontinuity question seeks to establish whether development is a gradual process or if distinct changes occur from time to time. The theorists who believe that development is a continuous process, suggest that development occurs gradually and that all milestones reached are built on days, weeks, months or even years of build-up to that point (Santrock, 2014). In contrast, those who believe the opposite state that development involves distinct changes that occur at very specific moments in a person's life.

For the most part, present-day child developmental theorists believe it is important to consider development by taking all the positions mentioned above into account and not hold too tightly to one and excluding another (Berk, 2013; Santrock, 2014). However, how strongly these factors impact development remains a contentious question (Durrant & Ellis, 2013), and it is unlikely that the debate will be settled in the near future. For the sake of this research, it is only important to understand how these three issues can impact child development.

Various other factors and principles also influence and shape the understanding of child development. As child development is an intricate journey, it is impossible to create an all-encompassing list of principles that would satisfy such a complex process (National Association for the Education of Young Children (NAEYC), n.d). The below principles are worth discussing here as they are all noteworthy, contributing factors to a child's development.

Development Follows Sequences

Child development generally follows an expected pattern, especially during the first decade of a child's life (Puckett & Black, 2002; Sughanda, 2018). For example, the physical

development of a child generally follows the cephalocaudal pattern (Santrock, 2014). This means that the pattern of growth works from top to bottom. At first, the fastest physical growth occurs at the top of the body, meaning the head, and the rate of growth then moves down to the rest of the body, such as the neck, shoulders, etc. These types of patterns are also seen across other developmental domains, and the skills and growth gained build on each other in a cumulative manner (NAEYC, 2009). This, however, does not mean that the rate of development is consistent across the domains, as will be discussed in the next section.

Development in Different Domains Proceeds at Varying Rates

Children could develop across different domains at varying speeds (Swim, 2007). Rhemtulla and Tucker-Drob (2011) suggest that there is a multitude of reasons, which are addressed throughout this chapter, that contribute to the uneven rates of development. To illustrate that the varying rates of development across domains do not necessarily mean a child will struggle to reach developmental milestones later in life, the following example is considered. An infant might reach milestones in the domain of motor development earlier than the average developing child. However, in the domain of language development, the infant might reach milestones slightly later. A few years on, the same child could start school at an age-appropriate time and not experience any developmental delays in any domains.

Domains are Interrelated

When looking at the development of a child, it is important to not only measure the development as a whole but also to consider the development across the different domains. Although successful development in one area does not guarantee the same success in another, the different domains do have a substantial impact on each other (NAEYC, 2009). As mentioned above, minor differences in the rate of development across different domains might be

insignificant in terms of the child's development as a whole. However, major delays in acquiring skills in one domain of development could have an impact on the development of another (Shonkoff & Phillips, 2000). On the contrary, successfully acquiring skills in one domain could promote development in other domains. This appears to be more prominent between certain domains than others.

Rhemtulla and Tucker-Drob (2011) found that there are significant links between the development of several cognitive and psychomotor skills in childhood. An increase in a child's language abilities could also naturally lead to further development in their social skills.

Effect of Early Experiences on Development

Following up on the earlier versus later experience question that was discussed earlier in this chapter, research studies found that exposure to adverse events during the early years of a child's life can have a detrimental effect on their development (Bick & Nelson, 2016). Without adequate intervention in the child's early years, this delay can have a long-term effect on the development of the child (Nelson et al., 2019). Early positive experiences can also have a beneficial impact on a child's development (NAEYC, 2009). As development builds on previous experiences, the early years have the potential to either set the foundation for a positive developmental outcome, or, on the other hand, numerous adverse experiences during this period can lead to a poor outcome for children later in life.

The experiences during the early years, in particular from birth to the age of five, are of utmost importance in terms of children's long-term emotional and psychological development (JAMA Network, 2009). Without suitable intervention or remediation after early adverse experiences, these events will continue harming the child's development (NAEYC, 2009). It is,

therefore, key that intervention takes place as early as possible to prevent these experiences from having a compounding effect in the development of a child.

Critical and Sensitive Periods of Development

There are specific optimal periods in a child's life when they are primed for the development of particular milestones (NAEYC, 2009). If the child obtains the required input for development during those periods, they will be particularly receptive to integrating these inputs and develop the appropriate skills accordingly. These periods were previously seen as 'critical periods' (Puckett & Black, 2002) and the notion was that if a child is deprived of the necessary stimulation to meet the developmental milestones during this time, they will permanently be impaired in these areas. Berk (2013), however, states that it is better to see these timeframes as 'sensitive periods'. According to this term, these periods are seen as times during which a child is "especially responsive to environmental influences" (Berk, 2013, p. 24). However, development in these areas can occur at a later stage when the child receives the necessary input, but it might be "harder to induce" (Berk, 2013, p. 24).

Children Develop at Individual Rates

According to Santrock (2014, p. 12), every person "develops in certain ways like *all* other individuals, like *some* other individuals, and like *no* other individuals". This means that even typically developing children will reach certain milestones at different ages. For some children, these ages can differ significantly without having to cause concern for the caregivers. These differences are ascribed to biological, cognitive, and socioemotional processes (Santrock, 2014). The biological processes refer to the differences in children's genetic makeup, as well as the formation of their brains, amongst other things. Cognitive processes refer to, for example,

children's abilities to think and use language while socioemotional processes refer to how the child interacts with others, their unique traits, and the environment in which they grow up. For each child, these three factors will uniquely combine to influence their development in a particular manner. This contributes significantly to the explanation as to why differences in rates of development exist.

Children Learn in a Variety of Ways

All children are unique and will respond in different ways to situations. In the same way, children will learn in unique ways. According to Bransford et al. (2000), children fall into two main categories of theories when it comes to learning, namely 1) entity theories and 2) incremental theories. Children who fall into the entity theories category constantly aim to perform well. These children also strive to receive positive judgements, and as a result, steer clear of unfamiliar assessments as they do not want to be seen performing poorly. On the other hand, children who fall in the incremental theories category constantly seek challenges and show determination to increase their competencies. They also take on activities in a way that shows they believe their development "can be improved by effort and will" (Bransford et al., 2000, p. 102). The majority of children are likely to fall in both categories and could lean more to the one in certain domains and activities and more to the other in different domains. These factors will influence children's motivation for learning and hence, development as well, as it determines their persistence to reach goals and their desire to master certain skills. This illustrates that the child's preferences for learning will have an impact on how they master abilities and how it will influence their development.

Children Display their Knowledge in Different Manners

In the same way that children learn in a variety of manners, they also display their gained knowledge in ways that could be different from other children (Swim, 2007). How young children display this knowledge is also very different from how adults who use mainly verbal abilities, will display theirs. Children are more likely to demonstrate their knowledge while playing or drawing. Children will also unlikely be able to verbally communicate how they solve certain problems or work out certain scenarios. However, when they are observed in a play situation, they might be able to perform this task well.

Play and Development

The United Nations High Commission for Human Rights states that every child has the right to play (United Nations, 1989). The reason why this is a right of a child is not simply because it is a fun pastime that children can keep themselves busy with, but because play fulfils a crucial role in the optimal development of a child (Ginsburg et al., 2007). Various research studies have shown that play is linked to the successful development of various skills across domains (Band & Weisz, 1988; Berk, 2013; Erickson, 1985) and general success at school later in life (NAEYC, 2009). Vygotsky (1978) argued that it is particularly during the preschool years that play has an important role to fulfil. He said that opportunities for children to take part in make-believe play provide the ideal manner for children to strengthen their self-discipline, which they require for academic learning later in life (Berk, 2013).

Children's play can take several shapes, such as physical play or make-believe play, and each form has unique benefits for the development of a child (Santrock, 2014). Adults and older children also fulfil an important role in the play of children, as they usually allow them to learn a more mature way of handling situations (NAEYC, 2009). However, Ginsburg et al. (2007) argue

that it is important for the play to remain undirected by older individuals. When a child leads play it allows them to move at a pace they are most comfortable with, which ensures they improve their decision-making skills and learn about their own interests (Ginsburg et al., 2007). This highlights the need for children to have plenty of opportunities to play to assist them in developing to their full potential. At the same time, it demonstrates the importance of using play when assessing children, as will be discussed in the following chapter.

Influence of Culture, Socio-economic Status, Ethnicity, and Technology

The culture, socio-economic status, ethnicity, and technology that a child is raised with all have a noteworthy impact on their development (Santrock, 2014). Each of these influences will be discussed individually as to how they could have an impact on a child's development.

Culture: The cultural environment includes the behaviour patterns, beliefs, ideas, customs, and behaviours of a specific group of people (Santrock, 2014). It is impossible to consider how each culture will influence the development of a child, but in cross-cultural research two subgroups emerged, namely individualistic and collectivistic groups (Triandis, 2007). Individualistic cultures give precedence to personal aspirations rather than those of the group, while collectivist cultures value the goals that serve the group rather than individuals (Santrock, 2014). These differences in cultures lead to a myriad of influences on the development of a child. For example, in individualistic cultures, children are more likely to value pleasure, achievement, and freedom, while in collectivistic cultures, children are more likely to value security and obedience (Santrock, 2014).

Santrock (2014, p. 504) also argues that, in the future, "children will be citizens of the world" and as a result, will be exposed to more cultures. This will have an impact on their

development. It is, therefore, important to learn how this change will impact the development of children in the future.

Socio-economic status: The American Psychological Association Task Force on Socio-economic Status (2007) describes this concept as the social standing of a person or group and is generally made up of a combination of education, income, and occupation. These three factors impact, in various ways, the group or individual's ability to take part in their society. This ultimately also leads to children having different opportunities (Hurst, 2013). Children from a lower socio-economic status will generally have less access to books, resources, and even advanced toys compared to other children. This has a direct impact on the development of a child.

Ethnicity: The ethnicity of a child is made up of "cultural heritage, nationality characteristics, race, religion, and language" (Santrock, 2014, p. 505). The differences in ethnicity have a significant impact on the development of a child. This is particularly true for children from ethnic minority groups. These children often experience discrimination and are more likely to have fewer opportunities in life because of poverty, which is often experienced by ethnic minority groups.

Technology: Technology plays an important role in the development of children, especially adolescents, but even at younger ages technology can have a positive or negative impact on a child's development (Santrock, 2014). Children continually consume more and more electronic media, as television and electronic games become more accessible. Depending on the type of games that children play, they can have a positive or negative effect on a child's social development (Santrock, 2014). The same is true for watching television. Watching an excessive

amount of television is negatively related to the mental ability of a child; however, certain television programmes can be beneficial to a child's development (Santrock, 2014). Research conducted by Graf et al. (2004) found that children who spend less time watching television score better in gross motor development assessments. This shows that how a child is exposed to technology has an impact on their development.

Children are Active Learners

Children play an active role in their development and learning process. No longer are children seen as waiting for adults and other individuals to teach them. They often partake in self-directed behaviours to increase their learnings in domains such as language and gross motor skills (Bransford et al., 2000). As a result, children are seen as purposeful agents in their development (Berk, 2013). They do not only further their development by solving problems that are presented to them, but they even seek challenges and create them (Bransford et al., 2000). This may be a result of humans' innate need to solve problems. All of these innate desires add to how children can develop certain skills and abilities which impact their development.

Conditions for Optimal Development

As has constantly been discussed in this chapter, many factors can have a positive or negative impact on a child's development. According to Swim (2007), however, a child will develop to their optimal potential when their basic needs are met, and they are made to feel safe and secure, physically and psychologically. On the other hand, children whose needs are not met often become mistrusting infants who tend to protect themselves by withdrawing from people (Louw & Louw, 2014). It is, therefore, vital that children have healthy interactions with their caregivers, adults, and peers. This will provide young children with opportunities to practice

personal-social skills as they grow (Sprouts Child Development, 2019), which, as a result of the interplay in the different domains, will also have a positive effect on the general development of the child.

Child Development Theories

In the first section of this chapter, it was discussed that a multitude of factors needs to be considered when looking at the development of a child. As a result, many differences need to be looked at when deciding how to assess children's development in specific domains, as well as their development in general. There are, however, similarities that can be seen when looking at the development of children. For example, most children will generally master certain skills in a similar order (Sharma, 2011); however, it is not necessarily considered abnormal when a child displays variances in their rate and sequence of development (Puckett & Black, 2002). This is why it is so important to obtain a holistic view of the child to understand their unique process of development, according to their own situation, and more importantly, to help them develop to their full potential.

Over the last century, various experts in the field of development have considered the factors mentioned above, as well as many others, and developed theories based on scientific research to explain the fascinating process of development. It is important to note that these theories are based on scientific research which is "objective, systematic, and testable" (Santrock, 2014, p. 18) and, therefore, not biased by the views, sentiments, and personal opinions of the theorist (Smith & Davis, 2013). The findings of the research were generated into "an interrelated, coherent set of ideas that helps to explain and make predictions" concerning the development of a child (Santrock, 2014, p. 18). According to Santrock (2014), the main theories can be grouped

into five categories, namely 1) Psychoanalytic theories, 2) Cognitive theories, 3) Behavioural and social cognitive theories, 4) Ethological theories, and 5) Ecological theories. These five approaches will be discussed briefly in this section.

Psychoanalytic Theories

The psychoanalytic perspective's focus is on the unconscious mind rather than the conscious. It holds that there are pre-determined stages that a child progresses through, and in each stage, they face a conflict between biological drives and the expectations from their social context. The theorists who hold to this perspective emphasise that a significant determinant of appropriate development is the early experiences that children have with their caregivers (Santrock, 2014). Sigmund Freud, who laid out the psychoanalytic theory, and Erik Erikson's Psychosocial theory are the two main theories in this approach.

Freud's Psychoanalytic Theory: Freud is considered to be the founder of the psychodynamic approach to psychology. He proposed that unconscious drives explain human behaviour and that the mind makes decisions based on psychic drives. He also explained that people go through five stages of psychosexual development, namely 1) oral, 2) anal, 3) phallic, 4) latency, and 5) genital (Freud, 1917). Freud believed that an adult's personality is shaped by how the individual resolves the conflicts between biological drives and social expectations during each stage.

Erikson's Psychosocial Theory: Where Freud's theory focused on psychosexual development, Erik Erikson's Psychosocial theory is centred on the psychosocial development of a person throughout his or her life. He proposed that development takes place according to a genetic plan, as well as demands set up by society. During each stage of development, there is a

unique crisis that a person needs to solve to master a certain ego strength. The first three stages of psychosocial development are relevant to early childhood. The stages are trust versus mistrust (first year of life), autonomy versus shame (second year of life), and initiative versus guilt (between ages three to six) (Erikson, 1977). In each stage, an individual must orientate a unique crisis that is brought on by the interaction between the individual and society.

Cognitive Theories

In contrast to the psychoanalytic theory, cognitive theories emphasise the importance of the conscious mind and aim to explain human behaviour by understanding thoughts.

Piaget's Cognitive Development Theory: Jean Piaget is seen as the main influence in the contemporary field of child development. According to his cognitive development theory, children play an active role in their construction of knowledge as they influence and control their world. He added that the acquisition and mastery of elementary cognitive skills are essential for promoting later development (Black et al., 2017) and that it is through the interactions between the child and his or her environment that the child develops (Sigelman & Rider, 2014).

Piaget proposed that children progress through four stages of development: 1) sensorimotor (0-2 years old), 2) preoperational (2-7 years old), concrete operational (7-11 years old), and formal operational (11 years and older).

Vygotsky's Sociocultural Cognitive Theory: Lev Vygotsky's sociocultural theory focuses on how culture, as discussed earlier in this chapter, is passed on from one generation to the next. He proposed that children need to interact with adults, who already possess certain cognitive skills, to acquire their community's way of thinking and that this aids their

development (Sigelman & Rider, 2014). Vygotsky's theory also explains why different competencies exist across cultures (Berk, 2013).

Information Processing Theory: A third important theory in this category is the Information processing theory. The processes of memory and thinking are key in this theory, which analyses the mechanisms through which learning occurs (Santrock, 2014). The theory proposes that the human brain operates like a computer as it is able to manipulate, examine, and interpret information in order to bring about a certain behaviour (Santrock, 2014).

Behavioural and Social Cognitive Theories

According to the theories in this category, people learn through their interactions with their environment, and development is seen through the resulting behaviour (Santrock, 2014). Based on the continuity-discontinuity issue that was described earlier in this chapter, these theories place a broader focus on continuity (Santrock, 2014). There are three key approaches in this category, namely 1) Pavlov's classical conditioning, 2) Skinner's operant conditioning, and 3) Bandura's social cognitive theory.

Pavlov's Classical Conditioning: Ivan Pavlov's classical conditioning proposes that a person learns through association and when two stimuli are associated, it leads to a new learned response (Watson, 1924). Classical conditioning also highlights the importance of learning from the environment, and this theory, therefore, emphasises, based on what was discussed earlier in this chapter, nurture over nature.

Skinner's Operant Conditioning: According to B. F. Skinner's operant conditioning, a person links a certain behaviour and consequence (Skinner, 1938) and that learning occurs as a person receives either a positive or negative response based on his or her behaviour. Skinner also

added that operant conditioning effects the frequency of the behaviour's occurrence. In children, it means that positive reinforcement after a behaviour leads to the more frequent occurrences of the behaviour.

Bandura's Social Cognitive Theory: Albert Bandura's theory proposes that a person acquires knowledge by observing others. By watching how others interact in their contexts, the child will acquire a variety of behaviours, thoughts, and feelings, which play a key part in their development (Bandura, 1977).

Ethological Theories

In contrast to behaviour theories, which claim that behaviour is learned, ethological theories suggest that behaviour is part of a person's biological structure and that behaviour adapts from generation to generation to better ensure survival. The two most noteworthy theories in this category are Lorenz's theory of Imprinting and Bowlby's Attachment theory.

Lorenz's Theory of Imprinting: Konrad Lorenz's concept of imprinting is described as "rapid, innate learning within a limited, critical period of time that involves attachment to the first moving object seen" (Santrock, 2014, p. 26). This process sets the foundation for all future relationships and development. This theory was further expanded on by John Bowlby, who illustrated the connection between ethological theories and human development.

Bowlby's Attachment Theory: John Bowlby believed that children are born biologically preprogrammed to look for and create an attachment with others for survival (Bowlby, 1969). He defined attachment as an emotional connection that an infant creates with his or her primary caregiver, usually the mother, during everyday life (Bowlby, 1957). If this attachment is secure,

the chances are good that the child will develop optimally while a negative attachment will likely lead to suboptimal development across the domains.

Ecological Theories

Contrary to the ethological theories that emphasise biological factors, ecological theory accentuates environmental factors. The most significant ecological theory in terms of child development is Bronfenbrenner's Ecological systems theory.

Bronfenbrenner's Ecological Systems Theory: Urie Bronfenbrenner's Ecological systems theory illustrates how the development of children is influenced by their innate characteristics interacting with the environmental systems that they grow up in (Bronfenbrenner & Morris, 2006). These ecosystems, from the private home to the larger society and culture, all influence aspects of a child's development.

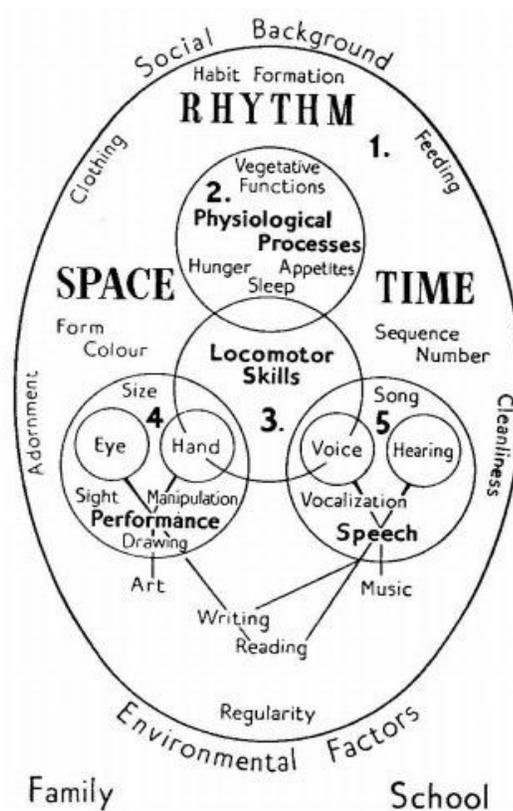
An Integrative Orientation

All the above theories have been developed through scientific research and increase the understanding of child development. However, one theorist cannot take all issues related to child development into account and condense this into one all-encompassing theory. Therefore, when considering child development, it is best practice to take an integrative theoretical orientation, which allows taking the strengths of each theory and applying it to child development where appropriate (Santrock, 2014). However, as this research is concerned with the Griffiths III, which is steeped in Ruth Griffiths' theory of Avenues of Learning, this is the framework that will be used to understand child development in this study. This theory provides an eloquent, integrative orientation to understanding children and their development.

Avenues of Learning

Dr Ruth Griffiths presented her theory, the Avenues of Learning, in 1954. She opined that the four basic avenues of learning, namely 1) eye, 2) hand, 3) voice, and 4) hearing were the essential systems that facilitated learning in a young child (Griffiths, 1954). Griffiths added that these four basic avenues combined with the child's psychological processes and locomotor skills in the space and time of the child's context and according to their unique rhythm (Griffiths, 1954). The entire process occurs in the child's environmental- and social factors, as illustrated in Figure 1 below, and together shape a child's development.

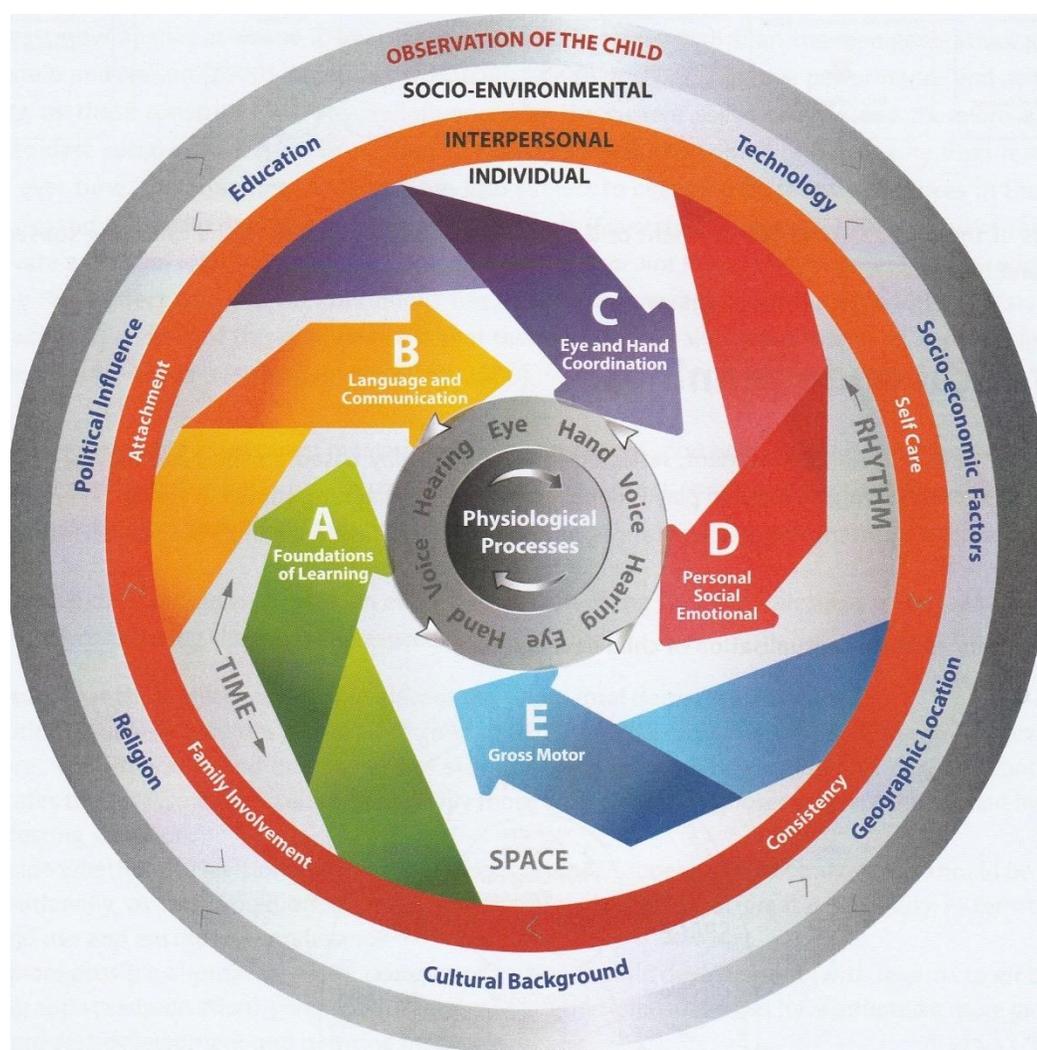
Figure 1: Depiction of Avenues of Learning



Source: Griffiths, 1954, p. 29

This two-dimensional diagram was updated into a three-dimensional working model during the latest revision of the Griffiths III. This contemporary model is underpinned by the original Avenues of Learning as proposed by Griffiths in 1954 but has been transformed by current research and updated language to bring the Avenues of Learning into the 21st century, as illustrated in Figure 2.

Figure 2: A Contemporary Model of the Avenues of Learning



Source: Stroud et al., 2016, p. 8

The updated Avenues of Learning model divides the original image into “three distinct, recursive and permeable factors within which child development is fostered and influenced” (Stroud et al., 2016, p. 8). The centre of the diagram consists of the sphere that represents aspects of the child such as “the psychological and neurological which influence how the child utilises avenues of learning for growth and development” (Stroud et al., 2016, p. 8). These include the child’s hearing, eyes, hands, and voice, which were included in the original diagram developed by Griffiths in 1954. However, they have been rephrased into the following respective subdomains in the Griffiths III: Foundations of learning, Language and communication, Eye and hand coordination, Personal-social-emotional, and Gross motor. These will be discussed further in Chapter Four, which is devoted to Dr Ruth Griffiths, her theory, and the assessment measure, the Griffiths III.

