An Ecocultural Exploration of Play in Young Children with Developmental Delays Living in Resource-Limited Contexts: A Caregiver Perspective

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Submitted in fulfilment of the requirements in respect of the degree Doctor of Psychology in Child Psychology in the Faculty of the Humanities at the University of the Free State

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Table of Contents

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Abstract

Children's play is a natural phenomenon through which children develop and make sense of their world, making play an ideal medium for child-based interventions. While research is available on the play of children with and without developmental delays, minimal research exists on the play of children with developmental delays living in low- and middle-income countries (LMIC). Cross-cultural studies have shown variations in child play, highlighting the importance of contextualised research on the play of children with developmental delays living in culturally diverse, resource-limited settings. This study aimed to explore the play of Basotho children with developmental delays living in resource-limited communities in South Africa from their caregivers' perspective. It explored (a) *what* they play with (Manuscript 1) and (b) *why*, *how*, and *where* they play (Manuscript 2). Twelve Basotho caregivers of children with developmental delays were purposively selected to participate in two focus groups. The findings revealed ecocultural understandings of access to toys and play materials, specifically the (1) availability, (2) affordability, (3) accessibility, (4) acceptability, and (5) accommodation of play opportunities. Caregivers gave further insight into why their children play (sensory stimulation, emotional regulation, and development), how their children play (the visibility of their disability, specific interests, and play partners), and where they play (at their home). These added to the understanding of play in children with developmental delays living in resource-limited communities. This understanding is imperative for the feasibility of early interventions for children that is also respectful and culturally sensitive to their contexts.

Keywords: autism, caregivers, developmental disabilities, ecocultural perspective, play, play materials, toys, South Africa, World Health Organization Caregiver Skills Training (WHO CST) programme

Opsomming

Kinderspel (of speel) is 'n natuurlike verskynsel waardeur kinders ontwikkel en sin maak van hul wêreld. Dit maak spel 'n ideale medium vir kindergebaseerde intervensies. Terwyl navorsing beskikbaar is oor die spel van kinders met en sonder ontwikkelingsagterstande, bestaan daar minimale navorsing oor die spel van kinders met ontwikkelingsagterstande wat in lae- en middel-inkomste lande woon. Verder het kruiskulturele studies variasies in kinderspel getoon, wat die belangrikheid beklemtoon van gekontekstualiseerde navorsing oor die spel van kinders met ontwikkelingsagterstande wat in kultureel-diverse, hulpbronbeperkte omgewings leef. Hierdie studie het ten doel gehad om die spel van Basotho-kinders met ontwikkelingsagterstande wat in hulpbronbeperkte gemeenskappe in Suid-Afrika woon vanuit hul versorgers se perspektief te verken. Dit het ondersoek (a) waarmee hulle speel (Manuskrip 1), en (b) hoekom, hoe en waar hulle speel (Manuskrip 2). Twaalf Basotho-versorgers van kinders met ontwikkelingsagterstande is doelbewus gekies om aan twee fokusgroepe deel te neem. Die bevindinge het gelei tot n beter ekokulturele begrip oor die toegang tot speelgoed en speelmateriaal, spesifiek die (1) beskikbaarheid, (2) bekostigbaarheid, (3) toeganklikheid, (4) aanvaarbaarheid en (5) akkommodasie van speelgeleenthede. Versorgers het insig gegee oor *hoekom* kinders speel (sensoriese stimulasie, emosionele regulering, en ontwikkeling), *hoe* kinders speel (die sigbaarheid van hul gestremdheid, spesifieke belangstellings, en speelmaats), en *waar* hulle speel (by hul huis). Sodanige insigte het bygedra tot die begrip van die spel by kinders met ontwikkelingsagterstande wat in hulpbronbeperkte gemeenskappe woon. Hierdie begrip is noodsaaklik vir die uitvoerbaarheid van vroeë intervensies vir kinders wat ook respekvol en kultureel sensitief is vir hul unieke kontekste.

Sleutelwoorde: outisme, versorgers, ontwikkelingsagterstande, ekokulturele perspektief, spel, speelmateriaal, speelgoed, Suid-Afrika, Wêreldgesondheidsorganisasie *Caregiver Skills Training* (WGO CST) program

Declaration

I declare that the study *"An ecocultural exploration of play in young children with developmental delays living in resource-limited contexts: A caregiver perspective"* is my own work. It has not previously been submitted for assessment or completion of any postgraduate qualification to another university or for another qualification. I declare that I followed the referencing style according to the American Psychological Association (APA) 7th edition guidelines to acknowledge all sources used in this dissertation.

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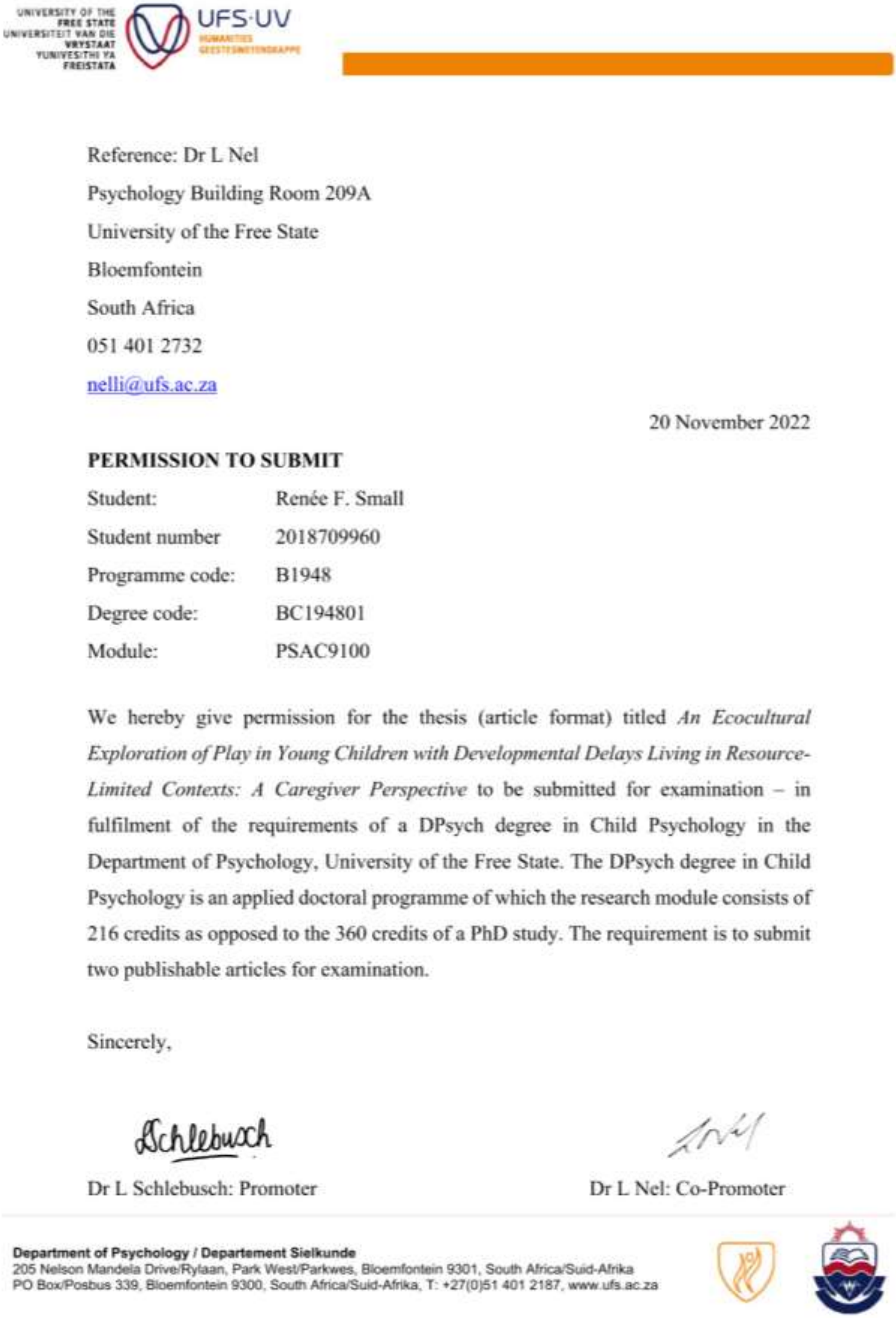
Permission to Submit



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PERMISSION TO SUBMIT

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We hereby give permission for the thesis (article format) titled *An Ecocultural Exploration of Play in Young Children with Developmental Delays Living in Resource-Limited Contexts: A Caregiver Perspective* to be submitted for examination – in fulfilment of the requirements of a DPsych degree in Child Psychology in the Department of Psychology, University of the Free State. The DPsych degree in Child Psychology is an applied doctoral programme of which the research module consists of 216 credits as opposed to the 360 credits of a PhD study. The requirement is to submit two publishable articles for examination.

Sincerely,

Schlebusch

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Preface

- This thesis is submitted in fulfilment of the University of the Free State's requirements for the Doctor of Psychology (Child Psychology) degree. It has been prepared according to the requirements of the Psychology Department in the Humanities Faculty of the University of the Free State.
- The ethical approval of this thesis is included in Appendix A.
- The thesis is written in article format.
- Section B consists of two manuscripts. Manuscript 1 and Manuscript 2 are two separate articles of an exploratory, descriptive qualitative research study. Each manuscript had its own research question and research objectives. The methodology was the same in both manuscripts, using the same datasets.
- Due to the article format, there may be some duplication across the three sections. Each section has its own reference list. A consolidated reference list is included at the end of Section C, followed by the appendices cross-referenced throughout this thesis.
- Samples of the transcripts are included (Appendix M). Full transcripts are available on request for examination purposes.
- The author adhered to the American Psychological Association (7th edition) referencing style throughout the thesis for consistency. The manuscripts' specific referencing style for the intended journals will be amended for publication after feedback is received from the examiners.
- The language editing of the thesis was conducted by a qualified language practitioner.
- The thesis was submitted to Turnitin.

List of Tables (Sections A and C)

List of Figures (Sections A and C)

List of Tables (Section B, Manuscript 1)

List of Figures (Section B, Manuscript 1)

List of Tables (Section B, Manuscript 2)

List of Figures (Section B, Manuscript 2)

Definitions and Abbreviations

Basotho	A cultural group of South Africa. Most people of the Basotho culture speak the Sesotho language.
CARA	Centre of Autism Research Africa
Caregiver of a child with DD	A caregiver is a person who has a long-term caring responsibility for a child aged 2 - 11 years with developmental delays, disabilities, or disorders. This includes parents, grandparents, family members, or other people who take care of the child on a daily basis. Only caregivers older than 18 years old were included in this study.
Children with DD	Children aged 2 - 11 years with developmental delays, disabilities, or disorders, including children with intellectual disability, autism, multiple disabilities, sensory impairments, or other neurodevelopmental disorders.
Context	The multi-level and interrelated conditions in which people function and which need to be considered for the implementation of intervention strategies.
ECD	Early childhood development
DD	Developmental delays, disorders, or disabilities
Ecocultural context	The multi-level and interrelated ecological and cultural influences on a family functioning. It includes the social and economic influences, family beliefs, values, and needs, as well as the family's daily routines and activities created and sustained by the ecocultural forces.
ESDM	Early Start Denver Model
JASPER	Joint Attention, Symbolic Play, Engagement, and Regulation
LMICs	Low- and Middle-Income Countries
mhGAP	Mental Health Gap Action Programme
NDBIs	Naturalistic Developmental Behavioural Interventions
Play	A natural phenomenon through which children explore and make sense of the environment, social norms, and cultural expectations. It is considered voluntary, fun, and mostly spontaneous. The activity of play is regarded as essential for healthy child development.
WHO	World Health Organization
WHO CST	World Health Organization Caregiver Skills Training intervention or programme for caregivers of children with developmental delays, disabilities, or disorders.

Study Outline

This thesis consists of three sections. Section A is an introductory section, orienting the reader to the study. It offers background information on developmental delays and naturalistic developmental behavioural interventions as strategies to support young children with developmental delays. The importance of ecocultural considerations is highlighted when developing these interventions for low- and middle-income countries, particularly for play routines, which are typically used as the approach in these interventions but are significantly ecoculturally nuanced. Furthermore, the methodological approach used in the study, as well as the ethical considerations, are discussed. Section B consists of two manuscripts that will be submitted for examination. Manuscript 1 will be submitted to the *Disability and Rehabilitation* journal, while Manuscript 2 will be submitted to the journal *Child: Care, Health and Development* for possible publication. The manuscripts were prepared according to the respective journal author guidelines, with the journal author guidelines presented before each manuscript. Section C presents the conclusions, practical considerations, and recommendations. The researcher's reflections on the research process and personal reflection conclude this section.