The middle sphere is a depiction of the interpersonal factors, which have an impact on a child’s development. These influences, according to Griffiths, are essential to consider when looking at what impacts the development of a child. Although the sphere represents all interpersonal influences, the only ones that are mentioned in the image are those that Griffiths (1954) highlighted as being of utmost importance more than half a century ago, namely family involvement, consistency, self-care, and attachment.

The outermost sphere depicts all the socio-environmental factors that uniquely influence each child’s development (Stroud et al., 2016). The examples that were included in this sphere are purposefully generalisable as socio-environmental influences will be different for each child. The examples include technology, socio-economic factors, geographic location, cultural background, religion, political influences, and education. It is important to note that these influences will affect the development of each child uniquely as they will experience them in

different ways and that these influences will also continue to alter and impact the child differently throughout his or her developmental years (Stroud et al., 2016).

Chapter Overview

This chapter explored the intricate process of child development. Although it was not possible to consider all the principles that influence the development of children, the most important aspects involved during the first six years of a child's life were analysed. This section also showed the importance of considering each child's unique context to understand his or her development better. The most noteworthy child development theories were also summarised before Ruth Griffith's theory of Avenues of Learning was discussed in more detail. This theory, as well as the Griffiths III, will be discussed further in Chapter Four, but for now, the focus will shift to child developmental assessments.

Chapter Three

Child Development Assessment

This chapter will build on the preceding one that explored child development. This chapter will look into what assessment is and what procedures are involved in the assessment process. The first section of the chapter will also include a passage on assessment measures that form a critical element of the assessment process and its characteristics.

The focus of the chapter will then narrow in on what child development assessment is and the need for these assessments in the present day. Subsequently, two important aspects of child development assessment, namely 1) the use of caregiver reporting, and 2) structured observations of play, will be considered and how they influence the assessment. Nine commonly-used standardised child development assessment measures, including the Griffiths III, will be described briefly before the attention turns to the revision of assessments.

The chapter will conclude by exploring the assessment revision process. This will include a section on why the revision of assessment is necessary, what is generally included in the process of assessment revision, and what time frame should be considered for the revision of measures. Finally, the importance of user feedback will be analysed and how this could inform the assessment revision process.

It is important to note that there may be varying terms used to describe certain processes or practices relating to the subject matter at hand, depending on the field of practice. For the sake of this research treatise, terminology that is generally found in the field of psychology will be utilised.

Psychological Assessment

According to Foxcroft and Roodt (2019, p. 5), psychological assessment can be defined as “a process orientated activity aimed at gathering a wide array of information by using psychological assessment measures and information from other sources”. The process also allows practitioners to draw conclusions about a person and provide recommendations based on the results of the assessment. This procedure forms an essential part of psychology. Saklofske et al. (2013, p. xxi) state that “measurement and assessment are the cornerstones of psychology” as it provides the tools to gather information about humans, which appraises our understanding of their behaviour.

One of these tools that are utilised during the assessment process is the assessment measure. There are various names for these tools, such as assessment measure, measure, test, scale, or technique amongst others (Foxcroft & Roodt, 2019). The term ‘assessment measure’ will be mainly used throughout this treatise and will be expounded later in this chapter.

Maltzman (2013) explains that when assessment measures are administered, the scores that are obtained can be used to identify, quantify, and describe particular characteristics or abilities of a person when it is administered in the specific context, and with the specified population that it was intended for. These test scores, along with collateral information about the client from various sources, form the basis of the assessment process.

Psychological Assessment Process

Each psychological assessment will be unique, and the form that it takes will depend on various factors. The following three phases, however, form part of each assessment process: 1) information input, 2) information evaluation, and 3) information output (Maltzman, 2013).

The first phase consists of obtaining all the information that is required for the assessment. This process is shaped by the context in which the assessment will be conducted, as well as the reason for the referral. When considering the context of the assessment, the clinician will review the person who is being assessed, their background, language abilities, as well as any other noteworthy factors. This information will assist the clinician in determining which assessment measure, and interpreting scales will best answer the referral question (Butcher et al., 2007). As most assessment measures require a certain level of experience or competency to perform, the chosen measure will determine who can conduct the assessment (Maltzman, 2013). During this phase, the referral question will also guide the clinician to the sources who could provide valuable collateral information.

In the best possible situation, the assessment will make use of a multidimensional and multi-source approach (Allen, 2002). This approach includes obtaining information from standardised assessment measures, a clinical interview with the person who is being assessed, other records such as school or court reports, and collateral sources who have relevant knowledge about the person who is being assessed.

The second phase, information evaluation, is the stage in the process where the information that was obtained is interpreted (Weiner, 2003). During this phase, the instructions of the developers of the assessment measure must be followed accurately when the assessed person's responses and scores are interpreted. The interpretations are then synthesised with the collateral information that was obtained during the previous phase. At the same time, the person's behaviour during the assessment process can also prove to be an extremely valuable source of information (Leichtman, 2009).

Finally, during the information output phase, all the assessment data, including the clinical judgments of the clinician, are utilised to answer the referral question, draw conclusions, and provide recommendations (Maltzman, 2013).

Assessment Measures

Assessment measures play an integral role in the assessment process and, therefore, it is important to consider this critical aspect of the process individually.

According to the International Test Commission's (2001) international guidelines for test use, no definition will be sufficient for all assessment measures. Foxcroft and Roodt (2019), therefore, suggest that it is more beneficial to consider the following eight main characteristics of assessment measures:

1. It includes various processes, which can be utilised in psychological, educational, and occupational settings by individuals or groups.
2. It measures specific domains of functioning after which conclusions can be drawn about the person's abilities in that area.
3. It needs to be conducted under strict, standardised conditions.
4. It is evaluated according to a fixed system as per the instructions of the assessment measure.
5. The results of the assessment measure can be understood and interpreted based on guidelines that are provided by the developer. This interpretation is made by either comparing the results to a suitable norm group or by using the results to place the person's performance in certain categories that correspond with qualitative descriptions.

6. There is evidence that the assessment measure is valid and reliable for the population on which it is intended to be used. Reliability is the extent to which an assessment measure is consistent while validity refers to how accurately a test measures what it is supposed to measure (Foxcroft & Roodt, 2019).
7. Assessment measures cannot be assumed to be appropriate, valid, and reliable for people from different contexts than the one it was originally developed for without ruling out test bias. This means that there first needs to be an investigation into whether this is appropriate and valid for different cultures, or whether new norms need to be developed.
8. Finally, assessment measures can take various forms and could vary in terms of how they are administered. Assessment measures can be conducted individually or in a group, or differ in terms of time limits, scoring procedures, and actual execution.

Child Development Assessment

Child development assessment also follows the same process that was described earlier in this chapter relating to psychological assessments in general. It also includes the same characteristics; however, it is specifically aimed at gaining insight into the level of development of a child across various domains (Sabanathan et al., 2015).

A multi-step and multi-method approach is considered the best assessment practice for child assessments (Garcia-Berrera & Moore, 2013). The assessor also needs to be sensitive to the culture, language, beliefs, and customs of the child, amongst other things (Garcia-Berrera & Moore, 2013). Various sources of information need to be consulted to increase the understanding of a child and his or her development. Clinical interviews with relevant people who have a good understanding of the child should provide the clinician with valuable information. The intake

interview, which in the case of child development assessments for zero to six-year-olds should be with the child's primary caregiver, is considered to form a crucial aspect of data collection during the assessment process (Groth-Marnat & Wright, 2009). The purpose of the clinical interview, in the case of child development assessment, is to obtain information from the caregiver (McConaughy, 2005) and, therefore, the clinician will decide whether structured, semi-structured or unstructured interviews will be most suited to meet this goal. During the interview, the following areas are recommended to be covered: "socio-economic conditions, familial mental health history, educational background and academic achievements, developmental milestones, a child's strengths and weaknesses, physical health, relevant medical preconditions, interventions, and cultural background" (Garcia-Berrera & Moore, 2013, p. 436).

An interview with the child might also provide the clinician with valuable information that could influence the assessment. If a child is not willing or able to communicate verbally with the clinician, it is important to observe them play or interact with other children (Sattler, 2008). This aspect of the assessment process will be discussed in more detail later in this chapter.

Other sources could also offer rich information during the data gathering phase of the assessment process. These include, but are not limited to, school, medical or psychological reports and other records from significant people in the child's life. Although these interviews, reports, and records are subjective sources of information, they will provide the clinician with valuable details that can enhance their understanding of the child's development. However, it is also important that the clinician obtains objective information, which can be done by utilising an assessment measure.

Child Development Assessment Measures

Child development assessment measures are tools that objectively measure a child's development. These measurements are then compared to the expected rate of development for children of their age (Bellman et al., 2013; Giagazoglou et al., 2005). The assessment measures can take the form of informal- or formal assessments. Informal assessment measures are based only on observations and interviews. The information that is obtained from this non-standardised measure is not converted into a quantitative score and, therefore, there is no formal comparison made to a typically developing child (Brown & Rolfe, 2005; Puckett & Black, 2002). Formal assessment measures, on the other hand, are standardised, provide a score for a child's performance during the measure, which is then compared to a norm group or certain criteria depending on the assessment (Bellman et al., 2013; Brown & Rolfe, 2005; Puckett & Black, 2002).

There are two main types of child developmental measures, namely 1) screening measures and 2) diagnostic measures. Screening measures, such as the Ages and Stages Questionnaire (ASQ) and the Parents' Evaluation of Developmental Status (PEDS) (Bellman et al., 2013), often take less time to complete than diagnostic measures, which focus more broadly and aim to identify at-risk children for developmental delays (Luiz et al., 2005). Diagnostic measures, on the other hand, are chosen with a selected individual in mind, are more inclusive, often take longer to complete, and delve deeper into problem areas. As the name suggests, these measures are also used to assist in making diagnoses. In other words, diagnostic measures are used to formally establish whether a suspected problem is indeed present and what the nature and extent of the problem is (Luiz et al., 2005). The Griffiths III, Bayley Scales of Infant

Development, and Wechsler Preschool and Primary Scale of Intelligence fall within this category (Bellman et al., 2013).

The Need for Developmental Assessment

It is natural for caregivers of children to be interested in understanding and monitoring the progress of those under their care. That interest appears to have started growing more rapidly towards the end of the 20th century (Shaughnessy & Greathouse, 1997). More recently, assessment of very young children has also experienced a period of rapid growth and expansion (Wortham & Hardin, 2019), which may have led to an increase in children being diagnosed with neurodevelopmental disorders (Aschner & Costa, 2015; Jameson et al., 2016).

As research continues to shed light on the development of children during the crucial first years of their lives, caregivers grow more interested in understanding their own child's early development. As a result, child development assessments have become not only an important part of visits to healthcare professionals but ought to be a prerequisite at these appointments (Choo et al., 2019).

A key objective of child development assessment is to identify children who are in jeopardy of poor future development in all or specific areas (Sharma, 2011). A slow overall development or deficits in certain domains could indicate specific neurodevelopmental disorders. It is of critical importance to detect these and any other disorders, illnesses, learning problems or slow development as early in a child's development as possible. Early detection and diagnoses will result in early intervention, which will enhance the child's chances of reaching their full potential (Cioni et al., 2016).

To make a diagnosis in a child, a multi-faceted process must first take place. This includes obtaining a detailed description from the child's caregivers and considering clinical

observations made by professionals during the assessment (Sadock et al., 2015). Psychological and developmental assessments, therefore, play an integral role in this process (Barry et al., 2013).

During the assessment process, developmental assessments can also assist, in identifying specific intervention therapy needs of children, and contribute to the management plan of children who are not developing as they are expected to (Foxcroft & Roodt, 2019; Sharma, 2011). This includes children who are developing quicker than their peers and require more advanced stimulation (Brown & Rolfe, 2005; Kim & Smith, 2010). Finally, developmental assessment can also assist in tracking the progress of children, as well as the effectiveness of interventions.

Assessment Using Caregiver Reporting

An essential part of the assessment of children is obtaining information from the child's caregiver. The clinician is expected to be the expert on child development in general; however, the child's caregiver is the expert on the child. This means that they will know information about the child that can prove to be crucial during the assessment process. Caregivers are usually very willing to provide information about the child under their care and to play an active part in the assessment process (Glascoe & Marks, 2011). This benefits the clinician as they obtain valuable information, but also has positive consequences for the child as the more involved the caregiver is, the more willingly the caregivers implement the recommendations that are provided by the clinician. Additionally, Glascoe and Marks (2011) state that caregivers who were made to feel included in the assessment process were more willing to attend follow-up visits.

This information from caregivers will be obtained through interviews during the first phase of the assessment, as described earlier in this chapter. However, a more formal procedure

can be utilised to ensure that the required information is obtained. A common method of obtaining structured information from caregivers is by making use of caregiver reporting. During this process, caregivers provide information about a child's proficiency in performing certain tasks that are linked to developmental milestones (Glascoe & Marks, 2011). During the Griffiths III assessment, the information that is obtained is noted in the record book under the relevant items and scored as either a pass or fail. However, even with these items, the assessor's clinical observation needs to be considered as will be discussed below.

When a caregiver provides information about a child's abilities, it was found that they are likely to report that a child has mastered a certain task when the child cannot transfer this skill into unfamiliar settings yet (Diamond & Squires, 1993; Godoy et al., 2018). It was also found that when a caregiver was required to predict a child's ability to perform a new task, they will provide a more optimistic, and often inaccurate, response (Godoy et al., 2018). The Griffiths III manual requires that if "from clinical observation, it is clear that a child is unable to do a specific activity", the clinician is required to record this item as failed despite the caregiver reporting that the child is able to perform that task (Stroud et al., 2016, p. 7).

The Structured Observation of Children at Play

Since the turn of the century, there have been "dramatic changes" in the assessment of young children (Macy & Bagnato, 2013, p. 671) as authentic assessment started playing a more significant role (Bagnato et al., 2010). This move away from the more formalised tests is particularly important for atypically developing children. These authentic assessments aim to use activities and apparatus that children will commonly be accustomed to. It will also measure common skills and behaviour to identify a child's developmental strengths and weaknesses (Kim

& Smith, 2010). As a result, observing how a child plays has become a critical part of developmental assessments.

A substantial amount of research in the fields of evolutionary and developmental psychology, as well as education and neuroscience, found that children's play is often indicative of their general learning and cognitive-, emotional-, and social development (Whitebread et al., 2017). Lev Vygotsky (1978) was one of the first psychologists who argued that when children play, they are able to create their own 'zone of proximal development' by engaging spontaneously and creating their own challenges. It is in this zone of proximal development where children can learn according to their full potential.

Whitebread et al. (2017), who studied an array of research on the role and importance of play in children's learning, state the following about play and the development of a child:

1. There is a link between physical play and motor development.
2. Engaging in play with blocks increase spatial processing abilities.
3. There is a relationship between construction play and language development, especially during infancy.
4. Engaging in wordplay and games, as well as pretend play enhance language development.
5. Pretend play relates to language development, and particularly narrative skills.

Research also found that to increase the chances of children performing to their utmost potential during an assessment, it is essential to assess them when they are engaged in play (Howard & McInnes, 2013; Sawyer, 2017). Children who perceive an activity as play will be more likely to concentrate and be motivated to partake at a higher level (Howard & McInnes, 2013; Sawyer, 2017).

Observing a child at play also provides the clinician with important qualitative observations about the child (Sharma, 2011) while in the case of the Griffiths III, that information can be converted into quantitative data. These observations will also be extremely beneficial in providing the caregivers with recommendations as the clinician would have seen what type of child they are assessing, i.e., a child who is serious and goal-orientated, a more playful child, a child who warms up easily to others, or one who rather prefers to play by themselves or in small groups.

Commonly-Used Standardised Child Development Assessment Measures

Selecting an assessment measure is a critical part of assessing a child. When deciding on a measure, the clinician needs to consider its ethnic qualities, purpose, and limits. These characteristics need to be considered while deliberating on the reason for the assessment, referral concerns, and the particulars of the child (Ellingsen, 2016).

There is a wide array of child development assessment measures available to clinicians. Some of the most commonly used standardised measures will be discussed below. As stated above, the clinician needs to consider the child, as well as the various measures to determine which assessment tool will be most appropriate to use during each specific assessment.

Ages and Stages Questionnaire - Third Edition (ASQ-3). The ASQ is a questionnaire that can be completed by caregivers in 12 – 18 minutes and can be used as a screening tool for general development (Sing et al., 2017). The ASQ-3 is divided into separate age ranges from 1 to 66 months and measures a child's performance in the following five areas: 1) personal social, 2) gross motor, 3) fine motor, 4) problem solving, and 5) communication (Sing et al., 2017). This screening measure can be used to determine if a child requires further evaluation (Squires & Bricker, 2009).

The ASQ questionnaires are available in Arabic, Chinese, English, French, Spanish, and Vietnamese. It is completed by the caregiver of a child and scored within a couple of minutes by the clinician. It is a user-friendly questionnaire as it provides simple directions, as well as easy to understand drawings. It is a flexible measure, which can be used in a variety of settings such as the child's home, school or a health clinic. After the questionnaire is scored, it is normed to indicate whether a child's development is age-appropriate or whether further assessment is needed. The ASQ is also recommended by the Joint Committee on Screening and Diagnosis of Autism for the early detection of the neurodevelopmental disorder (Squires & Bricker, 2009).

Denver Developmental Screening Test II (DDST-II). The DDST-II is a widely used screening measure that assists in the identification of possible developmental delays. It can also be used to monitor children who might be at risk for abnormal development. Although it is still widely used, it is an old assessment measure that was last revised in 1990 and can now be downloaded free of charge from the developer's website with a disclaimer that there is no warranty accompanying its use (Denver Developmental Materials, 2016).

The DDST-II is used for children from birth to 72 months and is completed and scored by a clinician. The measure is completed by considering input from the caregiver, the child's performance on items, as well as observing the child (Ringwalt, 2008). All aspects of the measure are available in English and Spanish and are used to assess a child's development in the areas of personal-social, language, and gross-and fine-motor development (Shahshahani et al., 2010).

Vineland Adaptive Behaviour Scales – Third Edition (Vineland-3). The Vineland-3 is a screening measure that utilises a semi-structured interview to evaluate a person's adaptive behaviour in the areas of communication, daily living skills, and socialisation. It assists in

diagnosing intellectual and developmental disabilities. The Vineland-3 can be used from birth to the age of 90 in various settings such as education, social services, and health care. The information that is utilised during the Vineland-3 is based solely on the information provided by the caregiver (Luiz et al., 2005).

McCarthy Scales of Children's Abilities (McCarthy Scales). The McCarthy Scales is a measure that is used to assess a child's cognitive ability in six domain area, namely 1) Verbal, 2) perceptual-performance, 3) Quantitative, 4) General cognitive, 5) Memory, and 6) Motor (Sands & D'Amato, 2018). The measure can offer an indication of a child's intellectual functioning; however, as it was normed in 1971, it is advised against using it for this purpose (Sands & D'Amato, 2018). The McCarthy Scales were originally designed as a useful aid in screening and diagnosing children with neurodevelopmental disorders. Again, however, due to its age, it is cautioned against using the measure for that purpose (Schrader & D'Amato, 2011).

The McCarthy Scales were designed to be used for children between the ages of two years and eight years and six months. The tool is administered and scored by the clinician. It relies on the organised observation of children at play and can be utilised for children from various backgrounds and cultures (Luiz et al., 2005).

Bayley Scales of Infant and Child Development - Fourth Edition (Bayley-4). The recently published Bayley-4 is a popular measure that is used to assess the development of children from 16 days to 42 months. It is useful for identifying potential early delays in children for early intervention to be implemented.

The Bayley-4 is considered to be a diagnostic measure that assesses the child's development in the following five domains: 1) cognitive, 2) language, 3) motor, 4) adaptive, and 5) social-emotional development (Armstrong & Agazzi, 2010). The measure is administered and

scored individually by a clinician and uses caregiver responses to inform the scoring of certain items.

Schedule of Growing Skills (SOGS). The SOGS is a universally utilised measure. It is used to assess the development of a child between birth and the age of five years by determining their strong points and potential developmental delays.

The SOGS is administered by a clinician and can be used to examine nine areas of development, namely 1) Passive posture, 2) Active posture, 3) Locomotor, 4) Manipulative, 5) Visual, hearing and language, 6) Speech and language, 7) Interactive social, and 8) Self-care social. The measure was developed in such a way that the clinician can follow how a child is developing over some time (GL Assessment, 2013).

Weschler Intelligence Scales for Children V (WISC-V). The WISC-V assesses the intellectual ability of children from the age of six to sixteen and can be used as a diagnostic measure by a psychology practitioner.

The WISC-V is used to provide the general cognitive ability of a child, and can also be used to measure their intellectual functioning in the domains of verbal comprehension, perceptual reasoning, working memory, and processing speed, respectively (Gomez et al., 2016).

Weschler Preschool and Primary Scales of Intelligence IV (WPPSI-IV). The WPPSI-IV is an intelligence measure that is used to provide scores for the child's performance at the Full scale, Primary index scale, and Ancillary index scale levels. The measure is used to identify children between the ages of two years and six months and seven years and seven months with cognitive delays, learning difficulties, autism, and giftedness (Wechsler, 2013).

Griffiths III. The Griffiths III is a developmental measure that is administered individually to children from birth to six years (72 months) (Stroud et al., 2016). It assesses five

domains of learning, namely 1) Foundations of learning; 2) Language and communication; 3) Eye and hand coordination; 4) Personal-social-emotional, and 5) Gross motor. An overall developmental level can also be ascertained. More detailed information about the Griffiths III is presented in the following chapter.

Revising Assessment Measures

Due to the increasing pace of modernisation courtesy of the ever-improving technological advances, many things, from technological devices and medication to children's toys appear to be updated more frequently than before. For psychological tests and assessments, including child developmental assessments, to stay relevant and accurate in this fast-paced world, they should also be revised and updated regularly. Adams (2000, p. 284) suggests that an assessment measure needs to be revised "virtually from the start of a test's 'shelf life'". However, there appears to be little guidance on what the process of revising an assessment measure ought to look like, or how regularly this should be done.

What is Assessment Measure Revision?

According to Butcher (2000), there are three types of revision. Firstly, 'light' revision generally only includes minor word updates or editorial changes in the test manual while the rest of the assessment remains unchanged. Secondly, the 'medium' type revision often includes updating the norms of the measure, while changes could also be made to specific items. Finally, the 'extensive' revision type is one that requires a complete overhaul of the measure. This is done by a reexamination and reconstruction of the test by often considering its theoretical foundation and is usually completed by making major changes to test items and subscales while a new set of test instructions is generally also produced. These changes will also require validity and reliability studies, as well as new norming data.

The Griffiths Scales recently underwent an extensive revision, which began in 2010 after which the Griffiths III was published in 2016. As a result, it is expected that the next revision of the Griffiths will only be a light or medium revision unless the feedback from the users requires more extensive changes.

When Should an Assessment be Revised?

Since the late 1990s, psychological tests and assessments appear to be revised and updated more frequently than before that, while the amount of time between revisions is also being reduced (Adams, 2000). There is no universal rule that determines when an assessment measure needs to be revised, but there are certain guidelines provided in the latest edition of the *American Psychological Association's Standards for Educational and Psychological Testing* (American Psychological Association et al., 2014). Standard 4.24 states that “test specifications should be amended or revised when new research data, significant changes in the domain represented, or newly recommended conditions of test use may reduce the validity of test score interpretations” (APA et al., 2014, p. 93).

This is a very broad guideline and leaves much room for interpretation. Therefore, more definitive indicators of when a test should be revised will now be discussed.

The most important reason as to why a test needs to be revised is when its reliability and validity are in question (Bush, 2010). The best practice guidelines of the NAEYC, as well as the Council for Exceptional Children's Division of Early Childhood (DEC), two American organisations, state assessment measures must be valid and reliable for the groups that they assess (Kim & Smith, 2010). This is especially important when it comes to assessing children from diverse populations with one measure (Kim & Smith, 2010).

Language is another important factor that needs to be considered when deciding on a time frame for test revision. When the language used in the assessment is no longer generally understood by the population that is assessed, revision should be imminent (Adams, 2000). When an assessment is used cross-culturally or globally, the words used must be, for the most part, well understood by the majority of test users. Therefore, it should exclude words or phrases that are only commonly used in select countries or groups.

The Flynn effect is another factor that should be considered when deciding on when an assessment measure needs to be revised (Adams, 2000). This phenomenon refers to the increase in the general population's intelligence test performances and is largely due to better access to education from generation to generation (Silverstein & Nelson, 2000). Therefore, Silverstein and Nelson state that the revision of a major psychological test should aim to be relevant for use during one generation.

It is, however, not always essential for an assessment measure to be revised based solely on the amount of time that has passed since it was published or last revised. If the measure remains suitable for use and produces reliable and valid information, it may still be appropriate for use. It is the responsibility of the test developers and publishers to monitor changing conditions and determine when a test needs to be amended, revised, or withdrawn (APA et al., 2014).

It is, therefore, clear that it is not only considered good practice for test developers to revise and update assessment measures periodically (Kim & Smith, 2010), but there is also an ethical obligation on the part of test developers to ensure that the measure remains appropriate for use in the contexts that it was intended for. The findings of this research study will guide the

ARICD in determining when it will be most appropriate for the Griffiths III to be revised and what type of revision will be required.