Table 1. Layout of the Study

Section A	Overview of Study	
Section B	Manuscript 1	Manuscript 2
Journal publication	*Disability and Rehabilitation*	*Child: Care, Health and Development*
Section C	Conclusions and Recommendations	

SECTION A: OVERVIEW OF THE STUDY

Introduction

Early childhood is a fundamental period of growth and development due to the high impact this phase has on the entire developmental trajectory of a child. Early child development and global health interventions aimed at reducing mortalities and developmental disabilities, disorders, or delays continue to receive worldwide attention (Global Research on Developmental Disabilities Collaborators, 2022). Developmental disabilities, disorders, or delays (DD) encompass a broad and diverse range of functioning and impairments. Thus, DD is a broad concept that should be defined more specifically to the child according to child's profile (Petersen et al., 1998), which may or may not include formally diagnosed conditions such as neurodevelopmental disorders, autism, attention deficit hyperactivity disorder, epilepsy, sensory impairments, intellectual disabilities, communication difficulties, deficits in social and adaptive skills, or disruptive and challenging behaviour (Salomone et al., 2018). The reality of children at risk of developing DD is that they are at equal risk of not meeting their full potential, especially without adequate early identification and intervention. Children at greater risk for DD predominantly come from low- and middle-income countries (LMICs), largely due to the accumulative risk factors associated with social, economic, and environmental conditions (Black et al., 2017; Global Research on Developmental Disabilities Collaborators, 2022; Olusanya et al., 2018). The primary aim of this study is to offer insights into the activity of play in children with DD living in resource-limited contexts. Such insights can be used to inform early play-based intervention strategies for feasible, effective, and sustainable delivery for children from similar contexts.

The following section provides an overview of the study. The background and rationale for this study are discussed, and the theoretical framework is described. The research questions, aims and objectives, and research methodology are delineated, followed by a description of the trustworthiness and ethical considerations and a summary of the findings, limitations, and contributions of the study.

Background and Rationale for the Study

The impact of DD is devastating globally, but even more so in LMICs, where the majority of young children with DD (95%) live (Black et al., 2017; Olusanya et al., 2018). The estimated global prevalence is that 52.9 million children younger than five years have a DD. In the sub-Saharan African regions, between 1990 and 2016, there has been a 71.3% increase in DD in young children (Olusanya et al., 2018). No specific population data on the prevalence of DD in young children exist in South Africa. Nevertheless, factors related to poverty, inadequate nutrition, poor access to resources, stimulation, and early diagnosis, as well as inadequate intervention during the sensitive periods of early development, contribute to the disturbing statistics and are the unfortunate circumstances of the South African context (Demirci & Kartal, 2018; Walker et al., 2011). These factors are not merely about having limited access but more about maintaining a state of vulnerability. They not only compound the risks of DD for children in LMIC but have significant negative implications for lifelong developmental issues. Children with DD are at far higher risk of not meeting their full potential and experiencing challenges, including learning difficulties, behaviour problems, and adverse effects on quality of life (Kim, 2022). Most LMICs, where the burdens of DD are felt the greatest, already lack adequate health care and social care support for children with DD. The burden is amplified by the fact that caring for children with DD is expensive (Clasquin-Johnson & Clasquin-Johnson, 2018; Olusanya et al., 2018). Furthermore, in many LMICs cultural beliefs and societal stigmas isolate and increase the risk of neglect for these children, which extends into adulthood with limited preparation and opportunities for independence as adults (Cloete et al., 2019; Olusanya et al., 2018). Consequently, early identification and intervention for children with DD are strongly called for to reduce the cumulative global crisis affecting these young children and countries (Estes et al., 2019;

Global Research on Developmental Disabilities Collaborators, 2022; Khatib et al., 2020; Olusanya et al., 2018; Reichow et al., 2013; Walker et al., 2011).

Early intervention programmes aim to minimise the impact of poverty and its accumulative effects on children's development, aiming at both immediate positive effects and long-term outcomes. Typically, these interventions include a wide range of activities and strategies designed to enhance development and learning in young children. However, the success of these interventions rests on the accessibility of the interventions. Particularly in LMICs, where healthcare and resources are limited and expensive, the accessibility and sustainability of well-designed practitioner-delivered interventions are ineffective for the most vulnerable children at risk of DD. Due to this challenge, early interventions are becoming less high-intensity, instructor-based and moving towards more naturalistic, behavioural- and developmentally-appropriate strategies (Lord et al., 2022). A prominent emerging class of evidence-based early intervention strategies for young children with DD or autism is the Naturalistic Developmental Behavioural Interventions (NDBIs) (D'Agostino et al., 2022; Sandbank et al., 2020; Schuck et al., 2022; Tiede & Walton, 2019). These interventions share common features and use elements of applied behavioural and developmental principles (Schreibman et al., 2015; Tiede & Walton, 2019). They also embrace the neurodiversity movement of accepting neurodevelopmental conditions such as autism as a form of diversity (Schuck et al., 2022). They are balanced between child-led and adult-facilitated, with many interventions using caregivers as facilitators, and they encourage children to spontaneously initiate and participate in naturally occurring daily activities and play (Schreibman et al., 2015).

A more naturalistic approach is particularly suited to LMIC, where access to specialised health care and intensive early intervention services are sporadic or non-existent (Schlebusch et al., 2020). Furthermore, the strong feasibility that non-specialists, such as caregivers, can be effective facilitators of these interventions (Guler et al., 2018; Reichow et al., 2013) is a particularly encouraging factor for low-resourced settings. Consequently, urgent calls to prioritise early childhood development interventions such as NDBIs in LMICs are being made globally (Global Research on Developmental Disabilities Collaborators, 2022; Kim, 2022).

Heeding the urgent priority call for scalable services for DD in LMICs, the World Health Organization (WHO) and the Mental Health Gap Action Programme (mhGAP) initiated plans to develop empirically supported community-based mental health and social care systems and interventions (Dua et al., 2017). One of the interventions developed for this initiative was the WHO Caregiver Skills Training (WHO CST) programme. It aimed to address the gap in access to early intervention and support services for families with a child (aged 2 to 9 years old) with DD, including those with autism. It is an NDBI that uses the principles of the nurturing care framework to assist families with a child with a DD (Salomone et al., 2019; World Health Organization et al., 2018). The programme adopts a whole-family approach. It uses non-specialist facilitators to train and support caregivers in developing parenting skills that stimulate their child's development, social communication, play, and adaptive behaviour through the inclusion of the child in everyday routines and play activities within the home and the community (Salomone et al., 2019). The programme was designed to be adapted to meet the needs of different contexts – culturally, socioeconomically, geographically, and based on resource availability. It is currently being field-tested in more than 30 countries across the world, with promising feasibility evidence emerging from countries such as Malaysia, Italy, India, Ethiopia, and Hong Kong (Kamaralzaman et al., 2022; Salomone, Settanni, et al., 2022; Sengupta et al., 2021; Tekola et al., 2020; Wong et al., 2021; Wong & Chow, 2022).

In South Africa, the WHO CST programme was evaluated, adapted, and implemented by the Diamond Families Study, led by the Centre of Autism Research Africa (CARA) and the Division of Child and Adolescent Psychiatry at the University of Cape Town, South Africa. Part of this process was considering the ecocultural factors of the recipients of this intervention to inform the scalability, feasibility, and sustainability of the South African context (Salomone et al., 2018, 2019; Salomone, Ferrante, et al., 2022; Sengupta et al., 2021; Tekola et al., 2020). Unfortunately, the contextual information on families of children with DD living in LMIC and multicultural communities is lacking (Elsabbagh et al., 2012; Nielsen et al., 2017). A recent study by Dawson-Squibb and De Vries (2020) highlighted the psychosocial complexities that make implementing interventions to the real-life South African context complex and called for further contextual research to explore intervention feasibility. There is a dearth of cultural and contextual research, which is critical for the feasibility, acceptability, and effective sustainability of interventions in low-resourced settings (de Leeuw et al., 2020; Franz et al., 2017; Guler et al., 2018; Viljoen et al., 2019). The current study emerged to contribute to this gap in the literature.

Specifically, this study aimed to directly offer insights into the Diamond Families Study on the ecocultural suitability of play materials that may be used in the WHO CST for the Basotho cultural group of people living in poorly resourced settings in South Africa. The greater aim was to add to the limited literature on South African ecocultural factors impacting play activities and routines in young children with DD. These can inform the development, implementation, and feasibility of future naturalistic play-based interventions for similar contexts. As a practising clinical psychologist, the practical implications and contributions of this research were of particular interest to the researcher. The fact that this study would add to evidence-based practice and, importantly, bridge the scientist-practitioner gap for implementing services to vulnerable children was particularly motivating and valued. The following section offers the theoretical and conceptual frameworks that guided the ecocultural contextualisation of play in this study.

The Ecocultural Theory of Development

Ecological and ecocultural paradigms offer valuable insight into how the family ecology influences both children's play and development, their social context, the resources available, and the cultural customs and beliefs (Bronfenbrenner, 1977, 1979; Gallimore et al., 1989; Weisner, 2002; Weisner & Hay, 2014). According to the *Ecocultural Theory of Development*, children's development occurs within a wider ecocultural context. A child's development is influenced by the cultural and physical contexts (e.g., poverty), the physical and social setting of the child (e.g., the physical setting in which the child lives), and the surrounding cultural customs (e.g., culturally determined values) of the child. The family-constructed understanding and meanings of their situation, as well as the family's activities, their resource opportunities and restrictions, parental morals, beliefs, and value systems, including the family's understanding of the function of play and child development, create the milieu in which the child develops, thus impacting the child's developmental trajectory (Adams et al., 2022; Balton et al., 2019; Elsabbagh et al., 2012; Franz et al., 2017; Gona et al., 2015; Guler et al., 2018). The ecocultural impact on development means that daily activities and routines, such as play in young children, within a specific family culture and context, are the setting in which a child's potential development is facilitated through engagement with nurturing caregivers.

According to Weisner (1997), child development hinges on the child's active participation in culturally infused daily routines and activities within their local ecological environment (see Figure 1). This ecocultural theoretical stance on development supports the NDBI approach of facilitating development in the context of naturally-occurring social routines within natural environments (Schreibman et al., 2015). The caregiver and child are viewed on a pathway of development, which includes daily routines and practices, such as play, within an ecological and cultural context (Weisner, 2002). Opportunities for participation, cultural beliefs and values, culturally defined roles, and ecological settings and resources available to foster the essence of this pathway are, therefore, integral factors to consider when naturalistic interventions use these opportunities as developmental pivots. Furthermore, cross-cultural evidence shows the variance in cultural factors such as child socialisation, caregiver-child interactions, and caregiver-child task engagement (Nielsen et al., 2017), supporting the notion of an ecocultural understanding of family contexts from cultural perspectives. Although the ecocultural theory of child development has been well conceptualised, there is a large, critical gap in research on the ecocultural settings of families in LMICs. Consequently, ecocultural factors are neglected and research uses universal assumptions regarding individuals and settings for intervention designs.