Process of Assessment Revision

The APA's journal, *Psychological Assessment*, devoted an entire issue to test revision in the year 2000 and several articles in that volume highlighted the fact that there are no formal guidelines for the revision of assessment measures (Adams, 2000; Silverstein & Nelson, 2000). Despite this being observed, not that much has changed in the last 20 years.

Stroud et al. (2020) suggest that the six-phase procedure, which was followed during the revision of the Griffiths III, could provide a structure for how other measures can be revised. This procedure will be described in detail in Chapter Four of this study. This six-phase procedure allows test publishers to give adequate attention to quantitative and qualitative data obtained during the revision process to be used for the revision of the measure.

The following is also important to be aware of during the assessment measure revision process.

There are many role players whose opinions need to be taken into account and whose desires need to be satisfied during the revision of an assessment measure. A measure is generally developed by an expert in the field who has extensive knowledge in the area that the measure assesses. Nowadays, plenty of assessment measures that are widely used are purchased by test publishers and distributed with the purpose of financial gain (Adams, 2000). This could lead to a conflict between the different parties involved.

Another conflict that might arise could stem from the original developers of the measure no longer being involved with the measure. Therefore, the new stakeholders may have different theoretical underpinnings or aims with the measure.

Financial implications are also a significant cause of tension during the revision process. A revised test carries the burden of increasing the economic value of the measure for the publisher, while the experts' expenses are expected to stay within a certain budget and still ensure that the measure remains reliable, valid, and up to date with the latest research (Adams, 2000).

Another factor that those involved in the assessment revision process need to be cognisant of is resistance to change. It is, therefore, essential to take into account the users of the assessment measures, and their feedback should play a prominent role in the revision process.

Importance of User Feedback in Assessment Revision

In the late 1990s, a trend had emerged whereby the feedback given by test administrators, test-takers, and test interpreters played a critically important role in the revision and updating of said tests and assessments (Adams, 2000). There are two key reasons why the assessment users' opinions should be given special consideration. The most important, and perhaps the most obvious, is that the test users will have the best knowledge about how the test is being used and perceived. Registered users often have to pay a substantial amount to use a specific test and, therefore, logic dictates that they will probably use it regularly. Through their repeated use, they will gain valuable information about how well the test works on a practical level and which areas they might consider changing if they had the option to. Secondly, because test developers naturally want as many qualified people as possible to use their tests, Adams (2000, p. 285) states that it would make "good basic sense" for test publishers to create an on-going relationship with, among others, users of the assessment tool so that the tool can be constantly improved upon. People tend to be resistant to change, and this can be assumed to apply to the field of psychology. To make test users feel part of the process of a test revision, instead of alienating

them from the process, will in all likelihood make them more open to accepting the new tool and purchasing the revised version.

Butcher (2000) developed a set of *Principles of Test Revision* and found that to overcome certain challenges during a test revision process, it is integral to obtain feedback from test users to determine what changes they see as necessary and that this should happen near the beginning of the process. Revising and updating tests can be distressing for those close to the project (Adams, 2010). It is also likely to be a long and expensive process and, therefore, developers need to ensure that they fix all the problems that occur in the existing measure. Butcher (2000) states that if significant flaws persist, a strong negative reaction from test users is inevitable, and as a result, users may replace the assessment measure with another. More recently, Green et al. (in press) found that allowing practitioners to play a prominent role during the entire revision process of an assessment measure increases the quality of the operation. It is, therefore, imperative for the survival of the assessment measure that users be given a prominent voice throughout the revision process, but especially during the early stages of review.

Although the Griffiths III only launched in 2016, the creators of the developmental assessment are already considering when the test needs to be updated. As the test has only been in use for just under four years, as much information as possible needs to be collected about how it is being used and perceived by test users.

Chapter Overview

A description of what assessment is, what procedures are involved, and the role assessment measures play in the process were described in this chapter. Child development assessment and its role in the 21st century was discussed, while the use of caregiver reporting

and the structured observations of play were also considered as important aspects in the assessment of child development.

The chapter concluded by exploring the assessment revision process. Various aspects, such as when the measures need to be revised, what the revision process should consist of, and which parties should play a part in the assessment process were expounded on. This section illustrated that revising assessment measures can be a complicated process with no clear guidelines that can be universally applied. However, it is clear that the feedback of assessment measures should play an important role in the process. This study aims to explore and describe the experiences of users of the Griffiths III, which can be used to inform the revision process of this assessment measure, which will be elaborated on further in the next chapter.

Chapter Four

The Griffiths III

This chapter will concentrate on the Griffiths III. The original creator of the Griffiths Scales, Dr Ruth Griffiths, will first be the focus of this chapter. A brief history of her growth as a specialist in child development will be provided as these early years of Griffiths' studies in psychology led to the birth of the original Griffiths Scales. The focus will then shift to the assessment measure and how it evolved over half a century. A significant portion of the chapter will focus on the Griffiths III, the latest version of the Griffiths Scales, and the assessment measure that is central to this research. The discussion will include the revision process of the Griffiths III, details of the five subscales in the latest version, as well as the practical implications of the Griffiths III for healthcare professionals internationally.

Dr Ruth Griffiths

The Griffiths III that was published in 2016 is a revolutionised version of Griffiths' Baby Scales that was published in 1954. However, Dr Griffiths' ideas and concepts remain central to its character. Therefore, to comprehend more fully the Griffiths III and its role in the 21st century, it is essential to acquire more knowledge about the original creator of the Griffiths Scales, Dr Ruth Florence Griffiths.

Griffiths started studying psychology at the age of 24 at Queensland University in Australia in the 1920s. During this period, soon after World War I, reconstruction appeared to be the focus of many aspects of society. This idea of reconstruction also evoked a larger interest in the development of children. According to Frank (1962, p. 207), it was "highly desirable to study children" during this period, and understanding the minds and lives of children became a key

research focus. An optimism also emerged that many of the struggles that people face during their later years can be eradicated if early developmental concerns are detected and appropriate early intervention takes place (Frank, 1962).

Griffiths joined the movement and published her first work in 1935, *A study of imagination in early childhood and its function in mental development*. In the book, she attempted to answer a pertinent question of the time: How do the early years of a person's life impact the type of adult that person becomes? She broadened her work to include how understanding early child development could lead to a more thorough comprehension of the growth of creative fields such as art and literature (Griffiths, 1935).

From the beginning, Griffiths emphasised the impact thoughts, fantasies, and play have on a child's emotional and intellectual development, as well as their mental health in later life (Griffiths, 1935). She formed her ideas after observing numerous five-year-olds in Australia and the United Kingdom and studying their thought content and its relation to their development. Her early learnings formed the foundation of the Griffiths Developmental Scales and led to her attempting to answer the following key questions: "How is learning achieved?" and "What is the inner significance of this process?" (1935, p. 3).

When attempting to answer the above two questions, Griffiths emphasised the importance of taking a holistic view of a child. As a result, she considered multiple areas of a child's development, such as their social-, emotional-, and physical development. Griffiths also noticed how the mastery of certain tasks at a young age is linked with development in certain domains later in life (Griffiths, 1935). This observation led to her attempting to identify which skills and abilities children ought to develop at specific ages for their development to be considered appropriate.

As a result of her research, Griffiths became increasingly interested in devising a child development assessment tool. She believed that the assessment measure should be used to investigate domains of a child's functioning through observation, formal psychometric assessment, as well as the feedback from caregivers (Luiz et al., 2006). This ultimately led to the first edition of the Griffiths Scales, the *Baby Scales*.

The Griffiths Scales

The Griffiths Scales has undergone a radical revolution over the last 66 years and has managed to withstand the test of time. Since its original publication, it has been used by various psychologists, paediatricians, and other health professionals to assess the development of children. In this section, the transformation of the Griffiths Scales will be discussed, with special attention being paid to the original version published in 1954, and the latest version published in 2016.

The Baby Scales

After 24 years of studies in the field of psychology, and in particular child development, Dr Griffiths published the original version of the Griffiths Scales, the *Baby Scales*, in 1954. One of the primary purposes of the Baby Scales was to detect developmental delays during the first two years of a child's life (Griffiths, 1954).

The Baby Scales assessed the development of children in five avenues of learning that correspond with Griffiths' theory, Avenues of Learning. The five domains were 1) Locomotor, 2) Personal-social, 3) Hearing and speech, 4) Eye and hand coordination, and 5) Performance. Griffiths observed the following five guidelines as she created the Baby Scales (Stroud et al., 2016):

1. Children were observed performing everyday activities in their natural environment. These observations informed the material that was selected for the Baby Scales.
2. Already existing assessment methods were used to inform the testing methods in the Baby Scales.
3. The assessment needed to be valid and reliable, as discussed in Chapter Three.
4. The Baby Scales needed to be able to detect children who were developing normally, as well as those with special needs.
5. The Baby Scales needed to be based on research that studied the key factors that affected mental growth, as well as “the interrelations between the basic ‘avenues of learning’, such as physiological/locomotor, eye/hand, voice/hearing, which develop with a rhythm in both time and space and are influenced by environmental and social factors” (Stroud et al., 2016, p. 5).

Three years after the Baby Scales were published, Griffiths, Dr Rose Umack, and Dr Brian Henry Burne formed the ARICD. The ARICD is a United Kingdom-based registered charity that aims to increase the understanding of early child development. The ARICD has functioned as ‘guardian’ of the Griffiths Scales since the 1950s. After the passing of Griffiths in 1973, the ARICD acquired all the intellectual property rights to the work of Griffiths, including the Griffiths Scales (Stroud et al., 2016). Although the Griffiths Scales continued evolving after the passing of Griffiths, it remained embedded in the above principles set out by Griffiths.

The Evolution of the Griffiths Scales

The original Griffiths assessment only measured the development of children during the first two years of their lives. After various requests for Griffiths to extend the scales beyond the infant years, the measure was adapted to include children from age two to eight in the following

decade. A sixth domain of learning, practical reasoning, was also added. In 1970, the first edition of the Griffiths Scales for children from age two to eight was published (Stroud et al., 2016).

Numerous studies in the subsequent two decades indicated that the Griffiths Scales were due for a revision (Stroud et al., 2016). It was decided that only a medium type of revision was required (Huntley, 1996), as discussed in Chapter Three. The Revised Baby Scales were published in 1994 with new norms after only minor changes were made to the existing tool.

It was also at this point that it was decided that a more extensive revision was required for both Griffiths Scales. While continuing to adhere to the five guidelines that Griffiths set out 50 years earlier, the Griffiths Scales underwent an extensive revision. This included removing test items that no longer served an appropriate purpose, bringing in new test items, modernising the materials and instructions, revising the scoring, as well as renorming and restandardising the scales (Luiz et al., 2006). An instructional digital video disc (DVD) and digital scoring program were included in the revised assessment measure as the Griffiths Scales were effectively brought into the 21st century through the use of technology and the Griffiths Mental Development Scales – Extended revised (GMDS-ER) was published (Stroud et al., 2016).

The Griffiths III

The Griffiths III is the current edition of the Griffiths Scales and was published in 2016. Although it has only been in use for four years, the publisher of the assessment measure is already considering and planning for the next revision of the measure.

The Griffiths III Revision

As described in the previous section, the Griffiths Scales have been revised throughout the last five decades, but the latest and most extensive revision process began in 2010. This was

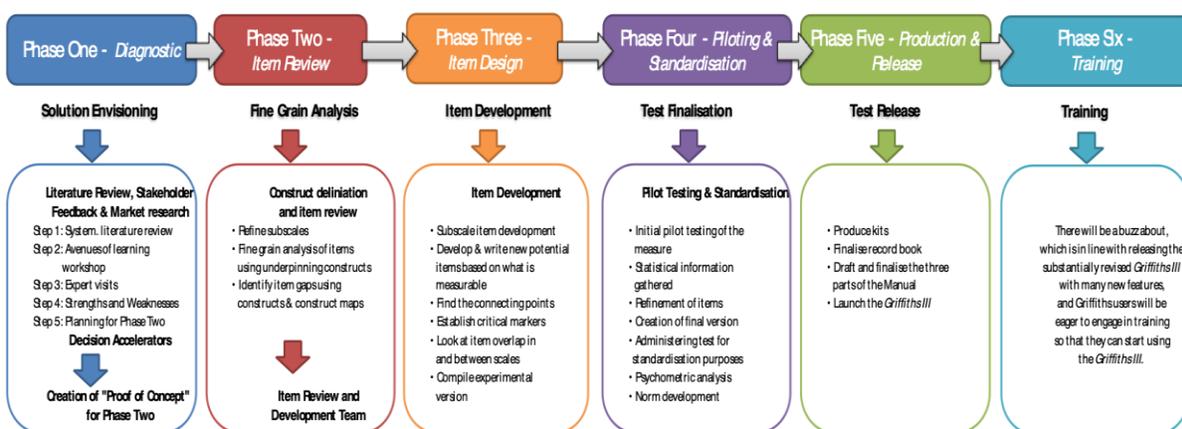
in line with the recommendations of Adams (2000), who stated that new versions of tests should be released on average every ten years.

The ARICD, as the guardian of the Griffiths Scales that regulates and controls its use, established a project board to manage the revision process (Stroud et al., 2016). The ARICD and the board decided that it was an extensive revision, as described in the previous chapter, that was required, and the following six aspects were given special consideration during the revision process:

1. The updated Griffiths scales were required to draw on pertinent developmental domains and constructs.
2. The updated version needed to hold fast to the distinctive features that ensured the success of the assessment tool for more than half a century. One of these key features that was introduced by Griffiths in 1954 is the play-like element of the assessment, which ensures that children feel comfortable and able to express themselves in a relaxed atmosphere.
3. The revision board needed to decide whether the Griffiths scales' focus should be broadened internationally, or whether it should remain appropriate for use only in the European context.
4. The board needed to consider the revolutionary manners of assessing child development.
5. During the revision process, appropriate test specifications needed to be developed.
6. The revised measure needed to be able to determine when development is typical or atypical.

To achieve these goals, the ARICD appointed Professor Louise Stroud of the Nelson Mandela University as the lead researcher during the revision process, and the board designed a six-phase plan, as shown in Figure 3, to complete the revision of the Griffiths Scales (Stroud et al., 2016).

Figure 3: The Griffiths III Six-Phase Revision Process



Source: Stroud et al., 2016, p. 7

1. Diagnostic – This phase included the writing of a literature review, obtaining stakeholder feedback, and doing market research. It is during this phase that feedback from Griffiths users played a critical role in the revision process.
2. Item review – This phase consisted of reviewing the existing items of the Griffiths assessment and establishing where gaps existed in the measure.
3. Item development – During this phase, new items were developed, which led to the establishment of an experimental version.
4. Test finalisation – During this phase, the experimental version was tested, statistical information was gathered, and items were improved until the final version was created. The

assessment measure was then administered for standardisation to take place, and new norms were established.

5. Test release – The Griffiths III was launched in 2016 after specialised kits were manufactured and the record book was confirmed.
6. Training – Finally, all psychologists, paediatricians, and other qualifying health professionals interested in using the Griffiths III were trained and listed as registered users of the assessment. This process is still ongoing.

As can be detected from the six-phase revision plan, the process was monumental, and each aspect of the revision produced its challenges. Phases one to four deserve to be discussed in further detail as they are particularly relevant to this research study.

During phase one, key trends in the area of revising child developmental assessments were found and used to shape the revision process (Stroud et al., 2016). The trends also correspond to what was discussed in Chapter Two. They included the increased need for developmental screening and assessment, the need for caregiver reporting in developmental assessment, as well as the important role authentic assessment tasks play when measuring the development of a child.

Under the guidance of various experts in the field of child development, the above trends and a further review of the literature were combined with the original theoretical underpinnings of Griffiths' Scales and the Avenues of learning theory. This process led to the following principles that needed to be observed during the revision process (Stroud et al., 2016):

- The main objective of the Griffiths Scales is to assess the general development of a child.

- The basis of the assessment process must remain to observe children while they are playing as naturally as possible.
- The Griffiths Scales should remain an assessment measure that provides clinicians with the opportunity to take a broad view of a child.
- The Griffiths Scales should be multipurpose and useful for clinical practice, as well as scientific research.
- The Griffiths Scales need to take into account that certain abilities in certain domains can affect the performance in other domains.

Subsequently, the following decisions were made (Stroud et al., 2016):

- The Griffiths Scales would be revised “according to a criterion-referenced test (CRT) construction process” (Stroud et al., 2016, p. 11). These types of tests are created in such a way that they can determine whether an individual has mastered certain abilities or developed a certain set of skills (Berger, 2013).
- The Griffiths III would measure the development of children from birth to the age of six and no longer include ages six years to eight years.
- The main method of assessment will remain to observe children at play.
- The format will revert to previous editions’ format in which the assessment was structured according to ages.
- Subscales E (Performance) and F (Practical reasoning) will be merged into a new subscale A, Foundations of learning.
- All subscales will be integrated with an element of memory testing.

- Finally, the protocol will allow the assessor to consider aspects of the child's attention and emotional development.

Following these decisions, an experimental version of the Griffiths III was piloted. It contained 429 items and was administered on two separate occasions. Following comprehensive feedback from the test administrators and analysis of item difficulty, the final items for all five subscales were selected (Stroud et al., 2016). The Griffiths III contains 321 items across the five subscales, which will be discussed in the following section. These items consist of 80 per cent new items from previous editions.

Subsequently, 13 South African psychologists and four members of the board administered the Griffiths on two separate occasions to a total of 426 children in the United Kingdom and Ireland. The data obtained from these administrations were used to establish the psychometric properties, and it also provided the information required for the norms to be developed (Stroud et al., 2016).

The Griffiths Subscales

The Griffiths III assesses five domains of development, namely 1) Foundations of learning; 2) Language and communication; 3) Eye and hand coordination; 4) Personal-social-emotional; and 5) Gross motor (Stroud et al., 2016). An overall developmental level can also be ascertained.

Subscale A: Subscale A (Foundations of learning) is new to the Griffiths Scales and is a merger of the performance and practical reasoning subscales of the GMDS-ER. Subscale A measures key components of learning, which are regarded as the building blocks for effective learning during the subsequent phases of a child's life. It measures attention and processing speed skills and evaluates the child's natural curiosity and ability to learn. Other abilities that are

assessed are arithmetical comprehension, the ability to solve practical problems, and facets of visual and auditory long-term and short-term memory (Stroud et al., 2016). This subscale can be divided up further into the following sub-constructs: skills for learning, ways of thinking, memory, and play.

Subscale B: Subscale B (Language and communication) has been fine-tuned to highlight the difference in the child's expressive and receptive language (Stroud et al., 2016). By measuring these areas, the overall developmental level of their language ability can be ascertained. The skills that are measured include the ability to understand the meaning of words and to use language effectively. Specific items in this subscale require children to, amongst other things, name colours, identify and define objects by use, and create stories about images. This subscale's score, combined with the results from subscale D, will be important to consider when making certain neurodevelopmental disorder diagnoses, such as ASD (APA, 2013).

Subscale C: Subscale C (Eye and hand coordination) has been updated and modernised to make the items more enjoyable for children. The subscale measures a child's fine motor skills, his or her ability to use their hands in a coordinated manner, and visual perceptual abilities. Selected items in this subscale require the child to draw, write, thread beads, and use a pair of scissors. A new task that was included in this subscale requires the child to make shapes with play dough. This provides information on tactile sensitivity, which could also be an indicator of certain neurodevelopmental disorders.

Subscale D: Subscale D (Personal-social-emotional) underwent a comprehensive improvement and now encompasses three separate skills, namely 1) personal, 2) social, and 3) emotional. In the personal domain, the child's self-concept is assessed, while his or her self-care skills such as dressing, undressing, and washing hands are also measured. In the social domain,

children's score is based on how they interact with their surroundings, as well as their ability to play, make friends, and use humour. In the emotional domain, a child's ability to understand emotion and express emotion is measured, while their moral reasoning and attachment are also considered.

Subscale E: Subscale E (Gross motor) has also been modernised and updated in such a way that it measures postural development and motor sequencing. More specifically, subscale E assesses a child's ability to run, climb, balance, and kick, and includes an assessment of a child's visual-spatial coordination. Specific items include assessing children's ability to bounce, catch and kick a ball, hop on one foot, and touch their toes without bending their knees. The child's safety was also highlighted as a priority during the revision process.

Uses of the Griffiths III

As elaborated on in Chapter One, the Griffiths III can be used as a tool to assist in the early diagnosis of neurodevelopmental disorders, as well as other illnesses and impairments, which affect young children. As Cioni et al. (2016) stated, neurodevelopmental disorders must be detected and diagnosed as early as possible, including during the first months of a child's life. The use of the Griffiths III, however, extends beyond this.

The information obtained during a Griffiths III assessment can also be used to guide the intervention process as it will highlight the main developmental problems. The Griffiths III is also designed to be used within the educational context. The measure can be used to identify whether a child is at risk scholastically, whether they have general or more specific learning problems, or whether they are developing appropriately. This, in turn, will direct parents and educators to the areas where children need extra assistance to develop to their full potential.

The Griffiths III can also be used in the forensic context to assist in legal assessments that measure the impact of injuries on children's development. Further to this, the Griffiths III can be used in the psychological research setting to shed light on various aspects of child development and its assessment.

How the Griffiths III is Administered

How the Griffiths III is administered differs significantly according to, amongst other things, the reason for the assessment, age, and ability of the child and the child's context.

The amount of time that the Griffiths III takes to administer was significantly reduced from the GMDS-ER. However, the time that each administration will take varies according to the child's age and his or her presentation on the day of assessment. It is advised that the entire assessment takes place in one session, but if this is not possible, the assessment should be completed within seven days (Green et al., 2016).

There are no specific recommendations on which locations are most suited for a Griffiths III assessment. It is, however, important to ensure that the selected location is suitable for the specific child who is being assessed. Although the Griffiths III kit contains all the items that the assessor will need during the administration, a large soft mat or blanket will be appropriate to have available when assessing an infant, while an older child might perform better if they are seated at a small table.

Before commencing with the assessment, it is key that the clinician builds a good rapport with the child and their caregiver, as is good practice with all assessments, and in fact all psychological interventions (Foxcoft & Roodt, 2019). The clinician should also aim to put the child at ease and ensure that they do not experience the assessment as a formal test. They should rather be encouraged to see the activities as participating in play. As the Griffiths III can be used

with the child's parent or caregiver in attendance, the clinician should instruct them to not assist the child with any activities (Green et al., 2016).

During the assessment, the clinician should present the different items to the child and follow the instructions as provided in the Griffiths Administration and Scoring Manual (Green et al., 2016). If possible, the clinician should work through the items systematically and finish one subscale before moving on to the next. This, however, is not a requirement, and the clinician can rearrange the order if it is in the best interest of the child. As the child is observed, the clinician should use the scoring booklet and mark whether they were able to perform an item or not. In selected items, the parent or caregiver will also be required to report whether a child is able to perform certain activities that cannot be observed during the assessment. As was discussed in Chapter Three, clinical observation plays a key role in the administration of an assessment and, therefore, the clinician should use their expertise to note significant behaviour that the child displays during the assessment. These observations, along with the quantitative information obtained from the Griffiths III, should be used to inform the conclusions of the assessment.

Who Can Use the Griffiths III?

The Griffiths III is a specialised assessment tool and requires health professionals to be properly equipped and trained before they can use the measure. This, however, is not unique to the Griffiths III. During the early years of the Griffiths Scales, Dr Griffiths implemented training for users of the assessment measure as she believed it ensured that the most accurate possible results are obtained from the assessment (Green et al., 2016). Psychologists, paediatricians, and other health professionals who work in multidisciplinary child development teams can undergo the training and then use the Griffiths III.

Multicultural Use of the Griffiths III

Its developers and publishers describe the Griffiths III as an international measure (Stroud et al., 2016). Earlier editions of the Griffiths Scales were accepted for use in various countries such as Australia, Canada, China, South Africa, and the United States of America. It must, however, be noted that it is not considered “good assessment practice” if the Griffiths III is used outside of the United Kingdom without being adapted, standardised, and normed for use in these contexts (Foxcroft, 2011a, p. 3). Not doing this can lead to invalid test score interpretations and more importantly, wrongful diagnoses that could have detrimental effects on a child’s life (APA et al., 2014). Therefore, it is essential for the Griffiths III to be revised for use in other countries.

Holding et al. (2008) proposed that three approaches can be followed to serve this purpose, namely 1) Adoption, 2) Adaption, and 3) Assembly, of which the first two are appropriate for the Griffiths. The option that contains more limitations is the adoption approach. According to this method, the only update that the Griffiths III requires is the accurate translation of the instruction and verbal elements into a more appropriate language (Holding et al., 2008). This, however, does not guarantee the test’s appropriateness for use in the newly proposed context (Foxcroft, 2011b). The *Standards for Educational and Psychological Testing* state that “simply translating a test” does not guarantee that the translated version “is comparable in content and difficulty level to the original version of the test” (APA et al., 2014, p. 127). Therefore, the second method described by Holding et al. (2014) provides a better solution for cross-cultural use of the Griffiths III.

According to Holding et al. (2008), before adapting the Griffiths III, it first needs to be established whether the measure is culturally appropriate for the new context in which it is

intended to be used. This can be achieved by consulting with child development professionals, as well as experts in the new culture and language.

Once its appropriateness has been established, it is important to follow the steps prescribed by the International Guidelines for Adapting and Translating Tests (International Test Commission, 2017). These guidelines, along with the recommendations of Foxcroft (2011b) and Hambleton (2004), were used to generate a list of directions for the adaption of the Griffiths III (Stroud et al., 2016). These include, but are not limited to, adapting the Griffiths III for the new context, submitting the updated version of the Griffiths III to the ARICD to seek approval for the adaption, and conducting a comprehensive psychometric study to establish the validity, reliability, and norms for the adapted measure.

Future of the Griffiths Scales

With a rich history spanning over 60 years, the Griffiths Developmental Scales continues to be used worldwide by paediatricians, psychologists, and other health professionals. The countries where the Griffiths III is currently used include the United Kingdom, Australia, Ireland, South Africa, Israel, Indonesia, Singapore, New Zealand, India, Greece, Hong Kong, and China (Stroud et al., 2016).

In following good practice guidelines, the ARICD aims to ensure the continued ethical soundness of the Griffiths III. Therefore, as discussed in Chapter Three, it is necessary to review the Griffiths Scales from time to time. As a result, the ARICD is currently in the process of obtaining feedback from Griffiths III users to determine how the assessment measure is being used and perceived in practice. The feedback from its users will determine what aspects of the measure need to be revised, how urgently this needs to be done, and what the major strengths and weaknesses of the Griffith III are.

Chapter Overview

This chapter focused on the original creator of the Griffiths Scales, Dr Ruth Griffiths, the evolution of the measure, and the latest version of the measure, the Griffiths III. It was noted that the guiding principles that Dr Griffiths established during the 1950s remain an integral part of the assessment measure today. The latest revision process was also discussed in-depth, and it was noted that the Griffiths III was updated by using the latest research. Finally, it was suggested that in order for the Griffiths Scales to remain an accurate, relevant, and useful assessment measure for child development, it needs to continue evolving according to the latest research and technological advances. This research forms part of this. In the following chapter, the research methodology that was employed in this study will be discussed.

Chapter Five

Research Methodology

Methodology is defined by Babbie and Mouton (2010, p. 4) as “the science of finding out; procedures for scientific investigation”. Sarantakos (2000, p. 34) describes the term as the “process and use of methods” to conduct research. Methodology, therefore, includes the processes that lead to the need for the research to be conducted, as well as the aim, objectives, and significance of the research study. Methodology also incorporates the aspects that occur once these mentioned facets are established. This includes the research design that is employed, data collection procedures, as well as the selection of participants. Other important features of research methodology include the steps that are followed to obtain ethical clearance for the study, data analysis, and how the researcher ensured the trustworthiness of the findings. This chapter describes the research methodology that was followed in conducting this study. First, the background of the research will be provided by giving an account of the events that led to the need for the research to be carried out. The background of the research informed the problem statement and significance of the study, which are both presented. Subsequently, the research design that was employed is described. The attention then shifts to the data collection process as the requirements for participation, sampling procedure, and method of recruitment are outlined. The process that was followed to ensure that the study meets the ethical requirements is also presented, while the procedures that were used to analyse the data are explained. The chapter concludes with a description of the mechanisms that were utilised to ensure trustworthiness.

Background to the Research

As discussed in the previous chapter, the Griffiths III was published in 2016 and has been used internationally by psychologists, paediatricians, and other health professionals since that time. These users include clinicians who previously administered the GMDS-ER and converted to the Griffiths III, as well as those who are using the Griffiths Scales for the first time.

Before its publication, the Griffiths III was administered on two occasions in 2015 by 17 clinicians, including members of the ARICD's Project Board to establish norms. During this process, the ARICD received feedback from the clinicians on how the assessment measure was perceived. Since then, the ARICD has received limited formal feedback on how the Griffiths III is experienced in practice.

The Griffiths III is a revolutionised assessment measure compared to the previous edition as it consists of 80 per cent revised items. This means that many of the items that children are tested on are being used for the first time in a formal developmental assessment. As Adams (2000) stated, it is in the best interest of the test publisher, as well as the user, to understand how the test is being perceived in practice to determine when and how assessment revision needs to occur (Adams, 2000). The test developers also have an ethical obligation to understand how the measure is regarded by test users to ensure that it remains appropriate for use in the contexts that it was intended for.

It is considered good practice to start revising an assessment measure from the day that it is being used in practice (Adams, 2000). As the ARICD strives to meet good practice principles, the next revision of the Griffiths III is currently being considered. This led the ARICD to grant permission for and support this research study (see Appendix A) to address the problem statement that is provided in the following section.

Problem Statement

The Griffiths III has been in use for less than five years; however, its developers are already planning and reviewing, refining, and improving this version of the assessment tool. As more than 80 per cent of the Griffiths III consists of new and updated items, the experiences of registered Griffiths III users must be explored and described to understand how this developmental assessment tool is being used and perceived.

Research Aim

The aim of the study, therefore, is to explore and describe the experiences of users of the Griffiths III.

Significance of the Study

This research is the first of its kind on the Griffiths III, which was published in 2016. The research is based on registered users of the Griffiths III who were able to provide a unique insight into how the developmental assessment tool is being used, perceived, and experienced. This information could prove to be of critical importance as the developers and publishers of the Griffiths III continue the analysis process of the assessment tool for its next revision.

Research Design

This section will provide a broad overview of the research design that was employed in this study. Subsequently, a more detailed description of the specific aspects of the study will be provided.

A research design is a structured “plan or blueprint of how you intend conducting the research” (Babbie & Mouton, 2010, p. 74). To select a research design, the researcher firstly

needs to specify clearly what they intend to find out and secondly, determine the most appropriate way to achieve this (Babbie & Mouton, 2010; Creswell, 2014).

Due to the nature of the study, a qualitative approach was utilised to work with the data, and an exploratory-descriptive design was employed. Qualitative research is concerned with how people make sense of the world and how they experience it (Willig, 2008). This type of research is commonly utilised to investigate concepts and themes within a certain context (Neuman, 2006). A qualitative research design is also the most appropriate to explore experiences (Durrheim et al., 2006). Meanwhile, the purpose of exploratory research is to “satisfy the researcher’s curiosity and desire for better understanding” (Babbie & Mouton, 2010, p. 93) while the role of descriptive research is to give a detailed account of situations or events (Babbie & Mouton, 2010). The goal of this research was to explore and describe the experiences of users of the Griffiths III.

Practically, verbal information was obtained through a structured questionnaire and approached from a qualitative paradigm. The collected data were analysed, and themes emerged by utilising Braun and Clarke’s (2006) thematic analysis. This process is described later in the chapter.

A major advantage of qualitative research is that it is inductive in nature and allows for the thorough and comprehensive interchange of theory and data. Therefore, the findings from the data analysis were considered against the learnings from the literature review and the findings and discussion were underpinned by Griffiths’ theory, the Avenues of Learning. This allowed the researcher to describe the findings in a comprehensive, all-inclusive, and well-rounded manner, which also provides for better recommendations.

Data Collection

Data collection is the process of gathering information that is required for a research study. The process can take various forms and is determined by the specific requirements of each individual study. In this study, data were collected by utilising a questionnaire. Although questionnaires are often linked with survey research, they are also commonly utilised in other data collection activities (Babbie & Mouton, 2010).

The ARICD created the questionnaire (see Appendix B). The questionnaire predominantly made use of open-ended questions. These types of questions allow respondents to provide answers in their own words, which means they can answer more completely and provide an explanation for their answers (Coolican, 2004; McBurney & White, 2010).

The questionnaire contained three sections, namely 1) Section A that asked biographical information from the users, whether they are currently a user of the Griffiths III, are a newly trained Griffiths user or converted from a previous edition. 2) Section B was to be completed by the participants who were using the Griffiths III. In this section, participants were asked about how and where they use the Griffiths III, the strengths and weaknesses of the assessment measure, as well as more specific questions pertaining to the measure itself. 3) Section C was to be completed by users who were trained in the Griffiths III, but who were not using it at the time. This section served a different purpose for the ARICD and was not relevant to this research study.

The questionnaires were sent electronically to the users who were asked to complete and electronically return it to the lead researcher at the ARICD. The completed questionnaires were anonymised and sent electronically to the researcher by the ARICD to ensure the anonymity of the participants.

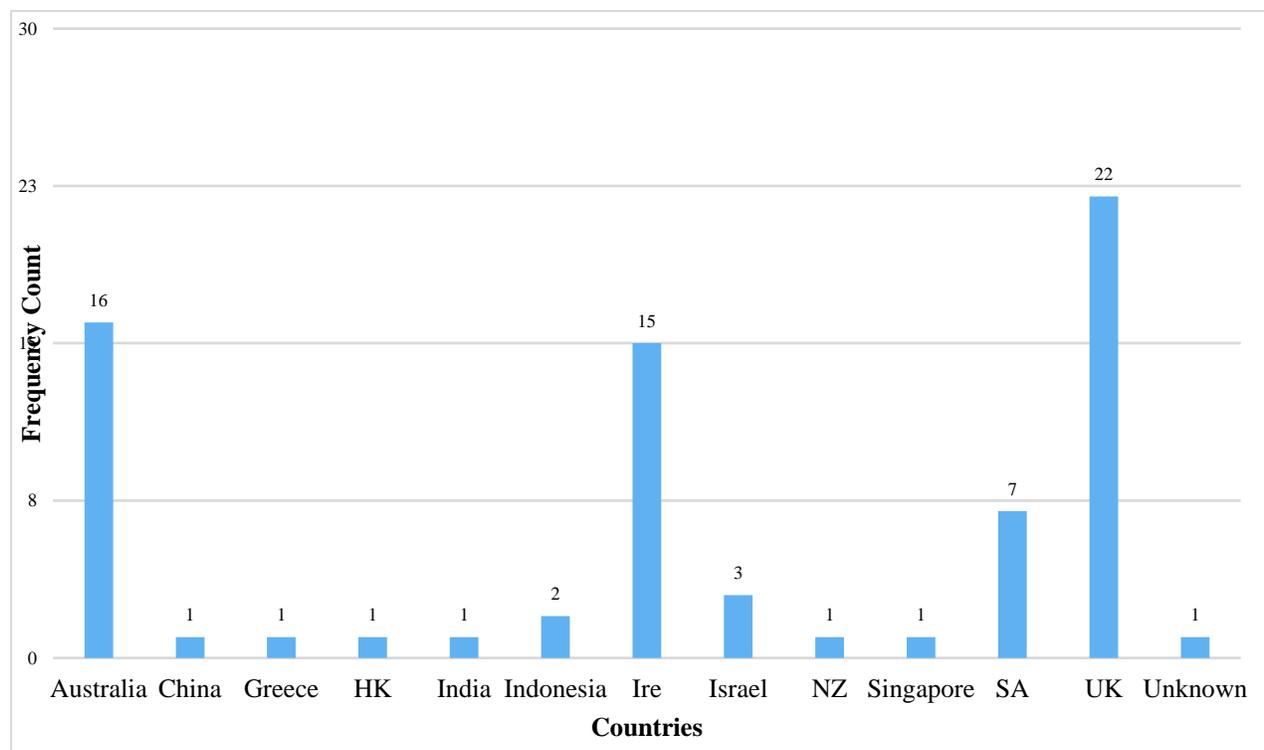
Participants and Sampling

Sampling: A non-probability sampling method was utilised. More specifically, purposive sampling (also known as judgmental sampling) was employed. This method allows researchers to select participants who meet a particular definition (McBurney & White, 2010) and use their own judgment in the selection of participants based on the purpose of the study (Babbie & Mouton, 2010).

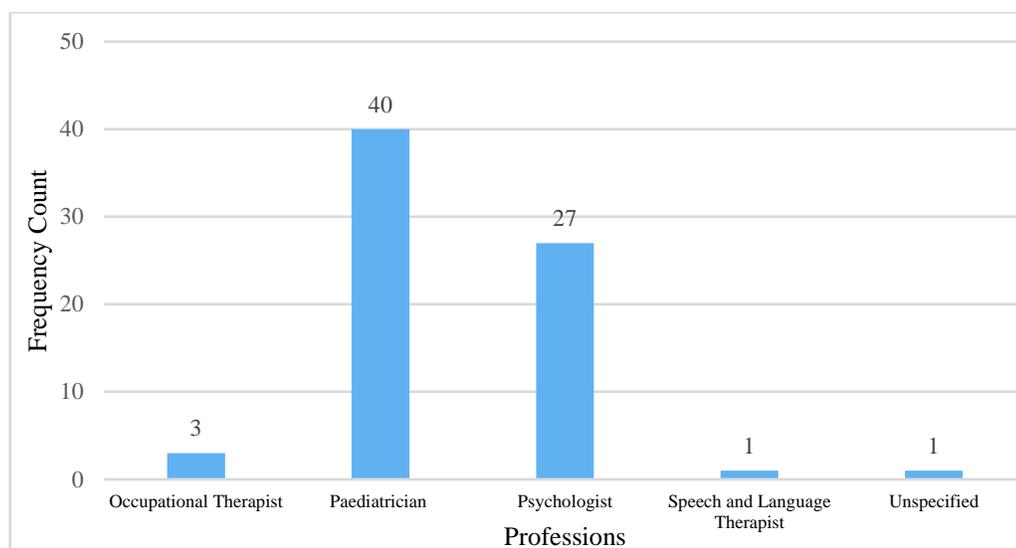
Only registered users of the Griffiths III were asked to complete the questionnaire. The questionnaire was e-mailed to ARICD registered users of the Griffiths III. The practitioners were professionals in the fields of psychology, paediatrics, speech and language therapy or occupational therapy, and received the necessary training to become a registered user of the Griffiths III. The mailing list included professionals who are registered with the ARICD, but who are not currently using the Griffiths III. These questionnaires were not included in this study as they served a different purpose for the ARICD.

Participants: At the time when the questionnaires were sent out electronically, there were 217 registered users of the Griffiths III in various countries across the world. A total of 72 registered Griffiths users who were using the Griffiths III at that stage completed and returned the questionnaires to the ARICD.

Participants in this study hail from twelve countries, namely Australia (16), China (1), Greece (1), Hong Kong (1), India (1), Indonesia (2), Ireland (15), Israel (3), New Zealand (1), Singapore (1), South Africa (7), and the United Kingdom (22), while one participant did not specify his or her country (see Figure 4).

Figure 4: Demographic Comparison

The participants' areas of speciality are occupational therapy (3), paediatrics (40), psychology (27), and speech and language therapy (1), while one participant did not specify his or her field of expertise (see Figure 5).

Figure 5: Areas of Speciality Comparison**Procedure and Ethical Consideration**

When conducting psychological research, the researcher is required to conduct it in such a manner that it meets certain ethical standards. Ethics furnish psychological research with the necessary information on how to conduct a study in a “morally defensible manner” (King, 2010, p. 99). The responsibility is on the researcher to ensure that they adhere to the necessary ethical codes and should be held responsible for all aspects of the process (Edwards & Mauthner, 2002). The Health Professions Council of South Africa’s (HPCSA) (2006) ethical principles, as they relate specifically to research, were adhered to as described below.

To fulfil the aim of this study, permission and ethical clearance to conduct this study was sought from the Nelson Mandela University’s Psychology Department by presenting this research proposal at the department’s monthly proposal meeting. After approval from the department was obtained, the proposal was submitted to the Nelson Mandela University’s Faculty of Health Sciences Postgraduate Studies Committee (FPGSC), which granted final

permission and ethical clearance (see Appendix C) for the study to proceed after the suggested alterations were made to the research proposal.

This study is supported by the ARICD and, therefore, the responsibility for the ethical use of the questionnaire lies also with the ARICD. The data were collected by the ARICD, and permission was granted by the organisation for the data to be used in this study (see Appendix A). This research also adhered to ethical requirements of obtaining informed consent, keeping participants' information confidential, and not excluding any respondent as explained below.

Practitioners registered with the ARICD receive various surveys from the organisation from time to time, which are completed and returned to the ARICD by the practitioners on the understanding of implied consent. All the participants in the proposed study received a letter, which stated that the purpose of the questionnaire is to aid the ARICD on how users of the Griffiths III are experiencing the assessment measure. Although the participants were not required to give their consent by signing a form, McBurney and White (2010) explain that in most psychological research, a participant's completed protocol, or in this case questionnaire, does serve as sufficient documentation for their agreement to participate in the study. The participants' information was kept confidential by using codes instead of their names when the data were analysed, and findings of the research were provided. Respondents were not excluded from this project based on their perceptions of the Griffiths III or any other aspect or feature such as nationality, race, or occupation.

As described earlier in this chapter, the questionnaires were anonymised before being sent to the researcher and, therefore, anonymity and confidentiality of participants were assured and maintained at all times.

Data Analysis

Data analysis refers to the process of evaluating the gathered information while making use of analytical and logical reasoning. This process ultimately informs the findings and conclusions. While both quantitative and qualitative analysis of the data obtained from the questionnaire were possible, a qualitative approach was used. The reason for this is that the ARICD requested a qualitative analysis of the data as a detailed description of the written or ‘verbal’ information obtained from the respondents was needed. To this end, the collected data were analysed by following the six steps of thematic analysis as described by Braun and Clarke (2006).

Due to the exploratory nature of this study, thematic analysis was deemed appropriate. Thematic analysis is a “method for identifying, analysing, and reporting patterns (themes) within data” (Braun & Clarke, 2006, p. 7). Thematic analysis is an adaptable and useful tool in research, which, due to its “theoretical freedom”, allows the researcher to obtain valuable and detailed information in a systematic manner (Braun & Clarke, 2006, p. 6). The six-step process allowed the researcher to report experiences, meanings, and the reality of the participants in a structured way.

The **first step** was to become familiar with the data. This phase of the process provides the bedrock for further analysis (Braun & Clarke, 2006). As the ARICD gathered the questionnaires, the researcher retyped all the responses, question by question, and read through all the responses repeatedly until he was familiar with its content. During this process, the researcher noticed certain patterns and meanings emerge from the responses.

During this phase of the analysis, the researcher also began writing down notes. Braun and Clarke (2006, p. 16) recommend that writing down ideas and “potential coding schemes

should begin as early as possible during the data analysis process and continue throughout”. The researcher jotted down potential patterns that started emerging, noteworthy responses, as well as the frequency of similar responses.

Step two was generating initial codes as they arose from the data. Braun and Clarke (2006) state that codes identify a feature of the data that appears interesting to the analyst, while Boyatzis (1998, p. 63) refers to codes as “the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon”. The researcher developed the initial codes by using a highlighter to indicate potential patterns that started emerging, discrepancies in the participant’s views, and creating an initial list of concepts that were grouped into relevant categories and coded as per the guidelines provided by Braun and Clarke (2006).

Step three required arranging the codes into common themes. A theme, according to Braun and Clarke (2006, p. 10), is “something important about the data concerning the research question” and represents a level of patterned meaning within the data set. During this phase, the researcher read and sorted through the different codes that were generated in the previous step, grouped them into potential themes, and combined all the relevant coded data extracts that related to the theme. The researcher found it useful to write down the potential themes, and under each theme, noted the responses that spoke to it specifically. During this process, certain themes were provisionally merged, others were confirmed, while others were discarded.

During **step four**, the themes were reviewed and refined to obtain a final list, which became the focus during the data analysis. There were two levels to this phase that consisted of reviewing and refining the themes. Level one included reviewing the themes at the level of the coded data extracts, while at the second level, the individual themes were considered in relation

to the overarching themes that emerged. Braun and Clarke (2006) stated that it is during this step that it is noticed that selected potential themes that were highlighted in the previous phase do not have sufficient data to support them as themes, while others might be better merged into each other. During this phase, themes were merged, while others that proved to be no longer prominent were discarded. At the end of this phase, the researcher had established a good idea of what the different themes were, as well as how they relate to the entire data set as recommended by Braun and Clarke (2006).

In **step five**, the themes were defined, named, and interpreted to form the basis for the results of this study. During this phase, the “essence of what each theme is about” is identified and the facets of the data that each theme represents are established (Braun & Clarke, 2006, p. 23). Great effort was put into identifying the ‘essence’ of each theme, as well as what aspect of the data was captured by each theme. These themes required a detailed analysis by highlighting what was interesting about every theme, while under each theme subthemes were identified and discussed further.

Finally, **step six**, the final phase of analysis, consisted of writing up and producing the final product. This entailed presenting a compelling account of what the data and themes denote regarding the research topic (Braun & Clarke, 2006). In this phase, the story told by the collected data was reflected in a rich account. The researcher formulated this account, which is underpinned by the Avenues of learning theory, by combining relevant examples from the data with the findings from the literature review and presented the account in Chapter Six.

Trustworthiness

Trustworthiness is an essential aspect of qualitative research, and it is one manner in which a researcher can convince others that their findings are worth paying attention to (Nowell

et al., 2017). Lincoln and Guba (1985) introduced the following criteria for trustworthiness: credibility, transferability, dependability, and confirmability, which will each be discussed below.

In order to establish credibility, a researcher needs to ensure that his or her findings are congruent with reality. One way in which credibility is ensured is by using a wide range of informants (Shenton, 2004). Credibility was attained in the study by sending the questionnaire to all the registered users of the Griffiths III and using the data of all the respondents.

Dependability and transferability refer to findings that are consistent and repeatable and that similar findings would be found in other contexts (Kawulich & Holland, 2012). As no different population or situation will lead to the same findings in qualitative research (Shenton, 2004), the participants were described sufficiently, and a detailed explanation was provided of the processes that were followed during this study.

Finally, confirmability is achieved when the findings are not swayed in any way by the researcher but are an accurate account of what was shared by the participants (Kawulich & Holland, 2012). This was achieved by maintaining an accurate account of all the records and processes undertaken by the researcher throughout this study.

Another aspect that is important to consider when establishing trustworthiness is reflexivity. This element is discussed in the following section.

Reflexivity

Reflexivity is a crucial aspect of qualitative research and has been described as the gold standard for determining trustworthiness (Teh & Lek, 2018). It consists of being conscious and self-aware during the research process and recognising that the researcher is part of the social world that is involved in the study (Palaganas et al., 2017). Reflexivity also requires researchers

to be actively involved in introspection on their subjectivity in the research process, as well as reflecting on their values (Parahoo, 2006). This includes considering the extent to how their “social background, location, and assumptions affect their research practice” (Hesse-Biber et al., 2007, p. 17).

As a father of two children, aged three and three months, as well as a clinician who has used the Griffiths III on multiple occasions with individuals from diverse backgrounds and a range of neurodevelopmental disorders, the researcher was extremely conscious of his own subjectivity during the research process. This was kept track of in a reflective journal and discussed with the researcher’s supervisor. This ensured that the researcher’s subjectivity did not influence the findings of the research in any a major way.

Chapter Overview

This chapter presented the research method that directed this study. The events and elements that guided the need for the study were described, as well as how this led to a specific problem that arose. This problem was presented in the problem statement, while the aim of the study was also provided. The focus then turned to the research design that governed the study. This included a detailed description of how the participants were selected, and the processes that were included in gathering and analysing the data. The chronological events that were followed to ensure that the study met ethical requirements, as well as how trustworthiness and reflexivity were established were also described.

Chapter Six

Findings and Discussion

In this chapter, a description of the findings of the study is provided. The themes, where possible, have been analysed concerning the literature reviewed in the earlier chapters. Various themes, specific and overarching, were found during the data analysis of the practitioner's questionnaires.

This study aimed to explore and describe the experiences of users of the Griffiths III. The data were collected by requesting registered users of the assessment measure to provide their views by completing a questionnaire. The practitioners who completed the questionnaires are professionals in the fields of psychology, paediatrics, speech and language therapy, or occupational therapy, and have received the necessary training to become a registered user of the Griffiths III. The mailing list included professionals who are registered with the ARICD, but who are not currently using the Griffiths III. These questionnaires were not included in this study as they served a different purpose for the ARICD.

Each question was analysed separately, and the responses were grouped into categories. Subsequently, the categories were grouped into themes. This process is represented in a visual format under each question and portrays the findings of steps two, three and four of Braun and Clarke's thematic analysis. Finally, the themes in the different questions were considered, and overarching themes were identified, which formed the basis for the discussion in the following chapter.

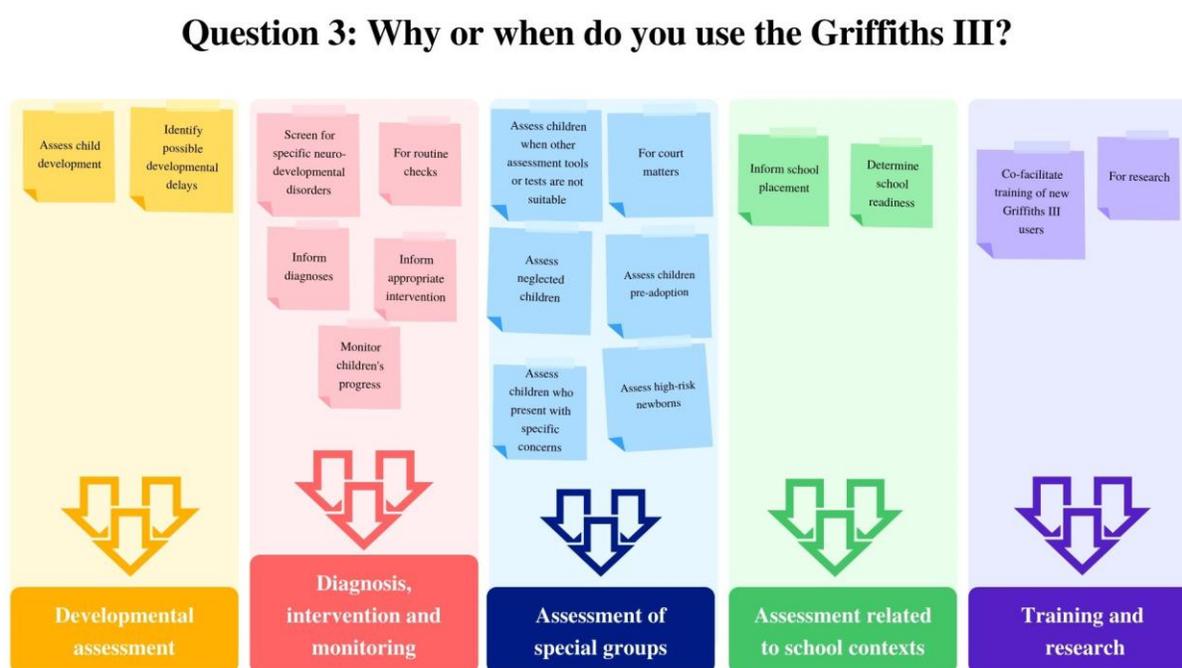
The Experiences of Users of the Griffiths III

This section will provide the results of the thematic analysis, which was performed on the

data that were obtained from users of the Griffiths III. This section will, therefore, describe the views of users of the Griffiths III.