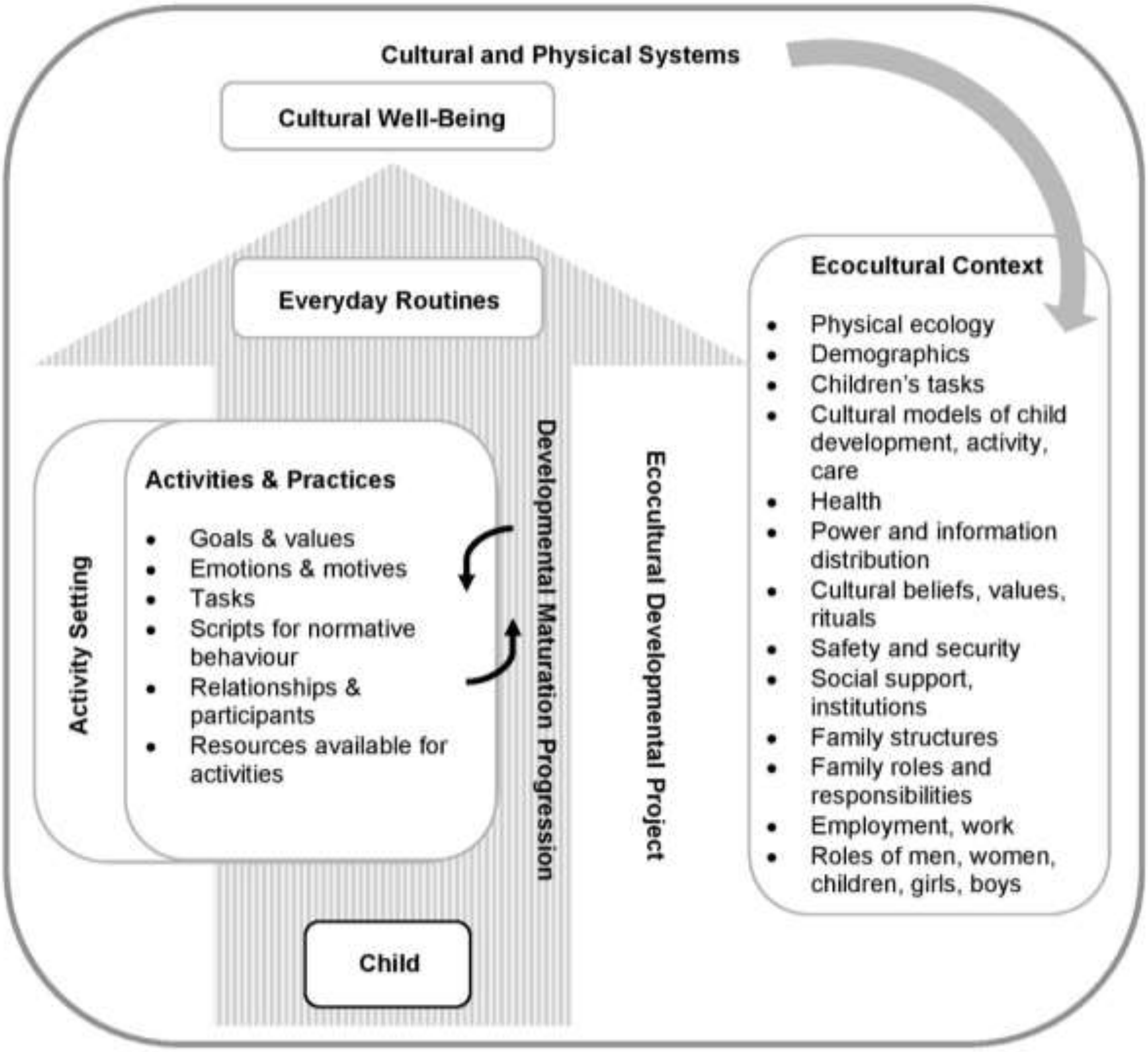

Figure 1. Ecocultural Theory of Child Development

Note: The broader cultural and physical systems (outer box) include the ecocultural context, the settings in which activities occur, as well as the everyday routines of the family. Child development (patterned arrow) occurs throughout the lifetime through participation in everyday routines and activities. The developmental-maturation process is both influenced by the child's capacity and shaped by the daily activities (inward/outward arrows, centre). The shared purpose is for cultural and individual well-being and meaningful participation in activities valued by the community.

Source: Based on descriptions proposed by Thomas Weisner (1997, 2002), as illustrated by Worthman (2010).

Conceptualisation of Play

Play is essential for healthy development (Burriss & Tsao, 2002; Memari et al., 2015; Yogman et al., 2018). It is a natural phenomenon through which children explore and make sense of their world, societal norms, and cultural expectations (Kirk & Jay, 2018). It is characterised as voluntary, fun, and mostly spontaneous (Yogman et al., 2018). Theorists such as Piaget (1952) and Vygotsky (1967) have contributed greatly to an understanding of the role of play in the cognitive and social development of children. Vygotsky, in particular, described how child development occurs through organised learning opportunities and interaction with others within a social context. He explained how a "zone of proximal development" is created by others, and through guidance and engagement with responsive adults, the child's potential functioning is achieved (Vygotsky, 1967, 1979). Furthermore, the activity of play relies on a dynamic set of skills that children develop over time, thus promoting their physical, socio-emotional, and cognitive development, as well as mental health (Ginsburg, 2007). The widespread value embedded in play and the opportunities it serves during child development (Ginsburg, 2007; Piaget, 1952; Vygotsky, 1967) makes play the ideal medium for fostering learning and implementing early interventions for children who are at risk of DD (D’Agostino et al., 2022; Hampshire & Crawford, 2022; United Nations Children’s Fund, 2018). Moreover, play is considered a culturally embedded phenomenon (Bergen, 2015; Gosso & Carvalho, 2013; Roopnarine & Davidson, 2015), making it critical that the concept is also considered from a cultural perspective when designing and adapting play-based interventions such as the WHO CST.

It is impossible to ignore the ecocultural context and environmental influences on play activities when the adult is taking a more guiding role in the facilitation of NDBIs. The accessibility and availability of play opportunities to children are greatly influenced by the ecocultural factors of families, especially those living in low-resourced contexts. Therefore, understanding the "access" to children's toys and play materials in different settings is not only imperative for the feasibility of NDBI in practice (Schlebusch et al., 2020) but also ethically important to be respectful and culturally sensitive to the conditions and views of the communities where such programmes are implemented (Morelli et al., 2018).

In many poor South African communities, children seldom have commercial toys with which they play but rather improvise with accessible materials such as rocks, sticks, stones, or clay. The play routines are often culturally influenced and traditional in nature using these freely available materials (Kekae-Moletsane, 2008). The Basotho cultural group, which is the group focused on in this study, is one of the largest ethnic groups in South Africa. Most people who identify with this cultural group speak Sesotho and primarily live around the Free State region (South African History Online, 2019). Traditionally, well-defined gender roles govern Basotho families – men work to earn an income while women take responsibility for household duties and raising children. Rigid age- and gender-based duties are assigned to children, and these routines often influence how children play. Traditionally, girls and children under the care of their mothers assist with domestic chores, while boys herd and tend to animals (Gosalia, 2021). In addition, song, dance, ceremonious gatherings, and social activities are deeply rooted in the Basotho culture (Gosalia, 2021). Limited literature exists on the cultural play of Basotho children; some of the materials found in indigenous games are available resources from the environment, such as stones, sticks, grass, and clay (Burnett & Hollander, 2004; Masiea, 1973). These ecocultural aspects impact what, how, where, and with whom Basotho children play.

Over and above the ecocultural influences on play, play skills in children with DD are also well-documented to vary from those of typically developing children (Fazlioglu, 2013). Interest in the play of children with DD, and especially autism, has burgeoned over the years. Social play and pretend play, in particular, have gained much attention since these types of play typically display behaviour in which children with DD have difficulty. The following section offers an overview of play differences documented in children with DD according to four primary play types.

Play Differences in Children with DD

A long tradition of comparative studies has investigated differences in the play profiles of children with DD versus autism versus typically developing children. Generally, a variance is accepted in how children with DD play, however there is controversy in the literature with some finding no differences between children with autism and DD, particularly on measures of symbolic play (Thiemann-Bourque et al., 2012). For the purpose of this study, play differences will therefore be referred to more broadly as DD even though many features are more specifically characteristic of autism. Play deficits are considered a hallmark characteristic in children with DD and autism, particularly the complexity, variety, communication, interpersonal, and social elements of play (American Psychiatric Association, 2013; Jordan, 2003; Mastrangelo, 2009). The play preferences of children with DD are frequently influenced by performance limitations associated with their DD. Typical preferences are often associated with the sensory needs of the child or are limited due to the motor planning and coordination challenges or social and communication difficulties they may experience (Case-Smith & Kuhaneck, 2008).

Sensorimotor play in children with DD is a dominant spontaneous type of play (Libby et al., 1998). This type of play can involve an object. However, with children with DD, and specifically autistic children, the objects or toys are not always used according to their purpose. The object or material is used in repetitive or stereotyped movements, such as spinning wheels, turning materials, or setting objects in a particular manner (e.g., straight lines and rows) (Fazlioglu, 2013). Furthermore, children with DD seldom partake in physical exercise for pleasure. This is likely due to poor competence in motor skills, coordination, balance, flexibility, and speed, which is common in children with DD (American Psychiatric Association, 2013; Hassani et al., 2020). Nevertheless, research highlights the importance of including exercise programmes in intervention strategies to improve and increase physical activity in children with DD (Case-Smith & Kuhaneck, 2008; Hassani et al., 2020).

The behavioural deficits observed in children with DD and autism are similar to the rhythmic, repetitive and stereotypical movements observed in the play of infants and young children. Movements such as spinning, jumping, and other rhythmic movements of the body are seen in the stereotypes and repetitive behaviours of children with autism beyond the typical developmental level seen in development. Turner (1999) described these movements in children as "lower-level" behaviours and "higher-level" behaviours. The former is characterised by repetitive and stereotyped movements, repetitive movements of objects, and repetitive forms of self-injurious behaviour. The latter behaviour is observed in object attachment, repetitive language, and circumscribed interests. These levels are associated with developmental levels and cognitive development. These movements may be related to sensory behaviours. When considering the neurobiological functions and sensorimotor systems, it may be related to adaptive functioning. It is, however, recommended that in early intervention, it may be critical to increase appropriate play with objects to replace these behaviours and to optimise the development of young children with DD who display these behaviours (Watt et al., 2008).

Children with DD also tend to play with objects alone or parallel to others and tend to engage with toys for less time (Harrop et al., 2017). Symbolic play typically emerges within the second year of typical development (Thiemann-Bourque et al., 2012). However, with children with DD, these skills may not develop. This form of play correlates with language skills, which in children with DD are frequently impaired (Fazlioglu, 2013). Children with DD and autism often lack awareness of others and are less likely to seek out interaction with others in a typical way (Mastrangelo, 2009). Engagement in social activities, imagination, and fields of interest tend to be restrictive and limited, directly impacting peer relations. Typically, children with DD have greater difficulty with the production of symbolic play, but this does not mean that there is a complete absence of the ability (Baron-Cohen, 1985; Libby et al., 1998; Rutherford & Rogers, 2003; Thiemann-Bourque et al., 2019). Children with DD can engage in pretend play, particularly when it is highly structured (Libby et al., 1998). However, the style of play is more rigid and routine-like, more passive, and less likely to elicit the interest of others (Jordan, 2003). Furthermore, they tend to develop an interest in pretend play at older ages when typically developing children begin losing interest in pretend play (Fazlioglu, 2013). Interestingly, the rigidity of play tends to reduce with more structure, as do other behaviour patterns (Jordan, 2003).

Moreover, children with DD frequently have difficulty playing with other children (Case-Smith & Kuhaneck, 2008). When children with DD and autism engage in social play, they typically show neutral affect in the joint attention with others. The impairments in social communication, joint attention, imitation, and social responsiveness, as well as verbal communication difficulties present in children with DD, compound the social play difficulties (Fazlioglu, 2013; Mastrangelo, 2009). Regarding social play, some children with DD prefer rough-and-tumble play. This may be reflective of the sensory needs of children with DD, as well as other common co-occurring disorders such as attention deficit hyperactivity disorder or sensory processing disorders. In addition, this form of play does not demand the kind of motor skills required in organised physical exercise or play (Case-Smith & Kuhaneck, 2008). Thus, the child can succeed and participate regardless of motor skill and competence.

Nevertheless, children with DD can engage in positive play experiences if the individual developmental levels and sociocultural contexts are appropriate and accessible to them (Mastrangelo, 2009). According to Boucher (1999), improving play skills in children with DD is important as it offers children with DD a sense of mastery and impacts their experience of pleasure and motivation to play, which is reason enough to focus attention on play skills. However, the role of the guiding adult or play partner is important, particularly with children more significantly impacted by DD (Brodin, 1999). While play in children (with and without DD) is extensively researched internationally, there is a lack of contextual evidence on the play of children with DD in poorly resourced communities and LMICs. A preliminary South African study conducted by Ramseur and colleagues (2019) suggests that caregivers may already be actively engaging in joint routines, including play routines, with their autistic children. This study highlights the possibility of effective use of caregiver-child interaction approaches that are frequently used in NDBIs for this context (Ramseur et al., 2019). Another South African study explored family-based activities in typically developing children but from an African context. This study showed that children participate in a variety of activities, however the activities are greatly dependent on the context and perceptions of the caregivers (Balton et al., 2019). This study supports the call to understanding the activities that take place within the context of the family, especially when implementing interventions such as NDBIs. A deeper ecocultural understanding of play is therefore critical for developing and implementing NDBIs for young children with DD from LMIC and culturally diverse backgrounds (Tekola et al., 2020). This is particularly important since most NDBIs use play activities as an access point in their approaches (Lord et al., 2022; Ramseur et al., 2019; Sandbank et al., 2020; Schlebusch et al., 2020; Tiede & Walton, 2019).

Problem Statement

Contextualised research on children's play in their natural environments and the toys and play materials they play with is essential when developing and implementing early intervention programmes (Balton et al., 2019; Makombe et al., 2019; Nwokah et al., 2013; Phetlhu, 2014). This deeper understanding of play and play materials is even more critical when (a) developing and implementing interventions for children at risk of DD who are living in resource-limited communities (Tekola et al., 2020) and (b) when using NDBIs that include play and play materials in their approaches.