Questions 1 and 2 in the questionnaire required participants to provide biographical information, which was provided in Chapter Five, and, therefore, this section starts with Question 3 (see Figure 6).

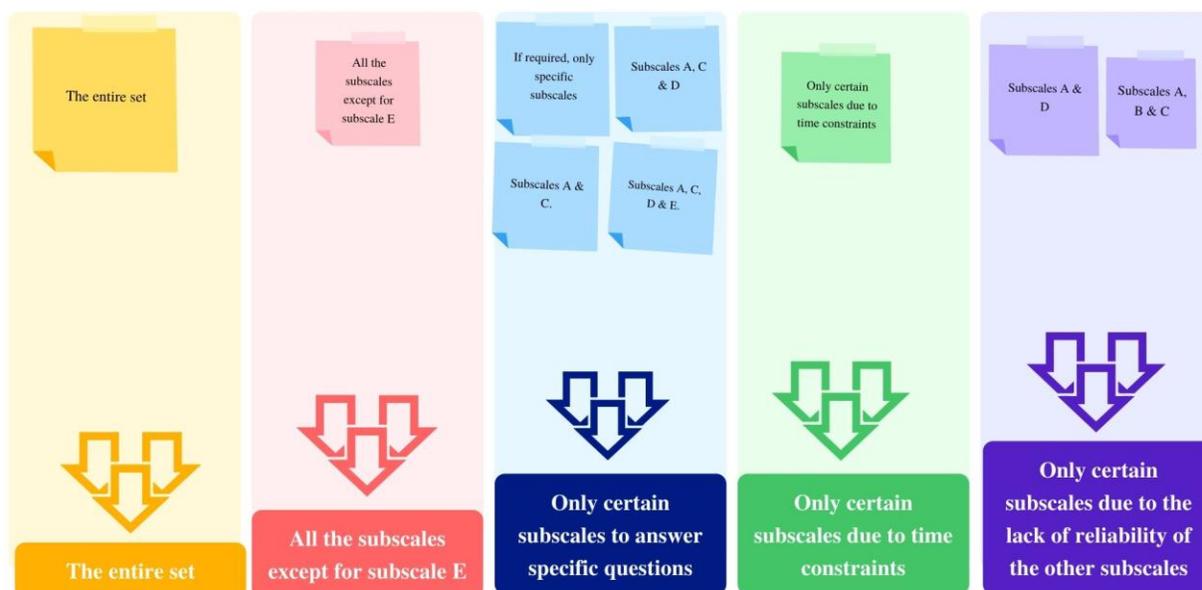
Figure 6: Question 3



In summary, the participants reported that they use the Griffiths III for developmental assessment, screening and diagnosis of neurodevelopmental disorders, to identify developmental delays in various contexts, determine school readiness and inform school placement, inform interventions and monitor children's progress, and for research and training purposes.

Figure 7: Question 4

Question 4: Which parts of the current Griffiths III do you use? Do you use the entire set of the subscales?

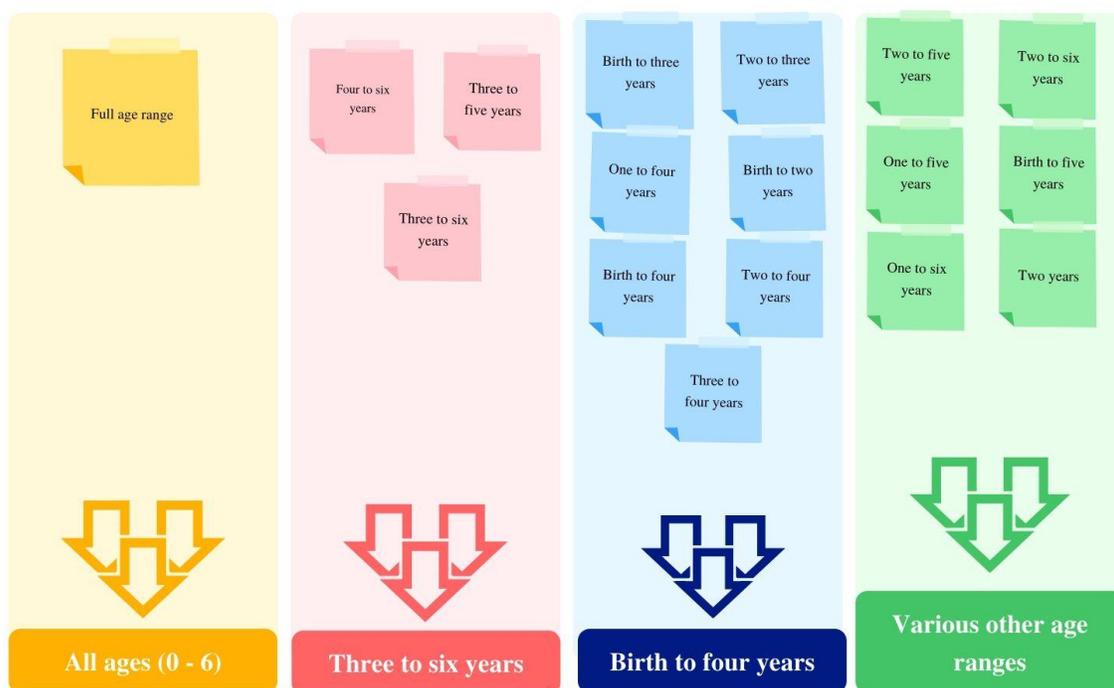


The majority of the respondents use the Griffiths III in its entirety, while several respondents do not use subscale E. The rest of the respondents only use specific subscales due to time constraints as they are only looking to assess a specific aspect of a child's development, or because they do not believe there is merit in using the other subscales¹ (see Figure 7).

¹ Subscales A: Foundations of learning
 Subscales B: Language and communication
 Subscales C: Eye and hand coordination
 Subscales D: Personal-social-emotional
 Subscales E: Gross motor

Figure 8: Question 5

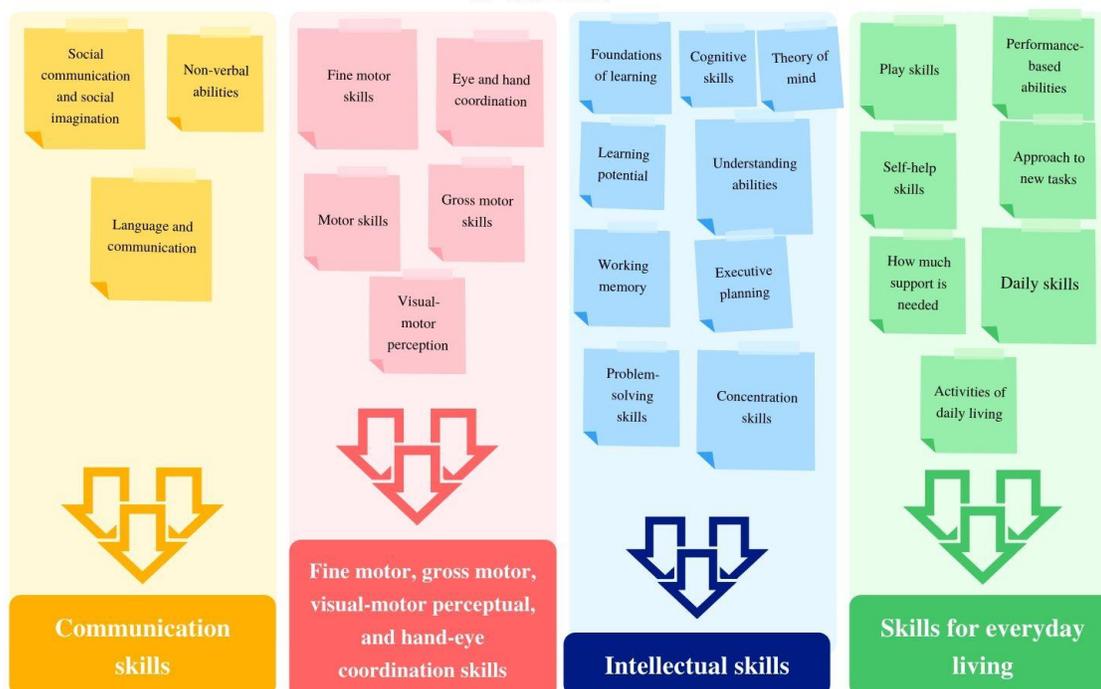
Question 5: Which age range of children do you currently find the Griffiths III to be most useful for?



In summary, although the majority of the respondents indicated that they find the entire age range of the Griffiths III useful, some respondents showed a preference for specific age ranges. At the same time, some respondents expressed a wish that the Griffiths III age range be extended to the age of eight years as it did in the previous edition of the Griffiths Scales (see Figure 8).

Figure 9: Question 6

Question 6: One test cannot measure everything. In your opinion, what aspects of the development of infants and young children are most useful to assess?



In summary, the respondents indicated a wide range of areas that they believed are most important when it comes to assessing children. These areas fall into the categories of communication, motor skills, intellectual abilities, and everyday living skills (see Figure 9).

Figure 10: Question 7

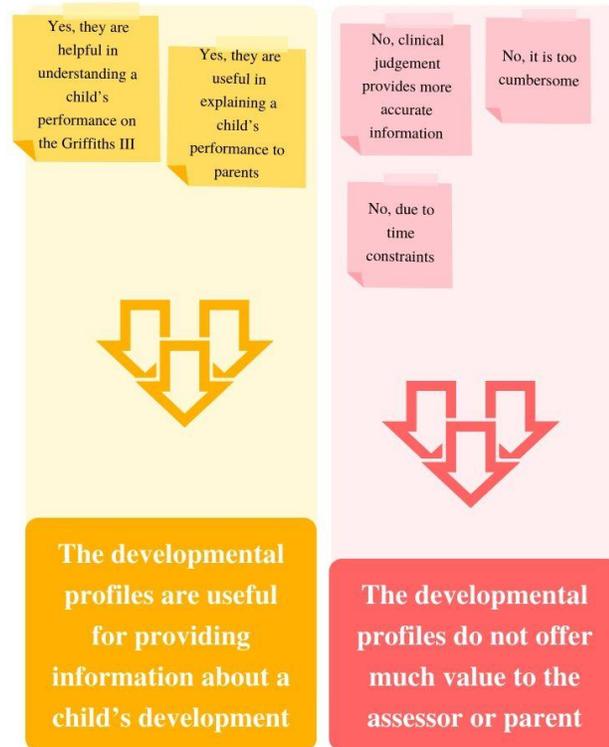
Question 7: Does the Griffiths III answer the question, “Is this child developing as expected or like other children of his/her age?” Please provide comment on this statement.



In sum, the Griffiths III does give clinicians the information needed to decide whether a child is developing as expected at their age, while at the same time, it does not always provide an accurate picture for children whose performance falls far below that of their peers (see Figure 10).

Figure 11: Question 8

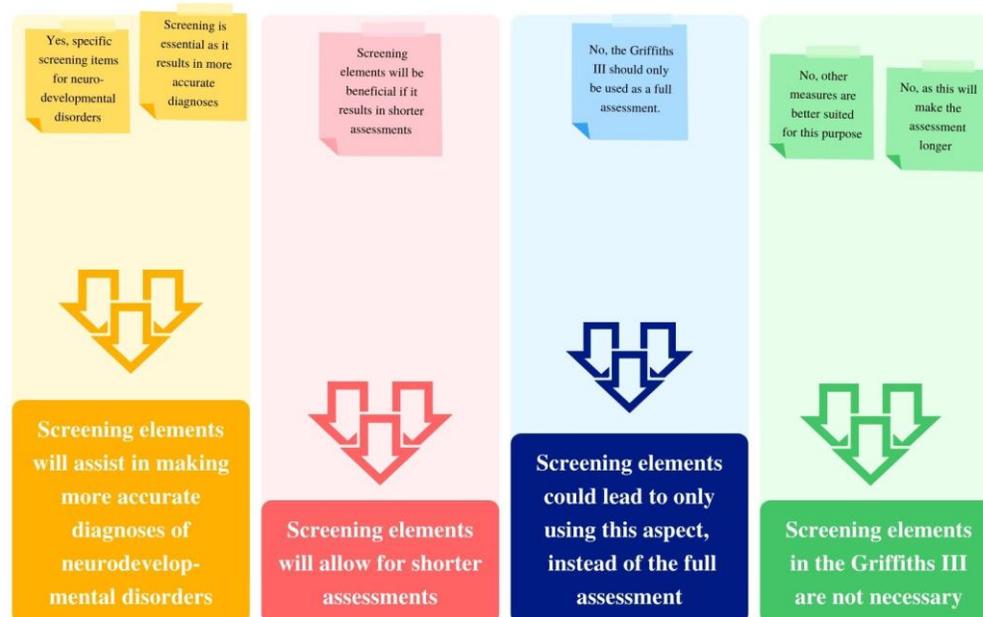
Question 8: Are you using the developmental profiles for infants and young children? If not, why not?



In sum, the developmental profile is used by the majority of the respondents as it enhances clinicians' and caregivers' understanding of a child's development, while a small percentage of the respondents do not find them to be useful (see Figure 11).

Figure 12: Question 9

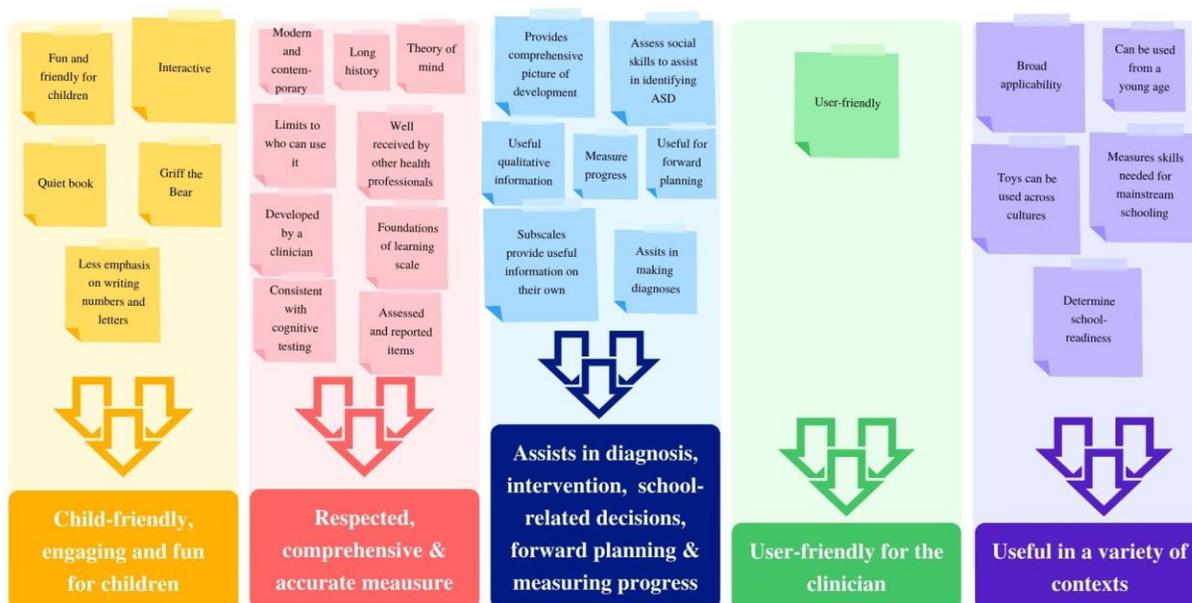
Question 9: Do you see any merit in enhancing the screening elements of the Griffiths III? Please provide comment.



In sum, there were opposing responses about the merit in enhancing the screening elements of the Griffiths III. Approximately half the respondents were in favour of enhancing the screening elements and the other half opposed. The respondents who were in favour believed that enhanced screening elements will allow users to make more accurate diagnoses and that it will save them time, while those opposed believed that they were not necessary or could be the only element of the Griffiths III that ends up being used (see Figure 12).

Figure 13: Question 10

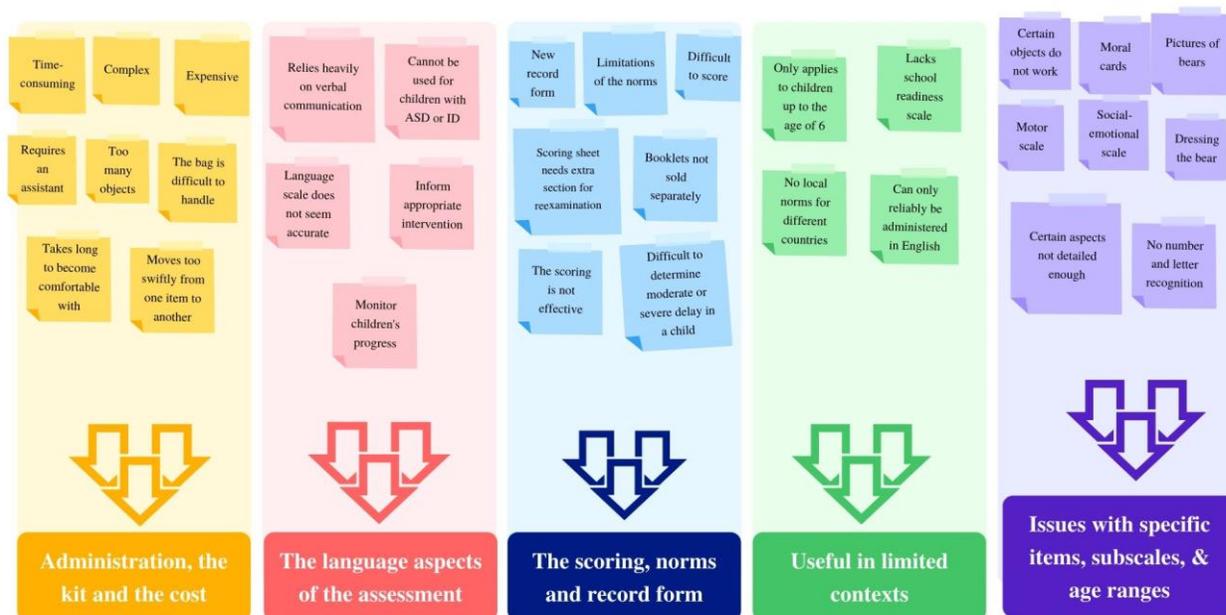
Question 10: What do you consider to be the strengths of the Griffiths III?



In general, respondents mentioned several strengths of the Griffiths III with regards to a child that is being assessed, the quality of the Griffiths III as a measurement tool, usefulness of the Griffiths III in terms of the information it produces, the clinician using the Griffiths III, and the context in which it can be applied (see Figure 13).

Figure 14: Question 11

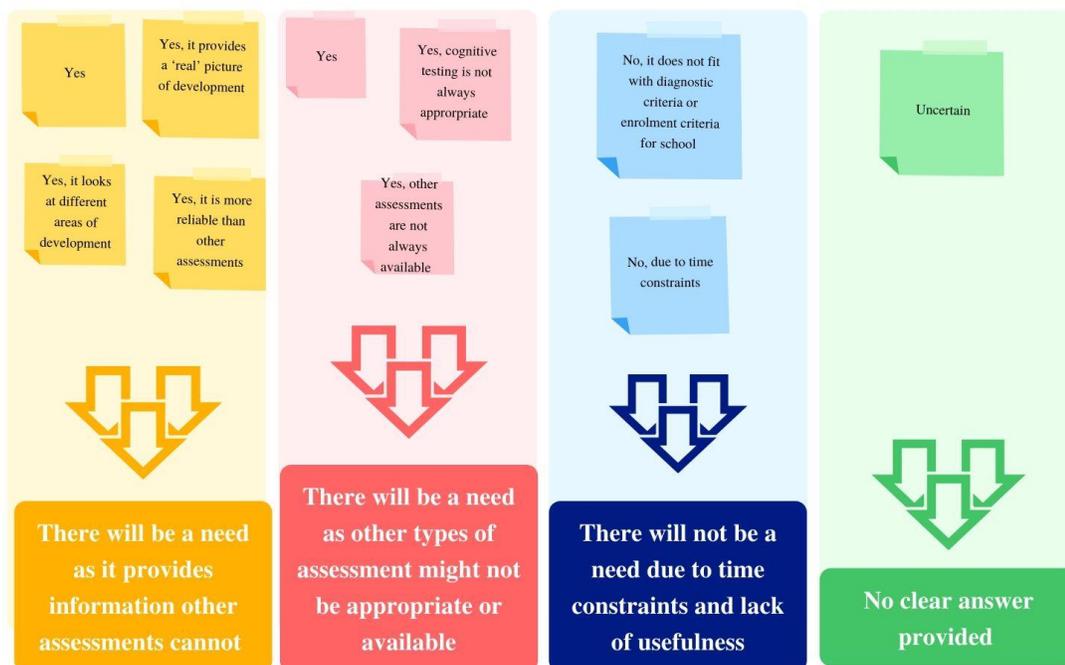
Question 11: What do you consider to be the weaknesses of the Griffiths III?



In sum, a range of weaknesses was identified, including difficulties in administering the assessment measure, problems with the actual kit, over-reliance on verbal communication in the administration, difficulties in scoring, limited contexts in which it can be used, as well as difficulty with specific subscales and items (see Figure 14).

Figure 15: Question 12

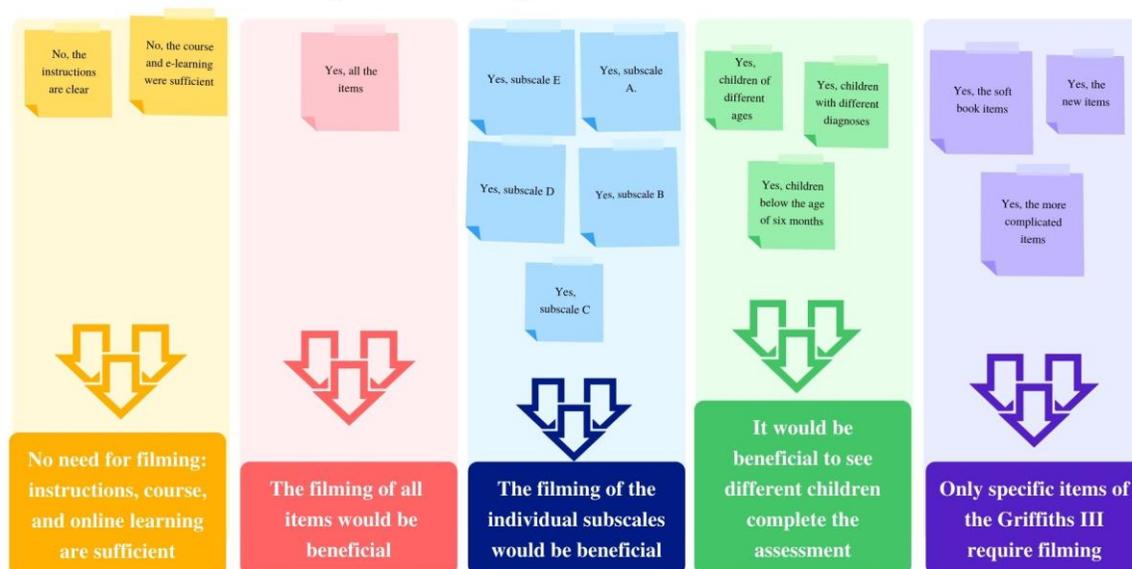
Question 12: Do you think that, in the future, there will continue to be a place in your professional work for developmental testing (as distinct from, or additional to, cognitive or physical testing)?



In sum, the participants largely believed that there would be a need for developmental assessments in the future, although, some participants believed that there would not be a need while others were uncertain (see Figure 15).

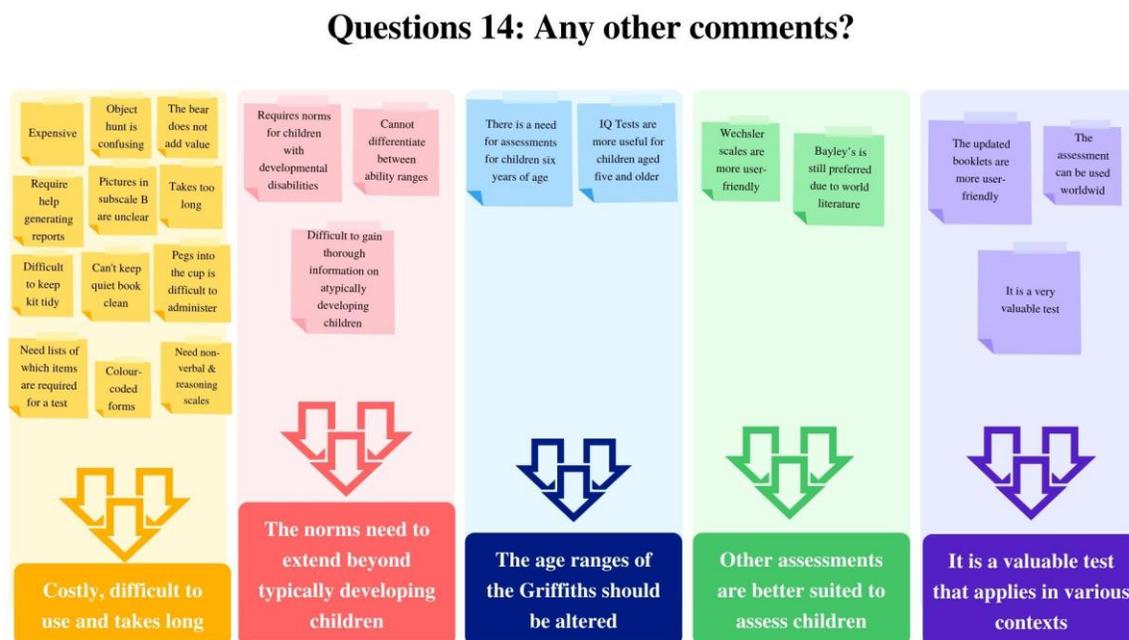
Figure 16: Question 13

Question 13: Which items of the Griffiths III would you like to have filming of? Are there specific items you would like to have demonstrated?



In sum, there were contrasting responses from the participants as to whether filming of the Griffiths III would be beneficial or not. The participants who do not require filming of any items believe that the available resources are sufficient, while the participants who would like to have the Griffiths III filmed would like either the entire assessment filmed, or certain subscales, specific items, or where children complete the assessment from start to finish (see Figure 16).

Figure 17 : Questions 14



In sum, the responses in these questions varied from very positive to very negative. Participants believed that the Griffiths III could be improved by updating specific items, norms, age range, and amount of time it takes, while there was also a sense that the Griffiths III is a handy tool cross-culturally (see Figure 17).

Overarching Themes

After considering the responses from the participants and clustering them into the above themes, the following four overarching themes emerged: 1) purpose and use, 2) domains, content, and structure, 3) psychometric properties, standardisation, and norms, and 4) merits, general limitations, and improvements. The findings from the thematic analysis are discussed below as they relate to these four themes.

Purpose and Use of the Griffiths Scales

The findings from the data analysis in this study revealed that the Griffiths III is predominantly used for the developmental assessment of children from birth to six years across all five domains. As discussed in Chapter Three, child development measures, such as the Griffiths III, are utilised to objectively determine a child's overall development by comparing their skill level in various domains to that of their peers (Bellman et al., 2013; Brown & Rolfe, 2005; Giangazoglou et al., 2005; Sabanathan et al., 2015). The feedback obtained in this study shows that the Griffiths III is utilised for this purpose. The profile of strengths and weaknesses across the five domains that are obtained from the Griffiths III provides practitioners with a thorough and well-rounded understanding of a child's development.

The findings of this study indicated that practitioners utilise the full age range of the Griffiths III to determine whether children from birth to the age of six experience developmental delays. In Chapter Two, the literature that was reviewed indicated that the early years of a child's life, in particular from birth to the age of five, have a profound impact on their long-term development as the skills that are gained during these years build upon each other (Bick & Nelson, 2016; JAMA Network, 2009; NAEYC, 2009). Therefore, if early developmental delays are not detected, it will be difficult for a child to acquire the next set of skills that are needed for effective development. The findings of this study showed that practitioners detect developmental delays early in a child's life by using the Griffiths III. The data from this study, however, revealed that there is a need for the age range of the Griffiths III to be extended to the age of eight or to include a school readiness element. There is currently no consensus as to whether a cognitive assessment is more appropriate than a developmental assessment for children in this age range (Ellingsen, 2016). Users of the Griffiths III also shared conflicting views on the

appropriateness of developmental assessments for children older than five years of age.

However, users of the Griffiths III would experience the assessment measure to be more useful if it could be utilised to indicate a child's readiness for school.

The findings from the data analysis performed in this study also showed that the Griffiths III is utilised to assist in the diagnosis of neurodevelopmental disorders, develop intervention plans, as well as monitor a child's development over time. These three purposes of the Griffiths III will be discussed individually below.

Diagnostic measures, as discussed in Chapter Three, can be utilised to confirm a neurodevelopmental disorder after concerns were detected (Luiz et al., 2015). A developmental measure, such as the Griffiths III, can also be utilised for this purpose as developmental delays are a significant indicator of neurodevelopmental disorders (Geisinger, 2013). When a developmental assessment measure is used for this purpose, it is recommended that it forms part of a multi-step and multi-method approach (Garcia-Berrera & Moore, 2013) as described in Chapter Four. The findings of this study found that the Griffiths III plays a valuable role in this approach as it is utilised to confirm or rule out diagnoses, as well as determine specific problem areas in children who were identified to be at risk for abnormal development. As one of the participants stated, they use the Griffiths III "when there are concerns about a child's development, and we want to know if it is a specific impairment or a global developmental delay". The Griffiths III is, therefore, used together with the information obtained from the intake interview, practitioner's clinical observations of the child, as well as other reports to make neurodevelopmental disorder diagnoses in children.

The findings from this study did, however, reveal that although practitioners have confidence in using the Griffiths III to assist in the diagnosis of neurodevelopmental disorders,

the level of impairment cannot be adequately obtained from the measure. This applies mainly to global developmental delay, intellectual disability, and ASD. One of the participants stated that although the Griffiths III can be used to determine when a child's development is below the level expected of a child their age, they "want to know whether the child has a mild, moderate or severe global developmental delay". Another participant stated that they would feel "more confident" in the assessment measure if it is normed on "special populations" such as children with intellectual disability or ASD to determine the extent of their impairment. This will be discussed in more detail later in this chapter.

Users of the Griffiths III also use the assessment measure to inform the intervention plans that are recommended to parents and caregivers. Chapter One discussed that for a child with developmental delays or a neurodevelopmental disorder to reach his or her full potential, appropriate intervention needs to be implemented as early as possible (Cioni et al., 2016; Levy, 2018). One of the great advantages of a developmental assessment is that it can be used to identify specific needs of children, and should, therefore, be used to direct management plans (Foxcroft & Roodt, 2019; Sharma, 2011). It was found in this study that the results of Griffiths III assessments do direct the practitioners in their intervention planning. Users of the measure utilise its findings to determine whether a child needs to be referred to another healthcare specialist, such as play therapists, occupational therapists, or speech and language therapists, as well as what level of support is required by the child from his or her educators.

Additionally, the Griffiths III is used to monitor a child's progress between assessments. The feedback obtained in this study showed that users of the assessment measure find it particularly useful to assess whether a child's skills and abilities deteriorated, improved or if there was no change in performance after interventions were implemented. Practitioners

generally conduct follow-up assessments six to twelve months after the initial, or prior, assessment.

Finally, under this theme, the findings of this study indicate that despite the limitations of the Griffiths III when used to assess children with neurodevelopmental disorders, as discussed earlier in this section, practitioners find the measure useful for the assessment of these ‘special populations’. In Chapter Three of this study, it was discussed that practitioners could utilise several assessments for children in the age range from birth to six years. Each measure has advantages and limitations. The Weschler Intelligence Scales for Children – Fifth Edition (WISC-V), for example, provides the general cognitive ability of a child (Gomez et al., 2016), while the Vineland-3 evaluates a person’s adaptive behaviour. Although each assessment provides unique information about a child, certain assessments are more appropriate for some children than others. The users of the Griffiths III find it useful to use this assessment measure with a wide range of children, including those who have neurodevelopmental disorders, as they are able to gather valuable information, even if the measure cannot be used to determine the extent of a child’s impairment.

Domains, Content, and Structure of the Griffiths III

The Griffiths III, as discussed in Chapter Four, assesses five domains of development, namely 1) Foundations of learning; 2) Language and communication; 3) Eye and hand coordination; 4) Personal-social-emotional, and 5) Gross motor (Stroud et al., 2016), while an overall developmental level can also be ascertained from the measure. This set of domains was introduced in 2016 when the latest edition of the Griffiths Scales was published. Although the latest edition of the measure remains deeply embedded in Ruth Griffiths’ theory, the Avenues of

Learning, the Griffiths III is a revolutionised assessment measure. As a result, users needed to become accustomed to the new edition.

The findings of the study revealed that practitioners find the new format of the Griffiths III useful in its ability to distinguish between a child's strengths and weaknesses. As discussed in Chapter One of this study, there is a growing need from caregivers for the detection of developmental delays, in general, or specific, as these delays have become increasingly important in the diagnosis of neurodevelopmental disorders (Cioni et al., 2016; Levy, 2018). As the purpose of developmental assessment is to gain insight into the level of development of a child across various domains (Sabanathan et al., 2015), the Griffiths III has an important role to play in the diagnoses of neurodevelopmental disorders.

It was, however, found that users of the Griffiths III believe that the structure of certain domains are not appropriate for children with suspected ASD as they do not provide an accurate representation of their abilities. ASD diagnoses are on the increase worldwide (Aschner & Costa, 2015; Baio et al., 2019; Jameson et al., 2016; Xu et al., 2018) and as a result, parents and caregivers have become more interested in assessing their children for this disorder. ASD is a neurodevelopmental disorder that causes enduring social difficulties, as well as deficits in nonverbal communication and behaviour across a variety of contexts (APA, 2013, p. 31). The findings from the study showed that practitioners find the Griffiths III to rely heavily on verbal communication and, therefore, children with ASD struggle to understand many of the tasks. As a result, they are not able to perform certain items despite, perhaps, having the necessary skills to complete these tasks successfully. The practitioners find that this underestimates these children's skill levels across domains, with one participant stating that the Griffiths III particularly misrepresents the "areas of visual-spatial skills and visual memory". This finding complements

the result that was discussed earlier, which indicated that the measure does not represent the true developmental level of a child with ASD.

The findings of the study also revealed that practitioners believe that the Foundations of learning, Language and communication, and Personal-social-emotional domains are the most useful to assess during the first six years of a child's life. It was discussed in Chapter Two of this study that children develop across different domains at varying speeds (Swim, 2007). These discrepancies can be attributed to a child's biological-, cognitive-, and socioemotional processes (Santrock, 2014). There is also no agreement among the leading child developmental theorists as to which domains better indicate a child's general development, as well as his or her future potential. For example, Jean Piaget's Cognitive Development Theory emphasises the acquisition and mastery of elementary cognitive skills as it claims these are essential for promoting later development (Black et al., 2017), while Albert Bandura's Social Cognitive Theory emphasises the importance of a child's social development to acquire other skills (Bandura, 1977). Recent literature suggests attention and memory, processing speed, motor skills, oral language, adaptive behaviour, and social-emotional-personality functioning are some of the more critical areas that need to be assessed as they have a more significant influence on a child's general development (Sattler, 2008). This study found that the Griffiths III users believe it is essential to gain a thorough understanding of a child by assessing them across multiple domains and obtaining a profile of strengths and weaknesses. However, in their present practices, the Foundations of learning, Language and communication, and Personal-social-emotional are particularly important to assess.

This study also found users of the Griffiths III to believe that one of the most significant strengths of the assessment measure, in terms of its content, is that it contains test items that are

modern and contemporary. It was discussed in Chapter Three that assessment measures need to be amended and updated based on the changing conditions of the context that it is intended for (APA, 2014). It is also essential that the language and items used in the assessment measure are appropriate for the individuals it will assess (Adams, 2000; Kim & Smith, 2010). In an attempt by the publishers to comply with these guidelines, the Griffiths III was published, containing 80 per cent new items that were not used in the Griffiths Scales previously (Stroud et al., 2016). The Griffiths III users find that as a result, the measure is more effective and accurate as children are attracted to the assessment due to being accustomed to many of its items. One participant stated that “the toys are much more interesting now, compared to the older assessment”, while another reported that the test items “are based on up-to-date research”.

During the previous revision of the Griffiths Scales, the publishers wanted to ensure that the assessment measure preserves its play-like element so that children can express themselves in a relaxed manner during the assessment (Stroud et al., 2016). The literature reviewed in Chapter Three indicated that since the turn of the century, authentic assessment started playing a more significant role in the assessment of children (Bagnato et al., 2010). The literature also stated that how children play is often indicative of their general learning and development (Whitebread et al., 2017), while children who believe they are playing, rather than being assessed, will be more motivated to partake at a higher level (Howard & McInnes, 2013; Sawyer, 2017). The findings of this study showed that children who are assessed on the Griffiths III find its items fun and friendly and that they are eager to engage in the activities. This allows children to perform to their full potential, while practitioners also obtain a unique insight into the child’s abilities and development. The practitioners, therefore, found that the Griffiths III produces results that are a true reflection of a child’s potential.

The findings of the study also show that users of the Griffiths III believe that the measure permits practitioners to make use of a good balance between reported information from caregivers and assessed information in the session. Caregiver reporting, as utilised in the Griffiths III, is a method to obtain information from caregivers about a child's proficiency in performing certain tasks that cannot be assessed in the session (Glascoe & Marks, 2011). This aids the practitioner as they gain valuable insight into the child's abilities, while it also benefits the child as caregivers who are made to feel included in the assessment process are more willing to attend follow-up visits (Glascoe & Marks, 2011). According to the findings from the study, the reported information from caregivers plays an important role in the Griffiths III assessment, but the participants also reported that there is not an over-reliance on this data. As the caregivers can be present during a Griffiths III assessment (Green et al., 2016), they feel more engaged in the process, while they also gain a fuller understanding of their child as they witness their responses and performances on the items.

This study also found that users of the Griffiths III experience the measure to be structured in such a way that there is plenty of interaction between the practitioner and the child. This "hands-on approach", as described by one of the participants, allows practitioners to use their clinical judgment to obtain important qualitative information and gain a more in-depth understanding of a child's ability. As discussed in Chapter Three, qualitative information plays a key role during the assessment process, and practitioners are expected to use this information to inform their findings (Sharma, 2011). During the Griffiths III, the qualitative information can be converted into quantitative data, while the qualitative information by itself can be used to inform the recommendations that are provided to caregivers. One participant reported that through interaction, practitioners gain an understanding of a child's "intentions, interests, and problem

solving (abilities)” which provide them with important data when making a diagnosis and working out an intervention plan.

Finally, under this theme, the findings showed that Griffiths III users experience the assessment measure to be comprehensive in nature. As discussed in Chapter Three of this study, practitioners use child development assessment measures to gain a complete insight into the level of development of a child (Sabanathan et al., 2015). It is essential to understand each child individually as children develop in unique ways (Santrock, 2014), learn in their own manner (Bransford et al., 2000), display their gained knowledge in different ways (Swim, 2007), and their development is uniquely influenced by their culture, socio-economic status, ethnicity, and exposure to technology (Santrock, 2014). Based on the findings of this study, the Griffiths III allows practitioners to gain a unique and individualised insight into each child they assess. Participants stated the Griffiths III is “built upon a holistic, evidence-based idea of child development”, that it is useful for “giving an overall picture and profile” of a child, and provides a “good, in-depth assessment of a child’s abilities”. The findings of the study show that the Griffiths III allows practitioners to understand each child in a unique way.

Psychometric Properties, Standardisation, and Norms

The findings of this study reveal that practitioners believe that the psychometric properties of the Griffiths III are accurate and reliable and, therefore, the results that are obtained from the assessment measure are appropriate. This indicates that users of the Griffiths III believe that the assessment measure is reliable and valid for the context that it was intended for. As discussed in Chapter Three, reliability refers to the extent to which an assessment measure is consistent, while validity refers to how accurately a test measures what it intends to measure (Foxcroft & Roodt, 2019). Since the original version of the Griffiths Scales was planned, Dr

Griffiths stated that the measure needed to be valid and reliable (Stroud et al., 2016). It was also found that the subsequent versions of the measure were valid and reliable for assessing young children (Giagazoglou et al., 2005). Based on the findings of this study, users of the Griffiths III also experience this version of the measure to be valid and reliable, and as a result, it accurately measures whether a child is developing typically or atypically. In Chapter Three, it was discussed that the most important reason why a test needs to be revised is when its reliability and validity are in question (Bush, 2010). The findings of this study indicate that the assessment measure does not need to be revised for this reason.

This study did, however, reveal that there is a need for norms to be generated for ‘special populations’, as described earlier in this chapter. As was discussed in Chapter Four, children develop at varying speeds and display their gained knowledge in unique ways (Swim, 2007). This is particularly true for children with neurodevelopmental disorders who will each have unique intervention requirements (Foxcroft & Roodt, 2019; Sharma, 2011). Therefore, to gain a true developmental picture of a child with a neurodevelopmental disorder, and to intervene most appropriately, it is essential to generate a unique set of norms for these special populations as they cannot be compared to typically developing children. The results of this study show that the Griffiths III’s lack of these norms is experienced as a weakness of the assessment measure and that the measure’s usefulness will improve drastically if these norms are provided.

Additionally, users of the Griffiths III believe that the usefulness of the assessment measure will increase if specific screening items for specific neurodevelopmental disorders, such as ASD and ADHD, are included. This will also ensure shorter assessments, which is a need for practitioners that is addressed later in this chapter. Screening measures often take less time to complete than diagnostic measures (Luiz et al., 2005), but still provide valuable information for

practitioners and can assist in the diagnosis of neurodevelopmental disorders. Children with ADHD and other neurodevelopmental disorders struggle to concentrate for long periods. One participant suggested that “some screening element that would mean you would not have to complete so many tasks in each subtest might be useful”. Although concerns were raised that some practitioners might resort to only using the screening items, the results of the study show that users of the Griffiths III believe it would be beneficial to include these elements in the measure.

This study also found that users of the Griffiths III require the measure to be adapted for use in different countries and contexts, and at the same time, for norms to be created for these contexts. An assessment measure needs to be valid and reliable for the population, which it is intended for (Foxcroft & Roodt, 2019) and at the same time, an assessment measure cannot be assumed to be appropriate, valid, and reliable for contexts that are different from the one it was originally developed for (Foxcroft & Roodt, 2019). This means that before a measure can reliably be used, there needs to be an investigation into whether the measure is appropriate and valid for different cultures, and whether new norms need to be developed. As the Griffiths III was only normed on typically developing children from the United Kingdom, it cannot be assumed that it is appropriate for use outside of this norming context. This means that for users to believe the measure is valid and reliable in other contexts, norms need to be generated for these groups.

The findings also revealed that the Griffiths III needs to be adapted for different contexts. As discussed in Chapter Two, the culture, socio-economic status, ethnicity, and technology that a child is raised with have a noteworthy impact on their development (Santrock, 2014). Due to this, one participant from Hong Kong stated that it is “very difficult to use the test (Griffiths III)

for children locally”, while another participant from Indonesia stated “some tasks in one area of the Griffiths are not common in our country, such as doing the skipping in scale E”. At the same time, English might not be the first language of many children assessed on the Griffiths III outside of the United Kingdom. If the assessment measure is not translated into their first languages, this will have a significant impact on their test results.

As its developers and publishers describe the Griffiths III as an international measure (Stroud et al., 2016), the ARICD has a responsibility to ensure that the measure is reliable and valid for international use. Although earlier editions of the Griffiths Scales were accepted for use in various countries all over the world, it is not considered “good assessment practice” if the Griffiths III is used outside of the United Kingdom without being adapted, standardized, and normed for use in these contexts (Foxcroft, 2011b, p. 3).

Merits, General Limitations, and Improvements

The final theme is made up of the merits, general limitations, and improvements as found in the findings of the study. Each one of these elements is discussed below.

Merits

This study found that users experience the child-friendly, fun, and enjoyable nature of the Griffiths III as one of its greatest strengths. This quality allows clinicians to observe and assess children at play. The findings also revealed that this is one of the most significant improvements made to the previous edition of the Griffiths Scales. One of the participants commented that “children clearly enjoy the more varied tasks compared to the old Griffiths”, while another participant reported that children perceive the assessment as an “enjoyable experience”, which means that they are more engaged in the assessment items. As previously discussed, children perform to their full potential when they are engaged in play as they are better able to

concentrate and more motivated to partake at a higher level (Howard & McInnes, 2013; Sawyer, 2017). This study found that Griffiths III users experience the measure as being able to maintain the interest of children. One participant stated that the measure's "highly interesting nature" allows children to perform to their full potential, which ensures that the results of the Griffiths III are a true reflection of the child's development.

The findings of the study also indicate that users of the measure believe that the Griffiths III holds many advantages for practitioners. The measure is more user-friendly than previous editions of the Griffiths Scales, allows the assessment process to be flexible, allows plenty of interaction between practitioner and child during the assessment, and practitioners have fun during the assessment.

The practitioners highlighted that the flexible nature of the assessment measure allows them to vary items according to the child's needs, which "improve(s) the engagement of the child".

The interactive nature of the Griffiths III also allows the practitioner to build a good rapport with the children, which is critical when conducting an assessment (Foxcoft & Roodt, 2019). The more interaction there is between the child and the assessor, the more the child feels at ease during the assessment. The "fun nature" of the measure also ensures that the assessor is more engaged in the assessment. As one of the participants said, "it is fun to play with a child" and, therefore, when the practitioners enjoy the assessment measure, all parties will be more likely to have a positive experience.

The study also found that users of the Griffiths III experience its ability to assess the development of young children from birth to the age of two as a major strength of the measure. The findings from this research, as well as the literature that was reviewed in Chapter Three,

showed that there are few suitable assessment measures for children in this age range, and many of these assessments have limitations. The ASQ-3 and Vineland-3 are appropriate for children in this age range but rely solely on reported information (Luiz et al., 2005; Sing et al., 2017). The DDST-II is also suitable for this age group, but the measure is outdated (Ringwalt, 2008). The Bayley-4 and SOGS, as well as the Griffiths III, are some of the few assessment measures that are appropriate for this age. These assessment measures play an essential role as early intervention enhances the child's chances of developing to their full potential (Cioni et al., 2016; Levy, 2018). As a result, the Griffiths III is found to play a critical role in this process.

The study also found that the Griffiths III is useful for assessing children who are severely delayed as the measure allows the practitioners to obtain valuable qualitative information. Chapter Three of this study discussed that child development assessment measures are tools that objectively measure a child's development by comparing their performance to that of their peers (Bellman et al., 2013; Giangazoglou et al., 2005). However, in some cases, where children have a severe developmental delay, they cannot perform any of the tasks in such an assessment. The users of the Griffiths III, however, found that due to the Griffiths III being appropriate to be used from birth, even children with a severe delay can perform certain tasks. This allows the practitioner to gather valuable information that can be used in assisting the child to reach his or her full potential.

Users of the Griffiths III also experience that the assessment measure can fulfil various purposes. In addition to the purposes that have already been mentioned in this chapter, the Griffiths III is currently used to provide evidence in court in child custody cases, for the future planning of children to determine the child's educational and caregiving needs, as well as for research purposes.

General Limitations

The findings of the study showed that there are various limitations to the Griffiths III, which inhibits its use. It was discussed in Chapter Three that test publishers would like as many people as possible to utilise their assessment measure. Therefore, it is important that the ARICD is made aware of the challenges that are experienced by users of the Griffiths III, and also considers the suggested changes that are proposed. These are discussed later in this chapter.

Although, as discussed earlier in this chapter, there are benefits to how the Griffiths III is administered, in general, users of the measure find the administration process challenging. These challenges relate mainly to the amount of time the administration process takes, as well as the handling of the kit.

It was discussed earlier in this study that there is a growing need for developmental assessments, which have become a crucial part of children's visits to health professionals (Choo et al., 2019; Geisinger, 2013; Shaugnessy & Greathouse, 1997). The users of the Griffiths III also experience this need, and one of the participants remarked that "with service demands growing it is rare to be able to offer longer slots" for clients. Depending on the practice, the time slots that practitioners offer for assessments range between 45 minutes and 90 minutes. With this in mind, based on previous feedback received by the ARICD, the publishers attempted to reduce the amount of time the measure takes compared to its previous editions (Stroud et al., 2016). The users of the Griffiths III, however, are unable to complete the entire assessment in one session. As a result, practitioners have resorted to using only selected parts of the measure, while one participant stated that "we have to be selective with whom we use in the Griffiths clinic".

The amount of time the measure takes does not only affect the practitioners but the children as well. The findings of the study indicate that children are not able to perform to their

full potential throughout the entire assessment as they get tired. This affects their performance in particular subscale E, generally assessed last, which measures a child's gross motor skills. These findings show that the Griffiths III is inhibited in its frequency and correctness of use, which has an impact on the accuracy of the child development profile that the measure produces.

The study also revealed that users of the Griffiths III find the assessment measure challenging to use. These challenges largely relate to the actual kit, which one participant described as "big and unwieldy". Another participant stated that they need "an extra pair of hands" to conduct the assessment, while others stated that they experience other assessment measures, such as the Weschler Scales as more user-friendly.

Users also experience that there are too many objects used in the assessment measure, and as a result, they struggle to keep track of which objects have been used and which still need to be used. One user suggested that the measure will be more user-friendly if "a list of the more important items in every scale (domain)" is provided. Other participants suggested that the record book needs to include colour codes, as was the case with the previous edition, to make the assessment process more straightforward. Although the findings revealed that the Griffiths III is complex to use in practice, some of the participants stated that the more they use the measure, the easier it becomes to administer, with one participant suggesting that the assessment can be conducted accurately and thoroughly in 45 minutes.

The findings of the study revealed that the cost of the Griffiths III kit also inhibits the measure from being widely used. This limitation was proposed by participants from first world countries, such as the United Kingdom, as well as third world countries such as South Africa. One user described that the cost of the kit, as well as the cost of replacing items when they get broken or lost as "a money-making racket". The findings, therefore, show that the Griffiths III is

experienced as an expensive measure to purchase and maintain, which impacts how widely the measure is used.

Additionally, the users of the Griffiths III experience the measure to rely extensively on verbal instruction, which makes it difficult to obtain a true understanding of a child's development in other areas. This is particularly true for children with ASD who experience persistent deficits in social communication (APA, 2013). One of the cornerstones of assessment measures is that it provides a valid and reliable picture of the skill that it is measuring (Foxcroft & Roodt, 2019). However, the users of the Griffiths III find that the "verbal instructions", as described by one of the participants, could affect an autistic child's performance in, for example, subscale C, which measures eye and hand coordination. As a result, an accurate picture of a child's development in this domain will not be obtained as a weak performance could be due to a lack of understanding, and not necessarily a lack of skill in that domain. The users of the Griffiths III, therefore, believe that these scores should be interpreted with caution.