To explore the children's access to toys and play materials, the researcher drew on the concept of "access" that was first described by Penchansky and Thomas (1981). They considered "access" to be optimised by five interconnected domains, namely (1) availability (supply), (2) affordability (financial costs), (2) accessibility (location), (3) acceptability (recipient perception), and (5) accommodation (capacity to deliver). While this framework originated to inform health policy and health services, the researcher used this framework to illustrate the broader ecocultural perspectives that impact "access" to play opportunities and play materials for children with DD.

Since there is no universal context within which the interplay between play and child development may be considered (Nielsen et al., 2017), caution must be taken when implementing play-based interventions. For effective intervention, it is essential to gain a deeper ecocultural understanding of play in young children with DD, especially those living in resource-limited contexts in LMIC.

This research study was interested in the caregivers' perspectives on the following questions:

1. *What toys and play materials do Basotho children with DD play with?*
2. *Are the play materials suggested by the WHO CST accessible and appropriate for Basotho families?*
3. *Why do Basotho children with DD play?*
4. *How do Basotho children with DD play?*
5. *Where do Basotho children with DD play?*

Aims and Objectives

This study explored the play of Basotho children with DD living in resource-limited communities in South Africa from their caregivers' perspective. First, the researcher explored the toys and play materials these children can access (i.e., *what* they play with). Secondly, the researcher delved deeper to understand *why* they play, *how* they play, and *where* they play. The researcher specifically included the toys and play materials that the WHO CST programme suggested as examples for setting up play routines to explore the availability of materials. In order to achieve this goal, the following objectives were identified:

- To contribute to the limited literature regarding play activities and routines in children with DD in the South African multicultural context.

- To add to the body of knowledge in the field of early intervention for children with DD in South Africa.
- To assess the feasibility of the WHO CST suggested play materials for the multicultural and low-resourced South African context.
- To contribute to the gap in the literature regarding the ecocultural considerations when designing and implementing NDBIs.
- To create awareness about the challenges and/or needs of families with children with DD in the South African context.

In order to assist in fulfilling the research questions and the overall objectives of the study, the following research approach and design were formulated.

Table 2. Design Map

Primary research question **How do Basotho children with developmental delays play in low-resourced communities?**

	Manuscript 1	**Manuscript 2**
Secondary research question	1. What toys or materials do Basotho children with DD in poorly resourced contexts play with? 2. Are the WHO CST-suggested play materials available and relevant to Basotho children with DD in low-resourced contexts?	1. Why do Basotho children with DD in low-resourced contexts play? 2. How do they play? 3. Where do they play?
Objective	1. To contribute to the literature regarding play routines in children with DD in the South African multicultural context. 2. To add to the body of knowledge in the field of ecocultural considerations for early interventions for children with DD in South Africa. 3. To assess the feasibility of the WHO CST suggested play materials for the multicultural and low-resourced South African context.	1. To contribute to the gap in the literature regarding the ecocultural considerations when designing and implementing NDBIs. 2. To create awareness about the challenges and/or needs of families with children with DD in the South African context.
Research design	• Exploratory, descriptive qualitative study	
Research method	• Two focus groups – one in a metropolitan and one in a more rural area • Each focus group had three discussion sessions (i.e., an introductory session and two focus group discussion sessions) • Sociodemographic questionnaire	
Data analysis	• Hybrid thematic analysis • Inductive coding • Deductive coding using theoretical frameworks based on literature • Independent coding • Co-coder • Consensus discussions	
Outcomes	• Children have access to a variety of play materials. • Ecocultural understandings of access to materials should consider availability, affordability, accessibility, acceptability, and accommodation factors for play-based interventions.	• Play activities serve as sensory stimulation, emotional regulation, and stimulate development. • The visibility of the disability, specific interests, and play partner restrictions were prevalent in the play. • Children play primarily at their homes.

Research Methodology and Design

Deep and rich understandings of the concept of play in children with DD, from their caregivers' lived experiences and perspectives, could be explored and understood from a social constructivist orientation (Neuman, 2014). This orientation argues that human beings create a subjective understanding of their world as they socially interact and make meaning of their experiences (Creswell & Creswell, 2017). A qualitative exploratory and descriptive approach was employed. This paradigm suited this study as it assumes a relativist ontology, that is, the realities are those of the children and their caregivers – subjective and formed within a naturalistic context (Denzin & Lincoln, 2008). This approach was also deemed appropriate as it enabled a deep exploration of Basotho caregivers' perspectives of their lived experiences of their children's participation and engagement in play within their natural contexts.

The purposive sampling technique, a widely used method in qualitative research (Guest et al., 2013), was used to recruit caregivers of children with DD via the Free State Regional Development Officer of a non-profit organisation supporting families with children who have a DD, many of whom are diagnosed with autism. The Regional Development Officer, who supports families across the Free State, was briefed on the study's inclusion criteria before she contacted caregivers who met the criteria via telephone to inform them of the study (see Appendix C). Participants interested in the study were sent more information on the research study and a digital invitation (see Appendix D and E). Herein was an assigned date to participate in a caregiver focus group discussion if they agreed.

The research participants comprised twelve caregivers of young children (aged 2 – 11 years) with a DD, living within the Bloemfontein and Welkom regions of the Free State province in South Africa. The inclusion criteria for the study required the caregiver to:

1. be a long-term primary caregiver of a child with a DD;
2. be older than 18 years old;
3. have a child with a DD aged between two and eleven years;

4. have at least one other child without any DD to offer reference of typical development and play;
5. identify as ethnically Basotho; and
6. be living in a self-identified resource-limited setting.

The wide age range of the children was in consideration of the range suggested for the WHO CST, which is two to nine years (Salomone et al., 2019). The range was slightly extended to increase inclusivity, given that lack of access to services may delay children being identified with DD. Most of the children with DD included in this sample were diagnosed with autism. The sample consisted of mothers (*n* = 10), a father (*n* = 1), and a grandmother (*n* = 1).

Procedure and Data Collection

The study was approved by the General/Human Research Ethics Committee (GHREC) of the University of the Free State (UFS; Ethics number UFS-HSD2020/0425/2810; Appendix A). A Sesotho-English translator familiar to the participants served as the research assistant during the data collection phase. The participants gave informed consent (see Appendix F) before data collection. Each participant completed a sociodemographic questionnaire (see Appendix G) before the focus group discussions commenced.

The study consisted of two groups of participants. The first group consisted of six caregivers living in resource-limited contexts in and around Bloemfontein, Mangaung Metropolitan Municipality, while the second group consisted of six caregivers living within the greater areas Welkom, Matjhabeng Local Municipality, within the Free State province of South Africa. While Bloemfontein is the largest city in the Free State (population of 787 803), public health services are overwhelmed by the population in need of the services. Welkom is the second largest city in the Free State (population of 429 113) (Statistics South Africa, 2016, 2018), however, access to more specialised public health services is scarce, and people must travel far to receive specialised health services. The different settings offered greater diversity in resource access and are thus considered a strength of this study.

The focus groups were conducted in both English and Sesotho. The group dynamics of these homogenous focus groups offered a unique benefit in that participants shared together, identified with each other, and prompted interaction through their shared participation (Carey, 2016). Focus groups are particularly valuable in exploratory, case-study research that seeks multiple people's perspectives. The natural setting of small groups encourages open sharing and conversations, which may yield deeper and richer conversations than individual interviews and align closely with the social constructivist paradigm (Carey, 2016; Neuman, 2014). The duration of the focus groups was flexible, accommodating the participants' physical, emotional, and mental endurance. Participant fatigue was minimised by offering a 10-minute break between the introduction session and the first part of the focus group discussion. A lunch break separated the first and second parts of the focus group discussions. Each discussion session took place in a private space and lasted approximately 60 minutes, depending on the saturation level of information shared.

Focus Group Guide

All caregivers participated in three sessions: an introductory discussion where they introduced themselves and their child with DD and two focus group discussions (see Appendix H). The first part of the focus group discussion identified and evaluated toys and play materials, while the second part explored the play activity of children with DD.

Play materials used in the WHO CST and other commonly available materials that may be used for play activities were selected and displayed to initiate the group discussion. The focus groups focused the caregivers' attention on the WHO CST play material. They were asked to share the following: which items their child with a DD would play with, whether any of the items were readily available in their households, which items they use to engage in play with their child, and which items they may be interested in using to play with their child. The other commonly used playthings were then introduced to the participants, followed by the same exploration used in the WHO CST material discussion. The second part of the focus group discussion asked how their children engage in play, with and without toys and with and without other play partners.

Data Analysis

Data were transcribed verbatim, after which all data were cross-checked for accuracy by two research team members (R.S. and L.N.). All identifiable information, such as names of people or local organisations, was removed from the final transcriptions to protect participants' privacy. Data were analysed using hybrid thematic analysis, which uses both an inductive approach to the data and a deductive approach from existing literature and theory (Fereday & Muir-Cochrane, 2006). The NVivo software package (QSR International, 2020) was used in this process. The data analysis followed the Braun and Clarke (2006) six-step process. Two coders (R.S. and L.N.) reviewed the transcripts several times before creating tentative open codes. The code labels were based on the WHO CST play materials and other available materials presented to the caregivers. Other code labels were based on the thematic meanings of the data, which later developed into a hierarchy of thematic codes based on relationships between those labels. The codes were discussed between the two coders (R.S. and L.N.), and a master code structure was developed in an electronic format and imported into NVivo. The data was reviewed twice to ensure comprehensive coding. Data on play materials and the WHO CST materials were organised into frequency tables to synthesise the information. Procedures were implemented to code the transcripts further, allowing for the emergence of novel themes or codes that were previously not included. A third independent coder (L.S.) reviewed the coded data, coding discrepancies were discussed, and consistency across the coders was established. The double-coding process was applied to all six transcripts (i.e., two groups each had an introduction session and two focus group discussions) to identify salient emergent themes. Participant quotes were used to describe important themes and subthemes. The coded data were analysed with in-depth considerations of the ecocultural contextual factors. Recurring themes and subthemes were finalised, representative quotes were identified, and thematic summaries were developed.

Ethical Considerations

Before commencing with the research, ethical clearance was obtained from the GHREC of the University of the Free State (UFS; Ethics number UFS-HSD2020/0425/2810; Appendix A) as ethical clearance is required to conduct research with human participants. Furthermore, the ethical clearance certificate of the overarching research project, Diamond Family Studies, supported the ethical clearance of this study (Appendix B).

Informed consent was obtained from all participants. Participants were informed that participation was voluntary (Babbie & Mouton, 2010) and that they could withdraw their participation during the data collection phase. The limits to confidentiality and anonymity inherent in focus groups were explained to the participants (Carey, 2016). The researcher was sensitive to the complexities and challenges of conducting research in multilingual and multicultural social communities (Adams et al., 2014). In addition, the principal researcher trained the translator in open-ended questioning skills and was familiarised with the focus group guides before telephonically contacting the prospective participants. The collected data was preserved and securely maintained in locked files and encrypted folders by the principal researcher. Participants were offered an opportunity to speak to a Sesotho-speaking clinical psychologist if they felt the need for debriefing following the focus group interviews (see Appendix I). No participants indicated the need for this offer. The researcher was continuously sensitive to the power imbalances that exist between researchers and participants, as well as the cultural differences between the researcher and the participants (Romm, 2015). The inclusion of a familiar research assistant provided a sense of comfort and rapport to the group dynamics, which fostered deeper sharing and contribution between the participants. All of the authors were acknowledged in the two research manuscripts. Trustworthiness was maintained to ensure transparency and the accuracy of the results, as detailed below.

Trustworthiness and Rigour

Ensuring trustworthiness in qualitative research is crucial to the integrity and applicability of the findings (Cope, 2014). According to Lincoln and Guba (1985), trustworthiness determines the confidence and worth of a qualitative research study. They proposed a framework of trustworthiness to establish the credibility, transferability, dependability and confirmability of a study. This research study utilised its model of trustworthiness to ensure methodological adequacy and to verify the data obtained through the study.

Credibility

The researcher ensured the credibility of this study by spending sufficient time with the participants while collecting data. Field notes of observations made during the interviews were compiled and reflected on during the data analysis. Triangulation of data was supported by gleaning different perspectives of multiple caregivers on the same phenomena and using different data sources in the collection process, namely the sociodemographic questionnaire and three discussion sessions (i.e., introductory session and two-part focus group sessions). This data collection strategy offered data collection from multiple participants while ensuring sufficient engagement with the participants to establish a comfortable rapport. This approach allowed the researcher to gain deeper insight and understanding of the participants' lived experiences. The researcher maintained a reflective journal throughout the research study and had regular meetings with research promotors, supporting research reflexivity (see Appendix N).

Dependability

This study provides detailed methodological and procedural descriptions which allow for replication and enhances the dependability of the findings (Creswell & Creswell, 2017). Dependability was enhanced through an inquiry audit or audit trail. The recordings of the interviews, transcriptions, and interpretations of the data were available to two independent coders (LN and LS) who could challenge the procedures and findings and served as supervisors with expertise in this study field.

Confirmability

Confirmability was used to ensure neutral and unbiased research (Creswell & Creswell, 2017). This was achieved through detailed descriptions of the data collection methods and processes, transparent data audit trails, independent coding processes for extracting data, and regular supervision throughout the study process. Furthermore, using a reflective journal countered any researcher biases from influencing the findings (see Appendix N). The quotes provided of the raw data collected from the participants further support the findings obtained from this study.

Transferability

In order to ensure transferability, rich contextual information was recorded, allowing for inferential generalisation of the findings to other similar contexts (Shenton, 2004). The exploratory-descriptive approach of this study inhibited the complete transferability of this study to a degree. However, the homogenous participant group, the purposive sampling with the assistance of an expert in the field, and the narrow discussions of the focus group interviews ensured data adequacy (Guest et al., 2006; Hagaman & Wutich, 2017).

Conclusion

An overview of the literature on child play routines, the importance of play for child development, as well as the contextual and cultural influences on play were offered to the reader. The Ecocultural Theory of Development was discussed as a conceptual framework of how the family's ecological setting, cultural beliefs and values influence the daily routines and activities, which in turn impacts a child's development and participation. The effects of low-resourced communities on opportunities for early intervention for children with DD were discussed. The WHO CST was also described as a promising NDBI programme for low-resourced communities.

The problem statement and methodology used to conduct the research study were presented. The research study aimed to contribute valuable ecocultural information to a body of limited literature on the play of young children with a DD living in LMICs and resource-limited settings. Furthermore, it aimed to describe play from the perspectives and context of Basotho caregivers and inform the adaptation and validation of the WHO CST intervention for a resource-limited and multicultural South African context. The findings aim to inform future interventions and policies concerning early intervention and caregiver support for children with DD, specifically in LMICs. The ethical considerations followed were outlined, including the processes to ensure trustworthiness.

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SECTION B: MANUSCRIPTS

Manuscript 1

THE TOYS AND PLAY MATERIALS OF CHILDREN WITH DEVELOPMENTAL DISABILITIES LIVING IN RESOURCE-LIMITED SOUTH AFRICAN COMMUNITIES: PERSPECTIVES FROM BASOTHO CAREGIVERS

Manuscript 1

Author Guidelines

Disability and Rehabilitation

Structure

- Your paper should be compiled in the following order: title page; abstract; keywords; main text, introduction, materials and methods, results, discussion; acknowledgements; declaration of interest statement; references; appendices (as appropriate); table(s) with caption(s); figures; figure captions (as a list).
- In the main text, an introductory section should state the purpose of the paper and give a brief account of previous work. New techniques and modifications should be described concisely but in sufficient detail to permit their evaluation. Standard methods should simply be referenced. Experimental results should be presented in the most appropriate form, with sufficient explanation to assist their interpretation; their discussion should form a distinct section.
- Tables and figures should be referred to in-text as follows: figure 1, table 1, i.e., lower case. The place at which a table or figure is to be inserted in the printed text should be indicated clearly on a manuscript. Each table and/or figure must have a title that explains its purpose without reference to the text.
- The title page should include the full names and affiliations of all authors involved in the preparation of the manuscript. The corresponding author should be clearly designated, with the full contact information provided for this person.

Word count

- Please include a word count for your paper. There is no word limit for papers submitted to this journal, but succinct and well-constructed papers are preferred.

Style guidelines

- Please refer to these style guidelines when preparing your paper, rather than any published articles or a sample copy.
- Please use any spelling consistently throughout your manuscript.

- Please use double quotation marks, except where “a quotation is ‘within’ a quotation”. Please note that long quotations should be indented without quotation marks.
- For tables and figures, the usual statistical conventions should be used.
- Drugs should be referred to by generic names. Trade names of substances, their sources, and details of manufacturers of scientific instruments should be given only if the information is important to the evaluation of the experimental data.

Abstract

Background: Contextualised research on children's play in their natural environments and the toys they play with is essential. A deeper understanding of play and play materials is critical when (a) developing and implementing interventions for children at risk of developmental delays or disabilities living in resource-limited communities and (b) using interventions that include play and play materials in their approaches.

Objectives: This study explored the toys and play materials that Basotho children with developmental disabilities living in low-resourced communities can access for play routines. Toys and play materials suggested by the World Health Organization Caregiver Skills Training (WHO CST) programme were explored to assess the availability of the materials to these children.

Method: An exploratory, descriptive qualitative design was used. Twelve Basotho caregivers of children with developmental disabilities (including children with autism) participated in two focus groups. Data were analysed through a hybrid process of thematic analysis. These yielded themes related to the frequency of preferred materials in play routines.

Results: Children do have access to a variety of play materials, yet a deeper ecocultural understanding of their access should consider the (1) availability, (2) affordability, (3) accessibility, (4) acceptability, and (5) accommodation of toys and play materials.

Conclusion: Early interventions for children with developmental disabilities continue to gain global attention. However, it remains essential to consider the ecocultural contexts of children and their families in determining the feasibility of these interventions. It is also paramount to be respectful and culturally sensitive to the conditions and views of the communities where such programmes are implemented.

Keywords: autism, developmental disabilities, ecocultural perspective, low- and middle-income countries (LMIC), play materials, play routines, toys, World Health Organization Caregiver Skills Training (WHO CST) programme

Introduction

Contextualised research on children’s play in their natural environments and the toys and play materials they play with is essential when developing and implementing early intervention programmes (Balton et al., 2019; Makombe et al., 2019; Nwokah et al., 2013; Phetlhu, 2014). This deeper understanding of play and play materials is even more critical when (a) developing and implementing interventions for children at risk of developmental delays or disabilities (DD) who are living in resource-limited communities (Tekola et al., 2020) and (b) when using Naturalistic Developmental Behavioural Interventions (NDBIs) that include play and play materials in their approaches.

The prevalence of DD in young children is an ever-present global concern. It is estimated that worldwide, 52.9 million children younger than five years have a DD. This is alarming, particularly considering that 95% of these children live in low- and middle-income countries (LMIC) (Black et al., 2017; Olusanya et al., 2018). Of greater concern is that there has been a 71.3% increase in the sub-Saharan African regions between 1990 and 2016 (Olusanya et al., 2018).

In response to the global call to address the gap in access to early intervention and support services for families with a child with DD, including those with autism, the World Health Organization developed a Caregiver Skills Training (WHO CST) programme. The WHO CST uses the principles of the nurturing care framework to assist families with a child with a DD (Salomone et al., 2019; World Health Organization et al., 2018). Accordingly, the programme adopts a whole-family approach. It aims to support caregivers in developing parenting skills that stimulate their child’s development, social communication, play, and adaptive behaviour by including the child in everyday routines and play activities within the home and the community (Salomone et al., 2019). Preliminary findings piloted in studies from India (Sengupta et al., 2021), Ethiopia (Tekola et al., 2020), and Italy (Salomone, Ferrante et al., 2022; Salomone, Settanni et al., 2022) support the upscaling of the WHO CST as feasible and acceptable for low-resourced settings worldwide. Nevertheless, due to the naturalistic nature of the WHO CST, a sound understanding of contextual factors is required to ensure effective implementation, sustainability, and feasibility of the intervention in different ecocultural contexts.

The emphasis on naturally occurring daily routines and play activities as the avenue of intervention in Naturalistic Developmental Behavioural Interventions (NDBIs) like the WHO CST calls for an in-depth exploration of the ecocultural understanding of these routines and activities. Play, as a concept, is a naturally occurring and universal practice that a child innately participates in, yet with wide variation dependent on the child's developmental level (Vygotsky, 1967) and subject to ecocultural variables (Weisner, 2002). Cross-cultural evidence shows the variance in cultural factors such as child socialisation, caregiver-child interactions, and caregiver-child task engagement (Nielsen et al., 2017), supporting the notion of an ecocultural understanding of family contexts from cultural perspectives. Preliminary South African studies, however, suggest that caregiver-child interaction approaches may be effective for this context as they found that caregivers may already be actively engaging in joint routines, including play routines, with their autistic children (Ramseur et al., 2019). Nevertheless, family-based activities are greatly dependent on the context and perceptions of the caregivers (Balton et al., 2019). Ecocultural considerations in support of access to and availability of NDBIs to communities living in low-resourced contexts in LMIC are important for the implementation and feasibility of these interventions. It is impossible to ignore the ecocultural context and environmental influences on play activities and routines, which are greatly influential when the adult is taking a more guiding role in facilitating NDBIs. Understanding the "access" to children's toys and play materials in different contexts is not only imperative for the feasibility of NDBI in practice (Schlebusch et al., 2020), but it is also ethically important to be respectful and culturally sensitive to the conditions and views of the communities where such programmes are implemented (Morelli et al., 2018). Therefore, one aim of this study was to determine if South

African children with DD living in low-resourced communities had access to the WHO CST-suggested toys and play materials.

To explore the children’s access to toys and play materials, the researcher drew on the concept of “access” that was first described by Penchansky and Thomas (1981). They considered “access” to be optimised by five interconnected domains, namely (1) availability (supply), (2) affordability (financial costs), (2) accessibility (location), (3) acceptability (recipient perception), and (5) accommodation (capacity to deliver). This framework originated to inform health policy and health services. However, the researcher used this framework to illustrate the broader ecocultural perspectives that impact “access” to play opportunities and play materials for children with DD. First, the researcher explored the use and relevance of the play materials used in the WHO CST for Basotho low-resourced families with a child with DD. Then, the researcher explored other resources that families may have access to as alternative play materials.

In an accompanying paper, Small, Nel, and Schlebusch (Manuscript 2) explored the play of young Basotho children with developmental disabilities living in resource-limited South African communities. The authors discussed *why* children play, *how* they play and *where* they play. In this paper, the researcher will delve deeper into *what* children play with (i.e., exploring the children’s access to toys and play materials).

Methods

Study Design

This study employed a qualitative, exploratory, and descriptive approach within a social constructivist orientation (Hammersley & Atkinson, 1983; Neuman, 2014). This approach was considered suitable as it enabled a deep exploration of play items and materials used by young children with DD who live with families from the Basotho culture in poorly resourced environments.

Setting

This study took place in Bloemfontein and Welkom in the Free State province of South Africa. Bloemfontein is located in the Mangaung Metropolitan Municipality with a population of 787 803, of which 83.3% are Black African. Welkom is in the Matjhabeng Local Municipality and has a population of 429 113, where 87.7% are Black African (Statistics South Africa, 2016, 2018). While Bloemfontein is the largest city in the Free State, public health services are overwhelmed by the population in need of the services. Welkom is the second largest city in the Free State, however, access to more specialised public health services is scarce, and people must travel far to receive specialised health services. The different settings offered greater diversity in resource access and are thus considered a strength of this study. The Free State is a culturally diverse province. However, Sesotho is the most commonly spoken language in the Free State (71.9%) (Statistics South Africa, 2018). Members of the Basotho culture predominantly speak Sesotho and are primarily located around the Free State region of South Africa (South African History Online, 2019). South Africa is considered an LMIC plagued with poverty, inadequate and inequitable access to resources, healthcare, and education (Black et al., 2017; Malakoane et al., 2020; Storbeck & Moodley, 2011).

Participants

The inclusion criteria for the study required the caregiver to (1) be a long-term primary caregiver of a child with a DD; (2) be older than 18 years old; (3) have a child with a DD between ages two and eleven years; (4) have at least one other child without any DD to offer reference of typical development and play; (5) identify as ethnically Basotho; and (6) be living in a self-identified resource-limited setting. For the purpose of this study, a child with DD did not require a formal diagnosis but must have experienced a developmental delay, which could include social and communication difficulties, intellectual disability, autism, multiple disabilities, sensory impairments, or other neurodevelopmental disorders. The wide age range of the children was in consideration of the range suggested for the WHO CST, which is two to nine years (Salomone et al., 2019). The range was slightly extended to increase inclusivity, given that lack of access to services may delay children being identified with DD.

Purposive sampling was used to recruit caregivers of children with DD via the Free State Regional Development Officer of a non-profit organisation supporting families with children with DD, many of whom are diagnosed with autism. The Regional Development Officer, who supports families across the Free State, was briefed on the study's inclusion criteria before she contacted caregivers who met the criteria via telephone to inform them of the study. Digital communication using mobile networks was used since all participants had access to mobile devices. Participants interested in the study were sent a digital invitation with an assigned date to participate in a caregiver focus group discussion if they agreed.