Finally, in terms of the Griffiths III's limitations, the findings revealed that the users of the measure experience various issues related to specific objects in the measure. The most significant concerns highlighted were around the quiet book and the moral cards.

The quiet book is a new addition to the Griffiths Scales. Although, as a whole, the findings of the study show that users of the Griffiths III received the quiet book well, concerns were raised about how to keep it clean. One of the participants reported that "the parents ask questions about kids touching it" and, therefore, there are concerns about it becoming a germ carrier when it is used multiple times.

The findings also show test items that require the buttoning and unbuttoning of the bear's clothes in the quiet book are problematic. One participant reported that the "dressing the bear

item is not working”, while another stated that “no child has managed to independently open/close the button on the quiet book”. These items relate to subscale C, the Eye and hand coordination subscale.

The other object that was highlighted as a concern for users is the moral reasoning card that is used in subscale D, Personal-social-emotional. The items that require the use of the moral reasoning card ask children to identify emotions that are expressed on the faces of characters on the card. These characters are bears and not pictures of people. One participant stated that “I am not convinced that the new cards make ready sense to children”, while another said, “from my experience children relate much better to children”.

The concerns that were noted by users of the Griffiths III about the specific objects show that users of the measure find that these items could inhibit the accuracy of the assessment measure. As discussed in Chapter Three of this study, if users continue to perceive flaws in an assessment measure, there is likely to be a strong negative reaction from test users, and as a result, users may replace this assessment measure with another (Butcher, 2000). This is one of the reasons test users play a critically important role in the revision and updating of assessments (Adams, 2000). As users of the assessment measure also have the best understanding of how the measure is experienced in practice, they are able to provide valuable suggestions that relate to the improvement of the measure. These will be discussed in the following section.

Suggested improvements

The findings of the study revealed the following improvements that were suggested by the Griffiths III users. These improvements relate specifically to the need for report writing suggestions and more norms to be established.

Users of the Griffiths III require assistance in compiling reports. This is the case for all

Griffiths III assessments, but particularly when the accurate developmental age cannot be provided for children as their performances are too poor. One participant suggested that the Griffiths III manual should include “examples of how to word reports”.

As discussed in Chapter Three, answering the referral question, drawing conclusions, and providing recommendations form a key part of the assessment process (Maltzman, 2013).

Therefore, to complete the assessment process successfully when making use of the Griffiths III, the users of the measure need to be able to provide a thorough, appropriate, and accurate report to the parties that requested the assessment.

Finally, as was discussed earlier in the chapter, the findings of this study revealed that there is a need for the Griffiths III to include a school readiness element, or for the age range to be extended up to the age of eight. According to one participant, “the old version of the Griffiths met this need (school readiness assessment) very well”, while another stated that the Griffiths III “is lacking the school readiness scale and items and norms for older children that were present in the older version”.

These recommendations, as well as other recommendations based on the findings of this study, will be provided in the following chapter of this study.

Chapter Overview

The findings of the study were presented in this chapter. Firstly, users of the Griffiths III’s views were grouped, according to each question, into categories and then categorised into themes. The overarching themes were presented and discussed in relation to the literature that was reviewed in Chapters One to Four of this study.

The findings and discussion of this chapter informed the recommendations that are provided in the following chapter. These recommendations relate to the revision needs of the

Griffiths III, as well as the need for future studies on this topic. The limitations and conclusions are also presented.

Chapter 7

Conclusions, Limitations, and Recommendations

In this final chapter of the study, the conclusions that have been drawn are laid out, the recommendations for the enhancement of the Griffiths III are provided, the limitations of the research are addressed, and recommendations for future research on the Griffiths assessment measure are offered.

Conclusions

This study aimed to explore and describe the experiences of users of the Griffiths III, a child developmental assessment measure. The aim was accomplished by conducting thematic analysis on data that were gathered by the ARICD using a questionnaire that was sent electronically to all registered users of the Griffiths III. The data were collected by the ARICD to obtain a rich understanding of how the assessment measure, which was published in 2016, is experienced by practitioners. The findings of this study, therefore, described how users of the Griffiths III experience the measure and how it will be used to inform the revision of the assessment tool.

During the data analysis, each question from the questionnaire was analysed individually, and codes were generated. Subsequently, the codes were arranged into common themes before four overarching themes emerged.

The first theme that emerged related to the purpose and use of the Griffiths III. Under this theme, the findings of the study indicated that users of the Griffiths III experience the measure as a useful tool and utilise the measure for the purpose it was intended for, which is to assess the development of children from birth to the age of six. The study also found that the respondents

experience the assessment measure as a useful tool in the diagnosis of neurodevelopmental disorders, as well as in assisting with intervention planning and monitoring a child's progress.

The second overarching theme related to the domains, content, and structure of the Griffiths III. The findings showed participants experience the new domains of the Griffiths III as useful but also indicated that the participants find the measure does not provide an accurate developmental picture of children with ASD. Furthermore, the findings showed that participants experience that the content of the Griffiths III is modern and appropriate for use with children from birth to six years, while the structure of the measure is experienced as appropriate for its intended purpose.

The third overarching theme related to the psychometric properties, standardisation, and norms of the Griffiths III. The findings showed that users of the Griffiths III experience the assessment measure's psychometric properties as being accurate and reliable for the context it was intended for. The findings, however, indicated that the participants experience a need for more norms to be developed for children who are developing atypically, while there is also a need for the measure to be standardised for children in countries outside of the United Kingdom.

The final overarching theme related to the merits and limitations of the Griffiths III, as well as the suggested improvements to the assessment measure. The participants experience the measure's child-friendly, fun element as the main strength of the Griffiths III as it allows children to show their true abilities during the assessment. The findings showed that the participants experienced the lengthy administration and cumbersome toolkit as the main weaknesses of the measure and suggested that the Griffiths III manual needs to include suggestions for report writing.

The findings from this study were used to generate the below recommendations that are provided to the ARICD to inform the next edition of the Griffiths Scales.

Recommendations to Inform the Next Edition of the Griffiths Scales

In Chapter Three, it was discussed that the findings of this research study might be used to inform the next edition of the Griffiths Scales. As feedback from test users play a critical role in the revision process (Adams, 2000), the findings of this study should form part of the information that will be used by the ARICD to determine when the Griffiths III needs to be revised and what type of revision will be required.

The following nine recommendations are provided to the ARICD for the enhancement of the Griffiths III and are based solely on the findings of this study. Each recommendation is briefly discussed below.

Specialised Version for Children with Autism Spectrum Disorder

It is recommended that a specialised version of the Griffiths III be developed for children with suspected ASD. These children experience significant deficits in social communication and interaction, while the Griffiths III requires a lot of verbal instructions. Therefore, children with ASD's development cannot accurately be measured with the same assessment measure that is intended for typically developing children. The specialised version of the measure can include objects and items that are used in the Griffiths III, but items need to be revised to measure the development of children with ASD accurately. Specialised norms will also need to be developed. This is discussed in the following section.

Psychometric Properties

It is recommended that norms are developed for children with neurodevelopmental disorders, such as intellectual disability, global developmental delay, and ASD. As discussed in

this study, these children's development cannot be compared to that of typically developing children. This will allow practitioners to gain a better understanding of the level of impairment of children who fall below the test floor.

School Readiness Element

It is recommended that the Griffiths III's usability is enhanced by including a school readiness element in the assessment measure. This could entail increasing the age range of the measure. By including the school readiness element, the Griffiths III will be able to formally identify when a child is ready to enter into the first year of formal schooling, as well as what educational needs the child will likely have.

Universality of the Scales

It is recommended that the Griffiths III is adapted for use in different countries to enhance its global application and that the ARICD shows a greater commitment to this process. Currently, the manual of the Griffiths III places the responsibility for the measure to be adapted for different contexts on the users of the Griffiths III. It is, however, recommended that all key role players, including the ARICD, publisher of the measure, as well as psychological test regulatory bodies in the various countries, demonstrate a greater involvement in the process of adapting the measure. This process will include developing new norms for the different contexts that the measure is adapted for.

Administration Time

It is recommended that the length of time the Griffiths III assessment takes be shortened. This could include reducing the number of items administered during an assessment or including a screening test to determine the correct level where a child should begin to be assessed. This will allow more children to be assessed with this measure and prevent practitioners from

excluding certain parts of the Griffiths III due to time constraints.

Diagnosis and Screening

Adding to the previous recommendation, it is suggested that screening elements are included in the Griffiths III to allow users of the measure a more expeditious manner of obtaining rich information that can be used to inform diagnoses. This will increase the usefulness of the measure, but should not replace a fully comprehensive assessment. While compiling this study, the Covid-19 pandemic caused a monumental disruption to everyday day life in South Africa. The Covid-19 pandemic also potentially changed the way child developmental assessments will be conducted worldwide in the future. These screening elements will, therefore, be beneficial if the manner in which assessments are conducted are altered or if another pandemic, or any other form of disaster, strikes.

Cost

It is recommended that every effort is made to reduce the cost of the Griffiths III toolkit to increase the measure's usage worldwide. This reduction in costs relates to the price of the Griffiths III kit, as well as the replacement of objects.

Specific Items

It is recommended that specific objects and items in the Griffiths III are revised. The material of the quiet book needs to be changed to something that can easily be cleaned after each use. This concern was raised prior to the Covid-19 pandemic; however, this has become even more important in light of the pandemic, which has caused people all over the world to become more vigilant regarding preventing the spread of viruses and diseases.

The quiet book is also utilised for the items that require the buttoning and unbuttoning of the bear's clothes. These items also need to be revised to measure a child's true abilities.

It is also recommended that the moral reasoning card that is used to measure moral reasoning in subscale D, Personal-Social-Emotional, be changed to pictures of actual people.

Report Writing

Finally, it is recommended that the Griffiths III manual includes guidance on how to compile reports. It is recommended that the manual includes example reports for children of various ability levels. Although each assessment will be unique and each report should be tailored to the specific child, it is suggested that the manual includes a structure that could be used to outline practitioners' reports that are provided to caregivers.

Limitations of the Study

No research study is completely devoid of limitations (Price & Murnan, 2013), and this study is no exception. The limitations of this research study are highlighted below.

The first limitation of this study was that the ARICD gathered the data and not the researcher. As a result, the questionnaire was designed by the ARICD to meet their specific needs. Although the needs of the ARICD and the researcher correlated, the researcher was not in control of the data-gathering process.

A second limitation of this study was that the questionnaire that was used to gather data from participants contained areas of weakness. These weaknesses were present despite the questionnaire being pilot tested in a previous research study for the ARICD. The participants did not thoroughly understand two questions in the questionnaire:

- Question 8: “Are you using the developmental profiles for infants and young children?

If not, why not?” Several participants did not understand what the question was referring to and, therefore, they were not able to provide a thorough answer. It is recommended that in future studies, the question clearly states that it is referring to the developmental profiles that

are present in the record book.

- Question 9: “Do you see any merit in enhancing the screening elements of the Griffiths III? Please provide a comment.” Numerous participants in the study did not understand this question, and as a result, did not answer it. It is recommended that in future studies the question specifically states that there are no specific screening elements contained in the Griffiths III, and the participants should be asked if they would see any merit in including these elements in the measure.

Another limitation of this research study was that it relied solely on one source of data, the questionnaire. Although there were many advantages to using a questionnaire for gathering the data, this tool did not allow for follow-up questions. As a result, the researcher was not able to ask for clarification when the participants made comments that were vague or unclear, and as a result, the data were not as complete as it might have been, had the data been collected using interviews.

Finally, it must once again be highlighted that the purpose of this research study was to explore and describe the experiences of users of the Griffiths III. There are many role players involved in an assessment measure, and users of the measure make up only a portion of this group. As a result, the findings from this research study present only the views of one section of the role players and, therefore, the provided recommendations in this study are based solely on what would benefit the users of the measure, and not necessarily the entire group. Therefore, as part of the recommendations for future research, discussed in the next section, it is suggested that similar studies are conducted on the other role players involved with the Griffiths III.

Recommendations for Future Research

It is recommended that similar research studies are conducted on the views of other key

role players involved in the Griffiths III. This will include exploring and describing the experiences of children who are assessed with the Griffiths III, caregivers and parents of children who have been assessed with the Griffiths III, as well as conducting research studies on the needs and desires of the publishers, as well as members of the ARICD who are on the Griffiths III board.

It is also recommended that, in the future, another study of this nature is conducted to explore and describe the experiences of users of the Griffiths III. This will allow the researcher to obtain the views of users after they have utilised this measure for a more extended period. This study will also show how users experience the measure in the future, which could be very different, considering the monumental changes that the world is currently experiencing due to the Covid-19 pandemic. When this study is conducted, it is recommended that the limitations addressed in the previous section are reduced by revising the questionnaire, as discussed.

Finally, it is recommended that research is conducted on other aspects of child development assessment that were not discussed in this study. A key aspect that participants in this study did not comment on is the use of digital and online assessment. As discussed in Chapter Two of this study, technology plays an important role in the development of children, and this can have a positive or negative effect on a child's development (Santrock, 2014). For a developmental assessment measure to continue providing accurate results about a child's developmental level, it will be important to utilise technology in the future. It would, therefore, be beneficial to conduct research to determine how technology can be utilised in child development assessments. It is also recommended that research studies are conducted to explore how users of the Griffiths III would experience using digital and online assessment.

Chapter Overview

This chapter presented the conclusions that were drawn in this study. It also highlighted the recommendations that are provided for the continual improvement of the Griffiths III, as well as the areas of research that were not addressed in this study due to its limitations.

During the course of this study, the researcher was constantly reminded of the individuality of every child and his or her unique potential. As a father and practitioner, the researcher was also aware of the pressure from various sectors of society to group individuals, and in particular, children, into certain categories and rank their worth according to society's standards. Assessment measures, such as the Griffiths III, can aid practitioners in succumbing to this pressure. The researcher, however, believes that practitioners must be careful not to erode the unique characteristics of each child and should rather celebrate their individuality.

Not every child has the potential to become successful according to society's standards. This might be difficult for children, caregivers, and practitioners to accept; however, it does not mean that children will not become successful in their own unique way. Abraham Maslow (1954, p. 46) said, "a musician must make music, an artist must paint, a poet must write, if he is to be ultimately at peace with himself" and "what a man can be, he must be". Ultimately, the researcher believes that the Griffiths III should be used by practitioners to assist children in becoming musicians, artists, poets or whatever they can be.

References

- Adams, K. M. (2000). Practical and ethical issues pertaining to test revisions. *Psychological Assessment, 12*(3), 281-286. <https://doi.org/10.1037/1040-3590.12.3.281>
- Allen, J. B. (2002). *Treating patients with neuropsychological disorders: A clinician's guide to assessment and referral* (1st ed.). American Psychological Association.
- American Psychological Association, American Educational Research Association, National Council on Measurement in Education, & Joint Committee on Standards for Educational and Psychological Testing (U.S.). (2014). *Standards for educational and psychological testing*. AERA.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). <https://doi.org/10.1176/appi.books.9780890425596>
- American Psychological Association Task Force on Socioeconomic Status. (2007). *Report of the APA Task Force on Socioeconomic Status*. American Psychological Association. <https://www.apa.org/pi/ses/resources/publications/task-force-2006.pdf>
- Armstrong, K. H., & Agazzi, H. C. (2010). The Bayley-III Cognitive Scale. In L. G. Weiss, T. Oakland & G. P. Aylward (Eds.), *Bayley-III Clinical Use and Interpretation* (pp. 29-45). Academic Press.
- Aschner, M., & Costa, L. (2015). *Environmental factors in neurodevelopmental and neurodegenerative disorders* (1st ed). Elsevier Science.
- Babbie, E., & Mouton, J. (2010). *The practice of social research*. Oxford University Press.
- Bagnato, S. J., Neisworth, J. T., & Pretti-Frontczak, K. (2010). *Linking authentic assessment and early childhood intervention: Best measures for best practices* (2nd ed.). Paul Brookes Publishing.

- Baio, J., Wiggins, L., Christensen, D. L., Maenner, M. J., Daniels, J., Warren, Z., Kurzius-Spencer, M., Zahorodny, W., Rosenberg, C. R., White, T., Durkin, M. S., Imm, P., Nikolaou, L., Yeargin-Allsopp, M., Lee, L., Harrington, R., Lopez, M., Fitzgerald, R. T., Hewitt, A., Pettygrove, S., ... Dowling, N. F. (2018). Prevalence of autism spectrum disorder among children aged 8 years – Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2014. *MMWR Surveillance Summaries*, 67(6), 1-23. <http://dx.doi.org/10.15585/mmwr.ss6706a1>
- Band, E. B., & Weisz, J. R. (1988). How to feel better when it feels bad: Children's perspectives on coping with everyday stress. *Developmental Psychology*, 24(2), 247-253. <https://doi.org/10.1037/0012-1649.24.2.247>
- Bandura, A. (1977). *Social learning theory*. Prentice Hall.
- Barry, C. T., Frick, P. J., & Kamphaus, R. W. (2013). Psychological assessment in child mental health settings. In K. F. Geisinger (Ed.), *APA handbook of testing and assessment in psychology* (pp. 253-270). American Psychological Association.
- Bellman, M., Byrne, O., & Sege, R. (2013). Developmental assessment of children. *The BMJ*, 346, 31-35. <http://doi.org/10.1136/bmj.e8687>
- Berger, M. (2013). Criterion-referenced testing. In F. R. Volkmar (Ed.), *Encyclopedia of autism spectrum disorders* (p. 823). Springer. https://doi.org/10.1007/978-1-4419-1698-3_146
- Berk, L. E. (2013). *Child development* (6th ed.). Allyn and Bacon.
- Bick, J., & Nelson, C. A. (2016). Early adverse experiences and the developing brain. *Neuropsychopharmacology: Official Publication of the American College of Neuropsychopharmacology*, 41(1), 177-196. <https://doi.org/10.1038/npp.2015.252>

- Black, M. M., Walker, S. P., Fernald, L. C., Andersen, C. T., DiGirolamo, A. M., Lu, C., McCoy, D. C., Fink, G., Shawar, Y. R., Shiffman, J., Devercelli, A. E., Wodon, Q. T., Vargas-Baron, E., & Grantham-McGregor, S. (2017). Early childhood development coming of age: science through the life course. *The Lancet*, *389*(10064), 77-90.
[https://doi.org/10.1016/S0140-6736\(16\)31389-7](https://doi.org/10.1016/S0140-6736(16)31389-7)
- Bowlby, J. (1957). Symposium on the contribution of current theories to an understanding of child development. *British Journal of Medical Psychology*, *30*(4), 230-240.
<https://doi.org/10.1111/j.2044-8341.1957.tb01202.x>
- Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. Hogarth Press.
- Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Sage Publications Inc.
- Bransford, J., Brown, A., & Cocking, R. (2000). *How people learn brain, mind, experience, and school*. National Academies Press. <http://doi.org/10.17226/9853>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. <http://doi.org/10.1191/1478088706qp063oa>
- Bronfenbrenner, U., & Morris, P. (2006). The bioecological model of human development. In W. Damon, & R. Lerner (Eds.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (6th ed., pp. 793-828). Wiley.
- Brown, J., & Rolfe, S. A. (2005). Use of child developmental assessment in early childhood education: Early childhood practitioner and student attitudes toward formal and informal testing. *Early Child Development and Care*, *175*(3), 193-202.
<http://doi.org/10.1080/0300443042000266240>

- Bush, S. S. (2010). Determining whether or when to adopt new versions of psychological and neuropsychological tests: Ethical and professional considerations. *The Clinical Neuropsychologist*, 24, 7-16. <http://doi.org/10.1080/13854040903313589>
- Butcher, J. (2000). Revising psychological tests: Lessons learned from the revision of the MMPI. *Psychological Assessment*, 12(3), 263-271. <http://doi.org/10.1037//1040-3590.12.3.263>
- Butcher, J. N., Cabiya, J., Lucio, E., & Garrido, M. (2007). The challenge of assessing clients with different cultural and language backgrounds. In J. N. Butcher, J. Cabiya, E. Lucio & M. Garrido (Eds.), *Assessing Hispanic clients using the MMPI-2 and MMPI-A* (pp. 3-23). American Psychological Association. <https://doi.org/10.1037/11585-001>
- Choo, Y. Y., Yeleswarapu, S. P., How, C. H., & Agarwal, P. (2019). Developmental assessment: practice tips for primary care physicians. *Singapore Medical Journal*, 60(2), 57–62. <https://doi.org/10.11622/smedj.2019016>
- Cioni, G., Inguaggiato, E., & Sgandurra, G. (2016). Early intervention in neurodevelopmental disorders: underlying neural mechanisms. *Developmental Medicine & Child Neurology*, 58(4), 61-66. <http://doi.org/10.1111/dmcn.13050>
- Coolican, H. (2004). *Research methods and statistics in psychology* (4th ed.). Hodder Arnold.
- Creswell, J. W. (2014). *Qualitative inquiry and research designs* (2nd ed.). Sage Publications.
- Denver Developmental Materials. (2016). *Denver Developmental Materials, Inc.* <https://denverii.com/>
- Diamond, K., & Squires, J. (1993). The role of parental report in the screening and assessment of young children. *Journal of Early Intervention*, 17(2), 107-115. <https://doi.org/10.1177%2F105381519301700203>

- Durrant, R., & Ellis, B. J. (2013). Evolutionary psychology. In I. B. Weiner, R. J. Nelson & S. Mizumori (Eds.), *Handbook of psychology* (2nd ed., Vol. 3, pp. 26-51). Wiley.
- Durrheim, K., Painter, D., & Terre Blanche, M. (2006). *Research in practice: Applied methods for the social sciences*. University of Cape Town Press.
- Educational Testing Service. (2015). *2014 ETS standards for quality and fairness*. Educational Testing Service.
- Edwards, R., & Mauthner, M. (2002). Ethics and feminist research. In M. Mauthner, M. Birch, J. Jessop & T. Miller (Eds.), *Ethics in qualitative research* (pp. 14-31). SAGE.
<https://dx.doi.org/10.4135/9781473913912.n1>
- Ellingsen, K. M. (2016). Standardized assessment of cognitive development: Instruments and issues. In A. Garro (Ed.), *Early childhood assessment in school and clinical child psychology* (pp. 25-50). Springer. <http://doi.org/10.1007/978-1-4939-6349-2>
- Erickson, R. J. (1985). Play contributes to the full emotional development of the child. *Education*, 105(3), 261–263.
- Erikson, E. H. (1977). *Childhood and society*. Norton.
- Foxcroft, C. D. (2011a). *Some issues in assessment in a developing world context: An African perspective*. Stimulus Paper for discussion during an internet-based symposium organized by Wits Programme Evaluation Group on Issues in Assessment and Evaluation.
- Foxcroft, C. D. (2011b). Ethical issues related to psychological testing in Africa: What I have learned (so far). In W. J. Lonner, D. L. Dinnel, S. A. Hayes & D .N. Sattler (Eds.), *Online readings in psychology and culture (Unit 5, Chapter 4)*. Bellingham, WA: Centre for Cross-Cultural Research, Western Washington University.
<http://www.wwu.edu/culture/foxcroft.htm>

- Foxcroft, C. D. & Roodt, G. (2019). *Introduction to psychological assessment in the South African context* (5th ed). Oxford University Press.
- Frank, L. (1962). The beginnings of child development and family life education in the twentieth century. *Merrill-Palmer Quarterly of Behavior and Development*, 8(4), 207-227.
<http://www.jstor.org/>
- Freud, S. S. (1917). *A general introduction to psychoanalysis*. Washington Square Press.
- Garcia-Berrera, M. A., & Moore, W. R. (2013). History taking, clinical interviewing, and the mental status examination in child assessment. In D. H. Saklofske, C. R. Reynolds & V. L. Schwann (Eds.), *The Oxford handbook of child psychological assessment* (pp. 423-444). Oxford University Press.
- Giagazoglou, P., Tsimaras, V., Fotiadou, E., Evaggelinou, C., Tsikoulas, J., & Angelopoulou, N. (2005). Standardization of the motor scales of the Griffiths Test II on children aged 3 to 6 years in Greece. *Child: Care, Health & Development*, 32(3), 321-330.
<https://doi.org/10.1111/j.1365-2214.2005.00505.x>
- Ginsburg, K. R., Committee on Communications, & Committee on Psychosocial Aspects of Child and Family Health Pediatrics. (2007). The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *Pediatrics*, 119(1), 182-191. <https://doi.org/10.1542/peds.2006-2697>
- GL Assessment. (2013). *Schedule of Growing Skills*. <http://www.gl-assessment.co.uk/products/schedule-growing-skills>
- Glascoe, F. P., & Marks, K. P. (2011). Detecting children with developmental-behavioural problems: The value of collaborating with parents. *Psychological Test and Assessment Modeling*, 53(2), 258-279.