Twelve caregivers of young children (aged 2 - 11 years) with a DD, most of whom had a primary diagnosis of autism (*n* = 11), participated in the study. The sample consisted of mothers (*n* = 10), a father (*n* = 1), and a grandmother (*n* = 1), as listed in Table 1. The participants included six caregivers from Bloemfontein and six caregivers from Welkom.

Manuscript 1

Table 1. Participant Characteristics and Demographic Information

Participant		***Household***			***Child with DD***			
Code	**Relationship to the child**	**Adults**	**Children**	**Financial Stability**	**Age (years)**	**Gender (M/F)**	**Primary Diagnosis**	**Level of DD Symptoms**[1]
1A	Mother	2	2	Struggling	11	F	Autism	Moderate
1B	Grandmother	2	6	Just getting by	8	B	Autism	Mild
1C	Mother	1	2	Just getting by	7	B	Autism	Moderate
1D	Mother	2	4	Struggling	7	B	Autism	Moderate
1E	Mother	1	3	Struggling	7	B	Autism	Severe
1F	Mother	3	3	Just getting by	8	B	Autism	Mild
2A	Mother	1	2	Struggling	6	B	Physical Disability	Severe
2B	Mother	2	2	Just getting by	3	B	Autism	Moderate
2C	Mother	2	2	Just getting by	4	B	Autism	Moderate
2D	Father	4	2	Doing okay	6	F	Autism	Severe
2E	Mother	2	3	Doing okay	8	B	Autism	Severe
2F	Mother	3	3	Doing okay	8	B	Autism	Moderate

Abbreviations: DD, developmental delay, disorder, disability

Focus Group Guide

One focus group was conducted in Bloemfontein, and one in Welkom. There were six caregivers in each focus group. The focus group consisted of three sessions: an introductory discussion where they introduced themselves and their child with DD and two parts of a focus group discussion. The first part of the focus group discussion identified and explored toys and play materials (i.e., Manuscript 1), while the second part of the focus group discussion explored the play activity of children with DD (i.e., Manuscript 2).

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[1] Caregivers qualitatively rated the disability level of their children with DD based on their child’s adaptive functioning and degree of dependency on others compared to other children their age.

Materials suggested in the WHO CST and other commonly available materials that may be used for play activities were selected and displayed to initiate the group discussion. These included clothes for dressing, hygiene supplies, cleaning supplies, mealtime equipment, school supplies (bags, drawing supplies, books), stackable objects, balls, a variety of toys, miniatures, and stones.

Additional materials were selected based on available and accessible resources commonly found in family homes. These included materials that could be repurposed for play materials, items found in nature (Nwokah et al., 2013), items used in indigenous African games (rope jumping, hopscotch, “amathini” (tins), imitation games, rhythm and singing, and strategy and memory games) (Burnett & Hollander, 2004; Masiea, 1973), and other items frequently used in schools or therapies (Ziviani et al., 2005).

The discussion first focused the caregivers’ attention on the WHO CST play materials. They were asked to share the following: which items their child with a DD would play with, whether any of the items were readily available in their households, which items they use to engage in play with their child, and which items they may be interested in using to play with their child. The other commonly used playthings were then introduced to the participants, followed by the same exploration used in the WHO CST material discussion.

Procedure and Data Collection

The study was approved by the General/Human Research Ethics Committee at the University of the Free State (blinded for review). A Sesotho-English translator familiar to the participants served as the research assistant during the data collection phase. The participants signed informed consent forms before data collection. Each participant completed a sociodemographic questionnaire with the assistance of the research assistant before the focus group discussions commenced. The focus groups were conducted in

English and Sesotho, with the assistance of a mother-tongue Sesotho-speaking translator. However, most participants chose to speak English.

The focus groups took place in a private space, and each part took approximately 60 minutes. At the end of the focus groups, all participants were reimbursed for their travel expenses and received a voucher for ZAR 100 (approximately US$7) as a token of appreciation.

Data Analysis

The focus groups were audio recorded, transcribed verbatim, and cross-checked by two research team members for accuracy. All identifiable information, such as names of people or local organisations, was removed from the final transcriptions. Data were analysed using hybrid thematic analysis, which uses both an inductive approach to the data and a deductive approach from existing literature and theory (Fereday & Muir-Cochrane, 2006). The NVivo software package (QSR International, 2020) was used in this process. The data analysis followed the Braun and Clarke (2006) six-step process. Two coders (R.S. and L.N.) reviewed the transcripts before open codes were created. The code labels were based on the WHO CST play materials and other available materials presented to the caregivers, which later developed into a hierarchy of thematic codes based on relationships between those labels. The codes were discussed, and a master code structure was developed in an electronic format and was imported into NVivo. Data was reviewed twice and then organised into frequency tables to synthesise the information. Participant quotes were used to describe important themes and subthemes. A third independent coder (L.S.) reviewed the coded data and coding discrepancies were discussed and resolved. The double-coding process was applied to all transcripts to identify salient emergent themes. The coded data were analysed with in-depth considerations of the ecocultural contextual factors.

Results

This study explored the access to toys and play materials of Basotho children with DD living in resource-limited communities. The researcher used five domains to explore access, namely (1) availability, (2) affordability, (3) accessibility, (4) acceptability, and (5) accommodation. For the domain of availability, the researcher specifically included the toys and play materials as suggested in the WHO CST programme, as well as other commonly available materials that may be used for play activities. The researcher will present the findings of each domain, as illustrated in Figure 1.

Figure 1. Five Balloons

Note: The five balloons represent the interconnected domains that determine the access that children with developmental disabilities have to toys and play materials.

Manuscript 1

The findings of the five main themes are presented in Tables 2 and 3, based on the frequency, preferences, and exposure children had to the items and the caregiver narratives of their capacity to facilitate play activities and routines.

Main Theme 1: Availability

The suggested WHO CST materials were categorised into 14 categories associated with daily routines and activities and play-related materials (see Table 2). The other available resource materials were categorised into four categories based on repurposable materials, items from nature, items used in indigenous Basotho games, and items introduced in therapy or school (see Table 3).

Table 2. Availability of the Suggested WHO CST Toys and Play Materials

WHO CST Suggestions	Examples	Frequency rating from 12 participants
Balls	Smaller than a soccer ball	8
Books	Variety of books | Books with simple illustrations	3
Bucket	Bucket | Large dish	5
Carrier Bag	Carrier bag | Basket	0
Cleaning Supplies	Cloth | Broom | Feather duster | Mop	6
Clothing	Shirt | Jacket | Socks | Pants	4
Drawing Supplies	Crayons | Pencils | Blank paper	7
Hygiene Supplies	Toothbrush | Wash basin | Container | Soap | Facecloth	5
Mealtime Equipment	Bowl | Spoon | Cup	8
Schoolbag	Rucksack | Suitcase	3
Miniature Figurines	Animals | People	4
Stackable Objects	Blocks | Cups | Small cardboard boxes	2
Stones	Stones	5
Toys	Cars	4
	Doll	1
	Teddy | soft toys	4
	Rattles | shakers	2
	Balloons	11
	Bubbles	8

The frequency table in Table 2 shows that most of the WHO CST suggested materials were available to children with DD. The frequency rating was made on a child's preference to choose the materials or toys as play material. Many caregivers indicated that they do have an item at home. One participant indicated that her child was not interested in it, *"[the miniature animals] he doesn't touch them, so I think he's not interested in those plastic animals… the dolls, he's not interested, not the dolls"* [1F].

Table 3 displays the frequency of other play materials and toys that were not necessarily suggested by the WHO CST but may be easily available to families. Materials used in traditional cultural play routines were included, as well as materials and items available in nature or from exposure in school or therapy sessions.

Table 3. Availability of Other Toys and Play Materials

Other suggestions	Examples	Frequency rating from 12 participants
Household (Repurposable Items)	Beans | macaroni | rice	8
	Brick	1
	Bubble wrap	8
	Cotton wool	1
	Empty large box	10
	Empty plastic containers	4
	Empty toilet roll	9
	Empty 2-litre plastic bottle	4
	Pegs	2
	Plastic bag	5
	Straws	5
	String	7
Indigenous Games	**Rope jumping**	
	Skipping rope	3
	Stockings	0
	Hopscotch	
	Bean bag	1
	Lids	7
	Stones	5
	Amathini (Tins)	
	Tin cans	3
	Imitation games	
	Blanket & doll	1
	Rhythm, singing, music	
	Homemade shaker	7
	Musical instruments	1
	Strategy & memory games	
	Dice	0
	Playing cards	6
Nature	Feathers	2
	Sticks	4
	Stones	5
School or Therapy	Finger paint	0
	Musical instruments	1
	Playdough	0
	Puzzles	0

Materials available in most households as repurposable items were most commonly reported, as seen in Table 3. The items found in nature were also commonly reported. Many household repurposable materials and available materials found in nature were used to create functional play materials, such as homemade shakers.

Main Theme 2: Affordability

This theme refers to the affordability of toys, objects, and play materials that children with DD play with in low-resourced communities. This theme will be discussed according to three sub-themes: repurposed play materials, toys, and real-life objects.

Subtheme 1: Repurposed Play Materials

This theme refers to frequently used items and materials that the children use in their play that are repurposable and easily accessible and which tend to have a function other than being a toy. Within the suggested WHO CST materials, clothes, hygiene material, cleaning equipment, mealtime equipment, and a bucket were frequently shared as commonly used items in play and routines. These items are not typically considered toys but are already available to families. Children engage with them in play routines and joint play with others. Of these materials, cleaning materials, a bucket or tub with water, and mealtime equipment were the most frequently reported. One caregiver explained, *"… the cups, he's just play with [the cups] to make the noise with the cups… he loves the broom, just go everywhere with it"* [2B]. Several caregivers shared that cleaning routines, for instance, using a bucket and water, was frequently a joint activity that they shared with their children, *"… he'll take the mop and mop together"* [1A], while others described, *"we'll mop together… he likes to play with water"* [1D], and *"I'll take this bucket and then put the water and then just put the [Sunlight liquid]… he'll be happy, and I just put water inside and the [Sunlight liquid] to do the foam"* [1E]. Other caregivers explained, *"he likes kitchen stuff*" [2F]; *"the soap, the shower gels"* [2C]; and *"the cleaning things, he'll clean the house"* [1B].

Other accessible resource materials that can be repurposed or recycled into functional toys or used in play include empty bottles, bottles with stones in them, string, beans or macaroni, large boxes, bubble wrap, empty toilet rolls, plastic packets, and empty tin cans. As one caregiver explained, *“the tin because of the sound”* [1E], while another added, *“the tin, they like to play ‘koeroe-koeroe’… the money inside the tin… shake it, shake it (make a noise)”* [1D]. Similarly, an empty bottle with a few stones was used as a shaker. One caregiver shared how her child repurposed a plastic shopping packet, *“he made a kite last weekend; he built it so perfect”* [1F]. A large empty box was a popular object highlighted by caregivers. One caregiver described that *“they would sit inside, calling the brother and sister to push them”* [2B]. Others explained how empty 2-litre bottles or milk boxes are repurposed. One caregiver mentioned, *“they kick it like a ball… he’ll kick that 2-litre bottle*” [1C], while another caregiver explained, *“the milk boxes… cut it and make the wheels and make a car… the wire, (he) even took my tekkies (shoe laces) … then he made a train”* [1F].

Subtheme 2: Toys

This theme refers to the low frequency of toys children use in their play routines that tend to be used for a particular purpose. The WHO CST materials include stackable toys, functional toys like dolls, cars, rattles, soft toys, miniature animals and people, bubbles, and balloons. One caregiver explained that what she has in her house to use for play routines includes *“the cleaning stuff and then nothing else because he’s breaking things. So, actually the toys… doesn’t have the toys”* [1E]. Balloons were the most popular toy material reported by the caregivers, followed by bubbles. The participants reflected joyfully on the balloons, laughing and commenting, *“joh, joh, like the balloon!”* [1E]. Bubbles were also frequently reported, as one caregiver explained how she makes bubble solution, *“if it’s finished, I’ll make it with the Sunlight liquid”* [1A]. Other toys reported by a few caregivers included cars, soft toys, and miniature animals.

Subtheme 3: Real-life Objects

This subtheme refers to objects and things used in play that are *not typically toys*. The caregivers referred to *“not small things... he likes to play with big things… like the fridge and stuff, moving things”* [1E] and *“the big cars that we’re driving... he likes those ones”* [1E]. Other things shared were, *“… likes to play with rice”* [1A]; *“… playing with cutlery”* [2D]; *“playing with the spoons and the cups”* [2B]; and a toothbrush, *“he’s fascinated with it”* [2B]. Another caregiver described her child’s favourite thing to do is to jump, “*he’s jumping on the beds, jumping on the sofa”* [2B], while another described how her child “*likes to climb the tree, everywhere, even on top of the fridge and jump down to the floor”* [1D].

Main Theme 3: Accessibility

This theme refers to materials used in play routines by children but within limits and parameters set by the caregivers. Two subthemes emerged, highlighting materials caregivers make accessible to their children to play with under supervision, and the second subtheme of materials discouraged in play.

Subtheme 1: Play with Supervision

This theme highlights materials frequently used by children that encourage a sense of free play and educational or developmental function but that takes place under supervision and within parameters set by the caregivers. Examples of these items include *drawing supplies (crayons, pencils, blank paper), books, balls, playing cards, hygiene materials,* and *cleaning materials*.

Most caregivers were concerned about their child eating or chewing items, indicating that supervision was necessary when the child had access to the things. For example, drawing supplies were frequently indicated in play routines. However, a few caregivers reported that their child would chew the drawing supplies. One caregiver expressed an opinion on access to crayons, *“she has to be monitored; if not, she eats (it)”* [2D]. Similarly, another caregiver shared, *“he’ll eat the crayons”* [Translated] [2A].

Many caregivers reported their children having access to a ball and enjoying using it. A few caregivers described low or brief interest in the ball. One caregiver explained, *“he plays with it for a few seconds, then gets bored and let them play and just observe”* [Translated] [2A]. Others described the need to facilitate the appropriate use of the ball with the children, as shared by one caregiver, *“he was not playing the ball normally… Then I told him, ‘Stand there. Come, come catch. Throw to me, catch, kick, kick,’ so that he can understand what. Now he knows how to play with the ball”* [1F].

When asked what activities caregivers may be interested in introducing to play with their child, many reported introducing *“reading the books… and the blocks”* [1D], *“the drawing and the colouring”* [2E], and *“music stuff”* [1A]. Another caregiver also shared, *“I’ll try this, uhm, wax crayon so that she gets used to it. Uhm, I’d like painting”* [2D].

Subtheme 2: Discouraged Play

There were many items that caregivers expressed would be of interest to their children. However, they do *not expose their children or limit their child’s access* to these items due to the *messy nature* of the material, the *cost* of the material or item, or to avoid their child *breaking* the items or things.

Most caregivers shared concerns about materials that could hurt the child or break things, such as bricks, sticks, or stones. As caregivers expressed when asked about a brick, *“big trouble that one”* [1E], *“they want to bring it into the house, play with it… ‘no, the brick doesn’t belong in the house… outside’”* [1F], and *“I’m afraid that he will throw them… it’s a hazard in the house”* [2B]. While many caregivers indicated that their children loved to play with stones, others expressed caution, *“they’ll break the window”* [2F].

The caregivers expressed that they limit their children to certain materials and activities due to other responsibilities that the caregivers need to tend to. As a caregiver explained, *“I keep him away from things like this. I keep him where I can watch him because mostly on weekends, I have to do the household, I do the washing. So, I keep him closer to me where I can keep an eye on him all the time”* [2B]. The same caregiver shared, *“I might try painting, but now it’s more cleaning for me… but I think we can do painting outside. I’m gonna try more of the outside thing because more of the things inside the house, we do it”* [2B].

Main Theme 4: Acceptability

Some items used by children in play have a risk involved and requires supervision, particularly for developmentally younger children. This theme highlights two subthemes, one involving items that are often used or enjoyed by children despite the risk it presents, while the second theme includes items that children are not exposed to due to the risks they present.

Subtheme 1: Risky but Allowed

This subtheme included *balloons* and *bubbles*, both of which involve a risk when used incorrectly. The majority of the caregivers expressed that their children do use and are drawn to balloons and bubbles. Despite the inherent danger posed by balloons, caregivers indicated a high preference for balloons, typically used when inflated (e.g., a floaty ball). As one caregiver expressed, *“they love it!”* [2F].

Similarly, bubbles were highlighted as a preferred item to play with, even though there is a risk of danger with accidental ingestion. All the participants indicated a preference for bubbles, with one caregiver sharing, *“she loves them a lot!”* [2D].

Subtheme 2: Too Risky to Try

Many small items that could be a *choking hazard* if chewed or put in the mouth were not available to their children to play with. Other items that may *break windows or hurt others* or the children if thrown were also avoided.

A caregiver explained when asked about dice that they have dice at home, but *"I don't give it, I'm afraid he eats it"* [2C]. Another caregiver expressed, *"I'm gonna try some of these (repurposable things); I was thinking they are hazards… I've been keeping him away from those things. And I think… the toilet roll…I want to see what's he going to do with it"* [2B].

While several caregivers indicated that their children enjoy gathering and playing with sticks, some caregivers deemed them too dangerous to allow their children to play with. One caregiver explained, *"I try to keep him away from these sticks"* [2B], with another adding, *"sometimes they might poke (themselves)"* [2D].

Main Theme 5: Accommodation

This theme refers to the capacity of caregivers to accommodate children with DD in play routines and is divided into two subthemes. One subtheme elaborates on the caregivers' unique demands and responsibilities that impact their capacity to accommodate play routines with their children. The second subtheme describes the caregivers' emotional well-being, which influences the emotional capacity to facilitate and interact in play routines.

Subtheme 1: Demands and Responsibilities

A highlighted challenge expressed by the caregivers was the *additional demands and responsibilities* they experience as primary caregivers of a child with DD. Most caregivers are sole primary caregivers and described the additional unique challenges they experience in raising a child with DD. *Managing their child with DD* is an ongoing challenge, particularly the hyperactivity, communication difficulties, toileting challenges, emotional dysregulation, breaking things, poor sleep, rigidity, and inflexibility to changes in the routines. A caregiver shared insight into these challenges:

> "*How am I going to cope with this child? He was throwing tantrums, he was not eating well; the nappy, the nappy was stressing me because he dropped out of nappy at 4 years, he was wearing nappy as old as he was, there was no daycare that wanted to took him. I didn't know what to do"* [1F].

Another caregiver described her capacity to function as being negatively impacted by her child's poor sleep routine,

> *"[My child] doesn't sleep at night, eh… he would sleep maybe at around 10, 11 and then at around 2 he'll wakes up, and then in the morning, at around 4, I have to wake up, go to work and I struggled so much"* [1E].

Caregivers described how their children thrive in a routine. One caregiver shared her child's rigidity in routines, to the point that he knows when certain routines must occur. She explained,

> *"I never understand if he knows even the time for the medication. So, even if you're sleeping, he's gonna be, 'Give the medication to [child's name], give the medication to [child's name]', then you must check if it's 2 pm you must bring it to him"* [2F].

The challenge of rigid routines is that the children battle to adapt to changes in that routine. As one caregiver explained, *"you mustn't mess with him because sometimes he can get very angry"* [1C].

Many caregivers expressed difficulty in balancing the demands of work and home. One caregiver explained, *"I don't have time because I'm working during the week and during* *the weekend, I have to do the household"* [2B], while another caregiver offered insight into meeting all her demands,

> *"We had a lot of pressure. Imagine, I'm working, I want to take my grade further, I'm studying at [university name], at least there's this marriage, to secure your marriage…, the children, the older one, [name], that needed my attention"* [1F].

Caregivers frequently shared how they need to advocate for their children to be understood and accepted within the community. One caregiver expressed, *"I sometimes wish like people they can understand the situation. We are trying to, to protect him, but we're struggling to see for everybody"* [1D]. Another caregiver described how others in her community misunderstand her child, which results in her keeping her child inside the home to avoid her child being belittled, *"when she takes him out to play with other kids… they will make fun of him. Then she will… just keep him inside the house rather"* [Translated] [2A].

Subtheme 2: Emotional Well-being

Caregivers frequently highlighted their children's dependency on them while feeling like few others understand their child. The dependence, poor understanding of their situations, and weak support structures contribute to *high-stress levels*, *poor emotional well-being*, and *low energy levels*. As expressed by a caregiver as she shared her reality, *"… I'm struggling to go to work; I'm struggling to be with [my child] cause [my child] is fighting. I'm not getting rest. My life was so miserable… I'm like having stress, I don't know myself"* [1E].

Caregivers showed deep care and desire to support their children. The challenges of poor resources and inadequate support structures notably affected their emotional well-being and stress levels. At times, caregivers became emotional as they explained their situations and challenges in finding adequate support for their children. One caregiver began to cry as she shared, *"I know he's hyper. I don't want him to get treatment because I was hearing from the people, neh, that he will be like a zombie… But now I feel like I have to take* *him…”* [1D]. She explained that her child is “*not staying with me because I’m working…”* but the care facility is not adequately caring for her child, *“I feel like they don’t understand him because he get lost”.* She added that he would need medication for him to be cared for adequately at the facility stating, *“I will make a day to go to the hospital so that he can get a treatment for him, so that he can go to the centre where he is safe, he will be safe”* [1D]. These circumstances notably take an emotional toll on the caregivers. In response to the emotional share, another caregiver explained,

> *“I used to be like her; I used to cry a lot… I was, like, blaming myself, like maybe it was me, maybe* (inaudible) *at birth something happened... Every time you feel like that… you pray to God; this is a precious gift that God gave you… that peace in your heart… they’re very special those people”* [1C].

Caregivers expressed feeling isolated in managing their struggles. One caregiver shared,

> *“He breaks at my mother’s house… this year they told me that we’re not going to take [child name] anymore, you have to find a place; we don’t want [child name] to come at our home because he breaks all our things in the house… I don’t have any support…”* [1E].

One caregiver offered insight into the stressor that stems from the Basotho cultural beliefs around having children with DD. She explained the process when her child initially presented with DD, *“...as Sotho people… we thought that it is witchcraft, is the rituals… then we discovered, it’s not heritance, it’s not cultural, it’s not witchcraft and all… We were hopeless; we didn’t know what to do”* [1F]. She went on to explain*,*

> *“The male child is important in the Sotho culture. The male child is going to take the surname forward to the future. So, he didn’t, he thought that if my child is like this, is he going to take my surname forward, am I going to have a brighter future, is he going to be fine, is he going to, to tertiary, is he going to mingle with other children*

socially? We were worried, we were very, very worried about him, we were very, very worried” [1F].

The results indicate that children do have a variety of WHO CST and other materials available to them and that materials that can be repurposed as play materials from household material are frequently used in play activities. Accessibility to particular materials for play routines are determined by the caregivers’ perception of the materials, which is also related to the caregivers’ appraisal of whether the material is acceptable as a play material or not. Finally, caregivers are largely responsible for facilitating and supervising play routines, but due to various factors associated to caregiver demands and responsibilities, their emotional capacities limit their capacity to facilitate varied play opportunities for their children.

Discussion

NDBIs are promising intervention opportunities to address the treatment gap of early intervention services for children with DD living in limited-resource settings (Sandbank et al., 2020; Tiede & Walton, 2019). The feasibility of NDBIs, however, rests on how well integrated the NDBI is to the specific local setting and the end-users within the local setting (Schlebusch et al., 2020). In addition, the availability of a caregiver-mediated intervention such as the WHO CST hinges on the caregiver’s capacity to make the intervention available to the child. This study, therefore, aimed to understand the ecocultural appropriateness of play materials used in the WHO CST for Basotho low-resourced families with a child with DD. The various ecocultural factors impacting the caregivers’ capacity to facilitate an NDBI also emerged as important considerations in implementing a play-based NDBI to a low-resourced South African context.

In resource-limited communities, children seldom have access to commercial toys but rather improvise with other materials. This is partly due to *availability* and *affordability* related to poverty and socio-economic challenges that limit financial resources to purchase toys (Fanning et al., 2021; Nwokah et al., 2013). It is also culturally influenced by materials used in traditional play routines, which are often freely available materials from nature (Burnett & Hollander, 2004; Kekae-Moletsane, 2008). Furthermore, the strong cultural influence on play opportunities for children hinges significantly on adult play facilitators (Yogman et al., 2018). The cultural expectations of the adults, specifically regarding the *acceptability* of play, were based on the following: whether work or play is more encouraged, whether the child has the freedom to explore and practice adult roles through play, and whether the environment offers access to models and materials for play largely influence the type of play activities children may be engaging in within their natural environments (Balton et al., 2019; Ginsburg, 2007).