- Godoy, L., Davis, A., Heberle, A., Briggs-Gowan, M., & Carter, A. S. (2018). Caregiver report measures of early childhood social-emotional functioning. In C. H. Zeanah (Ed.), *Handbook of infant mental health* (4th ed.) (pp. 259-278). The Guilford Press.
- Hambleton, R. K. (2004). Adapting achievement tests in multiple languages for international assessments. In A. C. Porter & A. Gamoran (Eds.), *Methodological advances in cross-national surveys of educational achievement* (pp. 3-23). National Academy Press.
- Gomez, R., Vance, A., & Watson, S. D. (2016). Structure of the Wechsler Intelligence Scale for Children – Fourth edition in a group of children with ADHD. *Frontiers in Psychology*, 7, 737. <https://dx.doi.org/10.3389%2Ffpsyg.2016.00737>
- Graf, C., Koch, B., Kretschmann-Kandel, E., Falkowski, G., Christ, H., Coburger, S., Lehmacher, W., Bjarnason-Wehrens, B., Planten, P., Tokarski, W., Predel, H., & Dordel, S. (2004). Correlation between BMI, leisure habits and motor abilities in childhood (Children's Health Interventional Trial – project). *International Journal of Obesity*, 28(1), 22-26. <http://doi.org/10.1038/sj.ijo.0802428>
- Green, E. M., Stroud, L. S., O'Connell, R., Bloomfield, S., Cronje, J. H., Foxcroft, C., Hurter, K., Lane, H., Marais, R., Marx, C., McAlinden, P., Paradise, R., & Venter, D. (2016). *Griffiths scales of child development 3rd Ed. Part II: Administration and scoring*. Hogrefe.
- Green, E. M., Stroud, L. S., Cronje, J. H., & Watson, M. B. (in press). Child development assessment: practitioner input in the revision to Griffiths III. *Child: Care Health and Development*.
- Griffiths, R. F. (1935). *A study of imagination in early childhood and its function in mental development*. Routledge.

- Griffiths, R. F. (1954). *The abilities of babies*. University of London Press.
- Groth-Marnat, G. & Wright, A. J. (2009). *Handbook of psychological assessment* (6th ed.). John Wiley & Sons.
- Health Professions Council of South Africa. (2006). *Ethical Rules of Conduct – Form 223*. South African Government.
- Hesse-Biber, S. N., & Piatelli, D. (2007). Holistic reflexivity. In S. N. Hesse-Biber (Ed.), *Handbook of feminist research: Theory and praxis* (pp. 493-514). Sage Publications Inc.
- Holding, P., Abubakar, A., & Kitsao-Wekulo, P. (2008). *A systematic approach to test and questionnaire adaptations in an African context*. 3mc2008 Conference Proceedings. http://csdiworkshop.org/v2/images/2008/S9/Holding_Abubakar_oct.pdf
- Howard, J., & McInnes, K. (2013). The impact of children's perception of an activity as play rather than not play on emotional well-being. *Child: Care, Health and Development*, 39(5), 737–742. <https://doi.org/10.1111/j.1365-2214.2012.01405.x>
- Huntley, M. (1996). *Griffiths Mental Developmental Scales from birth to 2 years – Manual*. ARICD.
- Hurst, C. (2013). *Social inequality* (8th ed.). Pearson.
- International Test Commission. (2001). International guidelines for test use. *International Journal of Testing*, 1(2), 93-114.
- International Test Commission. (2017). *The ITC guidelines for translating and adapting tests*. https://www.intestcom.org/files/guideline_test_adaptation.pdf
- JAMA Network. (2009). Call for papers for archives theme issue: Influence of birth to age 5 experiences on emotional and psychological health. *Archives of Pediatrics & Adolescent Medicine* 163(7), 666. <http://doi.org/10.1001/archpediatrics.2009.138>

- Jameson, J., DeGroot, L., & De Kretser, D. (2016). *Endocrinology* (7th ed.). Elsevier Science.
- Kalb, L., Jacobson, L., Zisman, C., Mahone, E., Landa, R., Azad, G., Menon, D., Singh, V., Zabel, A., & Pritchard, A. (2019). Interest in research participation among caregivers of children with neurodevelopmental disorders. *Journal of Autism and Developmental Disorders*, 49(9), 3786-3797. <https://doi.org/10.1007/s10803-019-04088-9>
- Kawulich, B. & Holland, L. (2012). Qualitative data analysis. In C. Wagner, B. Kawulich, & M. Garner (Eds.), *Doing social research; A global context* (pp. 228-245). McGraw-Hill Education.
- Kim, D. H., & Smith, J. D. (2010). Evaluation of two observational assessment systems for children's development and learning. *NHSA Dialog: A Research-to-Practice Journal for the Early Childhood Field*, 13(4), 253-267.
<http://doi.org/10.1080/15240754.2010.527022>
- King, N. (2010). Research ethics in qualitative research. In M. A. Forrester (Ed.), *Doing qualitative research in psychology: A practical guide* (pp. 98-118). SAGE Publications.
- Leichtman, M. (2009). Behavioral observations. In J. N. Butcher (Ed.), *Oxford handbook of personality assessment* (pp. 187-200). Oxford University Press.
- Levy, Y. (2018). 'Developmental delay' reconsidered: The critical role of age-dependent, co-variant development. *Frontiers in Psychology*, 9, 503.
<https://doi.org/10.3389/fpsyg.2018.00503>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic enquiry*. Sage Publications.
- Louw, D. A., & Louw, A. E. (1998). *Human development* (2nd ed.). Kagiso Tertiary.
- Louw, D. A., & Louw, A. E. (2014). *Child and adolescent development*. Psychology Publications.

- Luiz, D. M., Faragher, B., Barnard, A., Knoesen, N., Kotras, N., Burns, L. E., & Challis, D. (2006). *GMDS-ER: Griffiths Mental Development Scales - Extended Revised analysis manual*. Hogrefe – The Test Agency Ltd.
- Luiz, D. M., Stroud, L. S., & Jansen, J. (2005). Assessment of young children, physically disabled individuals, mentally challenged learners, and individuals with chronic conditions. In C. Foxcroft & G. Roodt (Eds.), *An introduction to psychological assessment in the South African context* (2nd ed., pp. 101-118). Oxford University Press South Africa.
- Macy, M., & Bagnato, S. J. (2013). The authentic alternative for assessment in early childhood intervention. In D. H. Saklofske, C. R. Reynolds & V. L. Schwann (Eds.), *The Oxford handbook of child psychological assessment* (pp. 423-444). Oxford University Press.
- Maltzman, S. (2013). The assessment process. In K. F. Geisinger (Ed.), *APA handbook of testing and assessment in psychology*, (pp. 19-34). American Psychological Association.
- Maslow, A. H. (1954). *Motivation and personality*. Harper & Row Publishers.
- McBurney, D., & White, T. (2010). *Research methods* (8th ed.). Wadsworth Cengage Learning.
- McConaughy, S. H. (2005). *Clinical interviews for children and adolescents: Assessment to intervention*. The Guilford Press.
- National Association for the Education of Young Children. (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8: A position statement of the NAEYC*. <https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/resources/position-statements/PSDAP.pdf>

- National Association for the Education of Young Children. (n.d.). *12 principles of child development and learning that inform practice*.
<https://www.naeyc.org/resources/topics/12-principles-of-child-development>
- Nelson, C. A. III, Zeanah, C. H., & Fox, N. A. (2019). How early experience shapes human development: The case of psychosocial deprivation. *Neural Plasticity*, 2019, Article 1676285. <https://doi.org/10.1155/2019/1676285>
- Neuman, W. L. (2006). *Social research methods: Qualitative and quantitative approaches* (6th ed.). Allyn & Bacon.
- Nowell, L., Norris, J., White, D., & Moules, N. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal Of Qualitative Methods*, 16(1), 1-13.
<http://doi.org/10.1177/1609406917733847>
- Palaganas, E. C., Sanchez, M. C., Molintas, M. P., & Caricativo, R. D. (2017). Reflexivity in qualitative research: A journey of learning. *The Qualitative Report*, 22(2), 426-438.
- Parahoo, K. (2006). *Nursing research principles, processes and issues* (2nd ed.). Palgrave Macmillan.
- Price, J. H., & Murnan, J. (2013). Research limitations and the necessity of reporting them. *American Journal of Health Education*, 35(2) 66-67.
<https://doi.org/10.1080/19325037.2004.10603611>
- Puckett, M. B., & Black, J. K. (2002). *The young child: Development from prebirth through eight* (3rd ed.). Prentice Hall.

- Rhemtulla, M., & Tucker-Drob, E. M. (2011). Correlated longitudinal changes across linguistic, achievement, and psychomotor domains in early childhood: evidence for a global dimension of development. *Developmental Science, 14*(5), 1245-1254.
<https://doi.org/10.1111/j.1467-7687.2011.01071.x>
- Ringwalt, S. (2008). *Developmental screening and assessment instruments with an emphasis on social and emotional development for young children ages birth through five*. The University of North Carolina, FPG Child Development Institute & National Early Childhood Technical Assistance Center.
- Sabanathan, S., Wills, B., & Gladstone, M. (2015). Child development assessment tools in low-income and middle-income countries: how can we use them more appropriately? *Archives of Disease in Childhood 100*(5), 482-488.
<http://dx.doi.org/10.1136/archdischild-2014-308114>
- Sadock, B., Ruiz, P., & Sadock, V. (2015). *Kaplan & Sadock's synopsis of psychiatry* (11th ed.). Wolters Kluwer.
- Saklofske, D. H., Reynolds, C. R., & Schwean, V. L. (2013). *The Oxford handbook of child psychological assessment*. Oxford University Press.
- Sands, R. & D'Aamato, R. C. (2018). McCarthy Scales of Children's Abilities. In J. Kreutzer, J. DeLuca & B. Caplan (Eds.), *Encyclopedia of Clinical Neuropsychology* (pp. 2092-2093). Springer. https://doi.org/10.1007/978-3-319-56782-2_1462-3
- Santrock, J. W. (2014). *Child Development* (14th ed.). McGraw Hill.
- Sarantakos, S. (2000). *Social research* (2nd ed.). McMillan.
- Sattler, J. M. (2008). *Assessment of children: Cognitive foundations* (5th ed.). Jerome M. Sattler Publisher Inc.

- Sawyer, J. (2017). I think I can: Preschoolers' private speech and motivation in playful versus non-playful contexts. *Early Childhood Research Quarterly*, 38, 84-96.
<https://doi.org/10.1016/j.ecresq.2016.09.004>
- Scandurra, V., Gialloreti, L. E., Barbanera, F., Scordo, M. R., Pierini, A., & Canitano, R. (2019). Neurodevelopmental disorders and adaptive functions: A study of children with autism spectrum disorders (ASD) and/or attention deficit and hyperactivity disorder (ADHD). *Frontiers in Psychiatry*, 10, 673. <https://doi.org/10.3389/fpsyt.2019.00673>
- Schrader A., & D'Amato R. C. (2011) McCarthy Scales of Children's Abilities. In J. S Kreutzer, J. DeLuca & B. Caplan (Eds.), *Encyclopedia of Clinical Neuropsychology* (p. 2946). Springer. <https://doi.org/10.1007/978-0-387-79948-3>
- Shahshahani, S., Vameghi, R., Azari, N., Sajedi, F., & Kazemnejad, A. (2010). Validity and Reliability Determination of Denver Developmental Screening Test-II in 0 – 6 Year-Olds in Tehran. *Iranian Journal of Pediatrics* 20(3), 313-322.
- Sharma, A. (2011). Developmental examination: Birth to 5 years. *Archives of Disease in Childhood: Education & Practice*, 96(5), 162-175.
<http://doi.org/10.1136/adc.2009.175901>
- Shaugnessy, M. F., & Greathouse, D. (1997). Early childhood assessment: Recent advances. *Early Childhood Development and Care*, 130(1), 31-39.
<http://doi.org/10.1080/0300443971300104>
- Shenton, A. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education For Information*, 22(2), 63-75. <http://doi.org/10.3233/efi-2004-22201>
- Shonkoff, J. P., & Phillips, D. A. (2000). *From neurons to neighbourhoods: The science of early child development*. National Academy Press.

Sigelman, C. K., & Rider, E. A. (2014). *Life span human development* (8th ed.). Cengage Learning.

Silverstein, M. L., & Nelson, L. D. (2000). Clinical and research implications of revising psychological tests. *Psychological Assessment*, *12*(3), 298-303.

<https://psycnet.apa.org/doi/10.1037/1040-3590.12.3.298>

Sing, A., Yeh, C. J., & Blanchard, S. B. (2017). Ages and Stages Questionnaire: a global screening scale. *Boletín Médico Del Hospital Infantil de México (English Edition)*, *74*(1), 5-12. <https://doi.org/10.1016/j.bmhix.2016.07.008>

Skinner, B. F. (1938). *The behaviour of organisms: An experimental analysis*. Appleton-Century-Crofts.

Smith, R. A., & Davis, S. F. (2013). *The psychologist as detective* (6th ed.). Prentice Hall.

Sprouts Child Development. (2019). *Personal-social skills*.

<http://www.sproutsdevelopment.com/resources/personal-social-skills/>

Squires, J., & Bricker, D. (2009). *Ages & Stages Questionnaires, Third Edition (ASQ-3™): A parent-completed child-monitoring system*. Paul H. Brookes Publishing Co.

Stroud, L., Foxcroft, C., Green, E., Bloomfield, S., Cronje, J., Hurter, K., Lane, H., Marais, R., Marx, C., McAlinden, P., O'Connell, R., Paradise, R., & Venter, D. (2016). *Griffiths scales of child development 3rd Ed. Part I: Overview, development and psychometric properties*. Hogrefe.

Stroud, L. S, Green, E. M., & Cronje, J. H. (2020). A revision process that bridges qualitative and quantitative assessment. *Psychology*, *11*(3), 436-444.

<https://doi.org/10.4236/psych.2020.113029>

Sughanda, M. (2018). *Pattern and sequences of child development*. UK Essays.

<https://www.ukessays.com/essays/childcare/pattern-sequence-child-development-9957.php?vref=1>

Swim, T. J. (2007). *Theories of child development: Building blocks of developmentally appropriate practices*. Early Childhood News.

http://www.earlychildhoodnews.com/earlychildhood/article_print.aspx?ArticleId=411

Teh, Y. Y., & Lek, E. (2018). Culture and reflexivity: Systemic journeys with a British Chinese family. *Journal of Family Therapy*, 40(4), 520-536. <https://doi.org/10.1111/1467-6427.12205>

Triandis, H. C. (2007). Culture and psychology: A history of their relationship. In S. Kitayama & D. Cohen (Eds.), *Handbook of cultural psychology* (pp. 59-76). The Guilford Press.

United Nations. (1989). Convention on the Rights of the Child. *Treaty Series*, 1577, 3.

Vygotsky, L. S. (1978). The role of play in development. In M. Cole, V. John-Steiner, S. Scribner & E. Souberman (Eds.), *Mind in Society* (pp. 92-104). Harvard University Press.

Watson, J. B. (1924). *Behaviorism*. People's Institute Publishing Company.

Wechsler, D. (2013). *WPSI IV Manual Preschool & Primary Scale of Intelligence - Fourth UK edition*. Pearson.

Weiner, I. B. (2003). The assessment process. In J. R. Graham & J. A. Naglieri (Eds.), *Handbook of psychology: Vol. 10. Assessment psychology* (pp. 3-25). Wiley.

Whitebread, D., Neale, D., Jensen, H., Liu, C., Solis, S. L., Hopkins, E., Hirsh-Pasek, K., Zosh, J. M. (2017). *The role of play in children's development: a review of the evidence (research summary)*. The LEGO Foundation.

https://www.legofoundation.com/media/1065/play-types--development-review_web.pdf

Willig, C. (2008). *Introducing qualitative research in psychology*. Open University Press.

Wortham, S. C., & Hardin, B. J. (2019). *Assessment in early childhood education* (8th ed).
Pearson.

Xu, G., Strathearn, L., Liu, B., Yang, B., & Bao, W. (2018). Twenty-year trends in diagnosed
attention-deficit/hyperactivity disorder among US children and adolescents, 1997 – 2016.

JAMA Network Open, 1(4), e181471.

<https://doi.org/10.1001/jamanetworkopen.2018.1471>

Appendix A: ARICD Letter



ASSOCIATION FOR RESEARCH IN INFANT AND CHILD DEVELOPMENT

Registered as a Charitable Incorporated Organisation: No.1161043

Recognised as a Learned Society

Registered Address: ARICD, c/o Hill Dickinson LLP, 50 Fountain Street, Manchester M2 2AS, United Kingdom

President: Dr Paula McAlinden, MB, BCh, BAO, DCH, DRCOG, DA, MRCPG, FRCPCH, MSc
Vice-President: Dr Sue Bloomfield, MD, MB, ChB, BSc Hons, FRCPCH, FRCPE, DCH
Founder Trustee: Dr Brian H Burne, O.St.J., MRCS, DPH,FFPH, TM.Paed
Secretary: Ms Hilary Lane, BA, MA, AFPsSI, C.Clin.Psychol.PsSI
Website: www.aricd.ac.uk

Emails: info@aricd.ac.uk; courses@aricd.ac.uk; research@aricd.ac.uk; ism@aricd.ac.uk; TSC.chair@aricd.ac.uk; web@aricd.ac.uk

Facebook: www.facebook.com/Griffiths-aricd

Please reply to Dr Elizabeth Green by email to research@aricd.ac.uk

Johan Le Roux

Nelson Mandela University

Port Elizabeth

10th August 2019

Dear Johan,

I write to confirm formal permission from ARICD for you to use the anonymised Griffiths III practitioner questionnaires to form a basis for your Masters thesis. We look forward to your findings in due course.

Best wishes

Dr Elizabeth Green, Chair Research ARICD

Appendix B: Questionnaire



ASSOCIATION FOR RESEARCH IN INFANT AND CHILD DEVELOPMENT

Registered as a Charitable Incorporated Organisation: No. 1161043
a Learned Society

Recognised as

Registered Address: ARICD, c/o Hill Dickinson LLP, 50 Fountain Street, Manchester M2 2AS, United Kingdom

President :	Dr. Paula McAlinden, MB, BCh, BAO, DCH, DRCOG, DA, MRCGP, FRCPCH, MSc
Vice-President:	Dr. Sue Bloomfield, MD, MB, ChB, BSc Hons, FRCPCH, FRCPE, DCH
Founder Trustee:	Dr. Brian H Burne, O.St.J., MRCS, DPH, FFPH, TM.Paed
Treasurer :	Dr Fiona Corr, MB, BCh, BAO
Secretary:	Ms. Hilary Lane, BA, MA, AFSI, C.Clin.Psychol.PsSI
Website:	www.aricd.ac.uk

Emails: info@aricd.ac.uk; courses@aricd.ac.uk; research@aricd.ac.uk; ism@aricd.ac.uk; TSC.chair@aricd.ac.uk; web@aricd.ac.uk

Facebook: www.facebook.com/Griffiths-aricd

Dear Colleague:

Griffiths Scales of Child Development – Third Edition (Griffiths III)

Reviewing recently revised psychological tests is important as it provides a central focus around which good practice suggestions can be built. To this end, core guiding principles which underpin the Griffiths Scales of Child Development-Third Edition (Griffiths III) need to be commented on and confirmed by users worldwide so that the next steps can be taken. Therefore, it would be appreciated if you could take 15 to 20 minutes to answer the questions below and return the questionnaire electronically to research@aricd.ac.uk. Should you need anything clarified, you can e-mail your query to us as well.

Thank you in advance for your help! Yours sincerely,

Dr Elizabeth Green
Chair: ARICD Research

Prof Louise Stroud
Lead Researcher

Questionnaire: Griffiths III

Section A – Biographical Information

Name	
Qualification	
Address	
E-mail Address	
Are you a current user of the Griffiths III? *	
Have you converted from Griffiths III or are you a newly trained Griffiths III user?	

*** IF YOU ARE A CURRENT USER OF THE GRIFFITHS III, PLEASE ANSWER SECTION B (QUESTIONS 1-14)**

IF YOU ARE NEWLY TRAINED (EITHER FOR THE FIRST TIME OR ON A CONVERSION COURSE) BUT DON'T CURRENTLY USE THE GRIFFITHS III, PLEASE ANSWER SECTION C (QUESTIONS 15-20)

Section B– Research questions for current users of the Griffiths III

Question 1: *In which country do you work and what position do you currently hold?*

Question 2: *What is your area of specialty or field of expertise?*

Question 3: *Why or when do you use the Griffiths III?*

Question 4: *Which parts of the current Griffiths III do you use? Do you use the entire set of the subscales?*

Question 5: *Which age range of children do you currently find the Griffiths III to be most useful for?*

Question 6: *One test cannot measure everything. In your opinion, what aspects of the development of infants and young children are most useful to assess?*

Question 7: *Does the Griffiths III answer the question, “Is this child developing as expected or like other children of his/her age?” Please provide comment on this statement.*

Question 8: Are you using the developmental profiles for infants and young children? If not, why not?

Question 9: Do you see any merit in enhancing the screening elements of the Griffiths III? Please provide comment.

Question 10: What do you consider to be the strengths of the Griffiths III?

Question 11: What do you consider to be the weaknesses of the Griffiths III

Question 12: Do you think that, in the future, there will continue to be a place in your professional work for developmental testing (as distinct from, or additional to, cognitive or physical testing)?

Question 13: Which items of the Griffiths III would you like to have filming of? Are there specific items you would like to have demonstrated?

Question 14: Any other comments

Section C– Research questions for newly trained (either for the first time or on a conversion course) but not currently using the

Question 15: In which country do you work and what position do you currently hold?

Question 16: What is your area of specialty or field of expertise?

Question 17: If you don't currently use the Griffiths III, please elaborate as to why not.

Question 18: Do you use a different test of child development in your work? If so, please say which test/s you use, and what you consider to be the merits of the instrument/s you use over the Griffiths III.

Question 19: Do you think that, in the future, there will be a place in your professional work for developmental testing (as distinct from cognitive or physical testing)? Please elaborate.

Question 20: Any other comments

Please e-mail the completed questionnaire to research@aricd.ac.uk. We appreciate your response!

Appendix C: Ethics Approval Letter



Summerstrand South
 Faculty of Health Sciences
 Tel.+27(0)41 504 2630 Fax. +27(0)41 504 2574
Zoleka.Soji@mandela.ac.za

Acting Chairperson: Faculty Postgraduate Studies Committee (FPGSC)

Ref: [H19-HEA-PSY-014]/Approval]

20-Aug-2019

MS LN CURRIN
 Faculty of Health Sciences

Dear MS LN CURRIN

PRIMARY RESPONSIBLE PERSON (PRP):	MS LN CURRIN
CO-SUPERVISOR:	PROF L STROUD
PRIMARY INVESTIGATOR (PI):	MR LE ROUX
STUDENT NUMBER:	220497168
QUALIFICATION:	60100 MAClinPsych
TITLE:	THE EXPERIENCES OF USERS OF THE GRIFFITHS III

Your above-entitled application served at the Faculty of Health Sciences Postgraduate Studies Committee meeting for approval. The study is classified as a negligible/low risk study. The ethics clearance reference number is **H19-HEA-PSY-014** and approval is subject to the following conditions:

1. The immediate completion and return of the attached acknowledgement to FPGSC@mandela.ac.za, the date of receipt of such returned acknowledgement determining the final date of approval for the study where after data collection may commence.
2. Approval for data collection is for 1 calendar year from date of receipt of above mentioned acknowledgement.
3. The submission of an annual progress report by the PRP on the data collection activities of the study (form RECH-004 to be made available shortly on Research Ethics Committee (Human) portal) by 15 November this year for studies approved/extended in the period October of the previous year up to and including September of this year, or 15 November next year for studies approved/extended after September this year.
4. In the event of a requirement to extend the period of data collection (i.e. for a period in excess of 1 calendar year from date of approval), completion of an extension request is required (form RECH-005 to be made available shortly on Research Ethics Committee (Human) portal).
5. In the event of any changes made to the study (excluding extension of the study), completion of an amendments form is required (form RECH-006 to be made available shortly on Research Ethics Committee (Human) portal).
6. Immediate submission (and possible discontinuation of the study in the case of serious events) of the relevant report to RECH (form RECH-007 to be made available shortly on Research Ethics Committee (Human) portal) in the event of any unanticipated problems, serious incidents or adverse events observed during the course of the study.

7. Immediate submission of a Study Termination Report to RECH (form RECH-008 to be made available shortly on Research Ethics Committee (Human) portal) upon unexpected closure/termination of study.
8. Immediate submission of a Study Exception Report of RECH (form RECH-009 to be made available shortly on Research Ethics Committee (Human) portal) in the event of any study deviations, violations and/or exceptions.
9. Acknowledgement that the study could be subjected to passive and/or active monitoring without prior notice at the discretion of the Faculty Postgraduate Studies Committee (FPGSC).

Please quote the ethics clearance reference number in all correspondence and enquiries related to the study.

We wish you well with the study.

Yours sincerely,



Prof Z Soji: Acting Faculty Postgraduate Studies Committee (FPGSC) Chairperson
Faculty of Health Sciences
Nelson Mandela University

Appendix 1: Acknowledgement of conditions for ethical approval

APPENDIX 1: ACKNOWLEDGEMENT OF CONDITIONS FOR ETHICS APPROVAL
--

I, MS LN CURRIN , PRP of the study entitled THE EXPERIENCES OF USERS OF THE GRIFFITHS III(H19-HEA-PSY-014), do hereby agree to the following approval conditions:

1. The submission of an annual progress report by myself on the data collection activities of the study by 15 November this year for studies approved in the period October of the previous year up to and including September of this year, or 15 November next year for studies approved after September this year. It is noted that there will be no call for the submission thereof. The onus for submission of the annual report by the stipulated date rests on myself.
2. Submission of the relevant request to RECH in the event of any amendments to the study for approval by RECH prior to any partial or full implementation thereof.
3. Submission of the relevant request to RECH in the event of any extension to the study for approval by RECH prior to the implementation thereof.
4. Immediate submission of the relevant report to RECH in the event of any unanticipated problems, serious incidents or adverse events.
5. Immediate discontinuation of the study in the event of any serious unanticipated problems, serious incidents or serious adverse events.
6. Immediate submission of the relevant report to RECH in the event of the unexpected closure/ discontinuation of the study (for example, de-registration of the PI).
7. Immediate submission of the relevant report to RECH in the event of study deviations, violations and/ or exceptions.
8. Acknowledgement that the study could be subjected to passive and/or active monitoring without prior notice at the discretion of RECH.