In keeping with findings in the literature, children with DD in poor communities have few to no toys due to *affordability* factors. This finding supports previous literature regarding factors impacting children's access to toys in poor communities. These factors include limited financial resources to purchase toys, children breaking the toys, and children not being interested in or not using the toys functionally (Fanning et al., 2021; Nwokah et al., 2013), making purchasing toys seem like a waste of limited resources. Instead, real items, household items, and available and accessible materials from home are more often used in play. This suggests that interventions should use these materials as play resources and include caregiver training to facilitate play with their already available resources (Makombe et al., 2019; Nwokah et al., 2013). The simplicity of the WHO CST materials and the fact that most of the materials are included in daily routines meant that the materials were both *affordable* and *accessible* to families living in resource-limited contexts. Brooms, buckets or large dishes, bowls and spoons were the most frequently played with WHO CST materials. Drawing supplies, balls, balloons, and bubbles were indicated to be the most popular toys or materials used in play routines from the WHO CST materials. This suggests that the WHO CST materials are *available* and relevant to the Basotho families in low-resource settings who participated in this study.

To a large degree, caregivers determine what kind of “accessibility” their children have to play materials based on their appraisal of the *acceptability* of the materials as play materials. Many play materials are *accessible* to the children when caregivers supervise or facilitate appropriate play. These WHO CST materials include drawing supplies, cleaning and hygiene materials, as well as toys like balls. Some materials with inherent dangers (e.g., balloons that pose a suffocation or choking risk or bubble solution if ingested) are still considered materials that caregivers would permit for play routines with supervision. However, other materials were considered too dangerous to include in play routines. These items included small items and materials that could be choking hazards. Many of these materials (e.g., dice, stones, and sticks) are considered *indigenous* to Basotho play (Burnett & Hollander, 2004; Masiea, 1973) and not necessarily part of the WHO CST materials, which was an unexpected finding in that they were specifically identified as *unacceptable* and *inaccessible* to the children for play routines.

Given that the children have few to no toys and that the *affordability* of the toys is one limiting factor for access to toys, NDBIs can consider repurposing available resources into functional play materials for the end-users to use. This mitigates the limitation to play materials where *affordability* is a concern. Using available materials to make culturally suitable toys, NDBIs can maximise the *acceptability* and *accessibility* of play materials to families and children with DD, improving the intervention’s feasibility. An important finding was the high frequency of readily available and accessible resources used in play routines. Materials such as empty bottles filled with stones (“koeroe-koeroe”) served as a shaker, musical instrument, or sensory-stimulating object for the children. This was one example of how repurposable and readily accessible materials can be turned into functional toys and were frequently preferred by children with DD. Culturally, the Basotho people appreciate dance, music, and rhythm (Masiea, 1973). Thus, homemade musical instruments were a culturally acceptable toy that children were drawn to for sensory-stimulating reasons. These can be used to facilitate participation in play routines with others and is an affordable and acceptable option.

However, most of the materials discouraged in play routines were considered dangerous or could cause a mess that needed to be cleaned. Basotho caregivers in low-resourced settings are responsible for most of the housework. Play routines demanding supervision or adding to the cleaning responsibilities are avoided due to their already burdened schedules and responsibilities.

The study into contextual factors affecting play activities and opportunities in this population confirmed previous literature illuminating the pivotal role that caregivers hold in *accommodating* access to NDBIs (Schlebusch et al., 2020). It also significantly highlighted the emotional challenges experienced by caregivers with children with DDs (Hayes et al., 2022; Heng et al., 2022). The emotional well-being of caregivers is a determining factor in the capacity of caregivers to *accommodate* their children in NDBI programmes. Since caregivers are the primary facilitators and participants in the daily routines and play activities with their children with DD, their capacity to facilitate a “developmental pathway” for their children must be considered.

The caregiver-mediated approach of NDBIs should consider the capacity of caregivers to accommodate and facilitate these programmes from their homes. Caregivers of children with DD, particularly in LMICs where additional burdens and stressors are more prevalent, are at high risk of experiencing symptoms of depression and anxiety (Minichil et al., 2019; Paruk & Ramdhial, 2018). Subsequently, caregivers are left with little emotional reserves to support their families while maintaining healthy well-being (Muller-Kluits & Slabbert, 2020). Previous studies offer caregivers insight into their challenges in raising a child with DD. For example, factors associated with safety and supervision, challenging emotions, financial difficulties, lack of social support, and community stigma negatively impact their mental health and well-being (Heng et al., 2022). Caregivers frequently reported elevated levels of stress and psychological distress related to parenting, highlighting the need to consider their contextual vulnerabilities (Estes et al., 2019). Given that caregivers are the main facilitators of NDBIs, this contextual insight is imperative when implementing NDBIs for various communities in LMICs (Schlebusch et al., 2020). Recently, Schlebusch and colleagues (2022) conducted a feasibility study of a brief WHO CST caregiver well-being programme in South Africa that yielded promising results of improved caregiver well-being and mental health. This study offers a potential response to the findings of the current study, which indicate that caregivers are in need of greater emotional support.

Culturally the Basotho people are collectivist and people-oriented (South African History Online, 2019). However, the caregivers in this study frequently shared a sense of isolation and pain in their experience of raising a child with DD. This finding is consistent with a recent study on the Basotho ontology of disability which found the experience of raising a child with a disability to be a painful experience (Sefotho, 2021). Some contributing stressors reported were the degree of dependency of children with DD, financial difficulties, poor social and emotional support, and community stigma. The caregivers’ narratives revealed high levels of exhaustion, sadness, and poor quality of life (Estes et al., 2019). Given that caregivers are the primary play participants and facilitators of NDBIs, this study supports the integration of caregiver mental health and community support into these programmes when implementing them to these low-resourced contexts.

Awareness and communication of the ecocultural pathways and settings of the end-users of NDBIs are critical for interventions to be accessible and feasible (Saurman, 2016). However, a closer look at the results suggested that the WHO CST materials are relevant and *accessible* to South African caregivers of children with DD living in resource-limited contexts. Materials commonly found in the home that can be used in daily routines or repurposed for play routines (e.g., cleaning materials, empty containers, buckets, empty boxes, or mealtime equipment) are already *afforded* and frequently used by families in low-resourced households. Caregivers' perception of play materials influences the *access* that children have to the materials for play routines. The level of supervision required during the use of materials and the dangers or mess that the play materials present are deterring factors when caregivers consider the *acceptability* of materials for play routines. Finally, the caregivers bear the greatest burdens in supporting their children with DD in their development, resulting in mental health exhaustion and limited capacity to offer additional support and *accommodate* their family's needs. Supporting caregivers' well-being should therefore be prioritised in caregiver-mediated NDBIs.

Limitations, Practical Implications, and Future Recommendations

The researcher acknowledges the study's limitations. First, the multicultural, multilingual dynamics intrinsic to South Africa make the language and cultural limitations important to consider. More confident, vocal participants may have been more comfortable speaking and understanding English. However, including a Sesotho-speaking translator familiar to the caregivers aimed to buffer this limitation for participants who could not speak English. They were frequently encouraged to speak the language they were most comfortable speaking and were asked for their contributions if they had not spontaneously shared. How the focus group discussions were recorded is another limitation. Only audio recordings were made. However, the caregivers showed or demonstrated what or how their children would use play material, which was not reflected in the recordings. The interviewer ensured that these non-verbal communications were reflected and paraphrased verbally by the interviewer so that they were captured on the audio recording. The study's convenience sampling procedures and the small number of participants may be considered a limitation for the generalisability of the study. However, the data from the two separate groups of participants from different geographical areas, with different resource availability and contextual variabilities, added to the richness and depth of the data received. Bloemfontein is located in an urban area where services and resources are typically more accessible than in Welkom, which has fewer healthcare resources. The different contexts and degrees of resource limitations offered contextual depth to the data. In settings with limited or no disability-related support services available, particularly in families from low-resourced settings, it is imperative to acknowledge the general lack of emotional support for caregivers. In this study, the caregivers were drawn to sharing their experiences, often leading the group's focus off-topic and to more support group discussions. Sensitivity to the needs of the caregivers was considered while gently re-directing the conversation to the direction of the focus group. Following the data collection process, the researcher offered a focused caregiver well-being programme to the most vulnerable caregivers.

The practical implications of this study are that play-based interventions, such as the WHO CST, should include repurposable materials that can be used as play materials. Materials that are available, accessible, affordable, and acceptable to caregivers are more likely to be accommodated into play routines. This study highlighted the need for NDBIs to consider the unique contextual factors of both the setting and the end-users of the NDBIs. While the WHO CST material is relevant and accessible to families of children with DD in low-resourced settings, the contextual factors of the end-users should be considered for the adaptation and implementation of the programme. Daily routines, contextual resources, and limitations of the families should be understood, and the NDBI should be adapted to accommodate the unique variables of the families. Caregiver well-being and support should be incorporated in caregiver-mediated NDBIs, particularly for families in resource-limited settings, to support caregivers' emotional capacities to accommodate their children in the intervention delivery.

Conclusion

This study provided a deeper insight into the access to toys and play materials of Basotho children with DD living in resource-limited communities. The impressions from their caregivers illustrate that their children do have access to various play materials that can be used for implementing the NDBI strategies taught in the WHO CST programme or other similar caregiver-implemented programmes. However, these are mostly not typical store-bought toys. Furthermore, the findings encourage early intervention researchers and practitioners using play-based intervention approaches to be aware of the many interconnected domains when suggesting toys or play materials or when teaching play-based caregiver skills or strategies, particularly for families from different cultures and socio-economic settings. Considerations about the availability, affordability, accessibility, and acceptability of play-related materials and activities are encouraged. Lastly, the findings touched on the capacity of caregivers (or their ability to accommodate play and play-based activities) in their daily routines. Caregivers living in resource-limited communities bear the greatest burden in supporting and caring for their children with DD. The lack of support and services could result in mental health exhaustion and a limited capacity to offer additional support and accommodate play-based activities in their daily lives.

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The authors alone are responsible for the content and writing of the paper.

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Authors' Contributions

R.S. conceptualised and designed the study, coordinated and conducted the participant recruitment, data collection, and analysis, and drafted the manuscript. L.S. and L.N. provided expertise in the study's conceptualisation, reviewed the data analysis, and revised and reviewed the manuscript. All authors approved the final manuscript.

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Manuscript 2

EXPLORING THE PLAY OF CHILDREN WITH DEVELOPMENTAL DISABILITIES LIVING IN RESOURCE-LIMITED SOUTH AFRICAN COMMUNITIES: PERSPECTIVES FROM BASOTHO CAREGIVERS

Manuscript 2

Author Guidelines

Child: Care, Health and Development

As papers are double-anonymous peer-reviewed, the main text file should not include any information that might identify the authors.

A manuscript reporting complex qualitative research reports may in some circumstances be prepared to extend the word limit to 5000 words. The manuscript should consist of the sections listed below.

- A short informative title containing the major keywords. The title should not contain abbreviations
- The full names of the authors with institutional affiliations where the work was conducted, with a footnote for the author's present address if different from where the work was conducted;
- Acknowledgments;
- Abstract - structured, not more than 300 words, including background, methods, results and conclusions are preferred
- Up to seven keywords;
- Main body: Abstract; Introduction; Methods; Results; Discussion; Acknowledgements (these should be brief and must include references to sources of financial and logistical support)
- References;
- Tables (each table complete with title and footnotes);
- Figures: Figure legends must be added beneath each individual image during upload AND as a complete list in the text.
- Key Messages: A key messages box should be provided with each manuscript. This should include up to 5 messages on key points of practice, policy or research. This also applies to articles solicited for themed issues.

Abstract

Background: Children's play is a universal concept easily apparent to even the most casual observer. It is a natural and cultural phenomenon through which children explore and make sense of their world, societal norms, and cultural expectations. Minimal research exists on the play of children with developmental disabilities living in culturally diverse, resource-limited settings. A deeper ecocultural understanding of play is critical for developing and implementing play-based interventions for young children with developmental disabilities from low-resourced settings and culturally diverse backgrounds.

Objectives: This study explored the play of Basotho children with developmental disabilities living in resource-limited communities in South Africa from their caregivers' perspective. The researcher aimed to understand *why* they play, *how* they play, and *where* they play.

Method: An exploratory, descriptive qualitative design was used. Twelve Basotho caregivers of children with developmental disabilities (including children with autism) participated in two focus groups, which resulted in deep and rich conversations. Data were analysed through a hybrid process of thematic analysis.

Results: Caregivers gave a unique insight into *why* their children play (sensory stimulation, emotional regulation, and development of skills), *how* their children play (the visibility of their disability, specific interests, and play partners), and *where* they play (mostly at their home).

Conclusion: As early interventions for children with developmental disabilities continue to gain global attention, it remains essential to consider the ecocultural contexts of children and their families. Understanding *why*, *how*, and *where* children with developmental disabilities living in resource-limited communities play is imperative for the feasibility of interventions.

Keywords: autism, caregivers, developmental disabilities, ecocultural perspective, low- and middle-income countries (LMICs), naturalistic developmental behavioural interventions, play, World Health Organization Caregiver Skills Training (WHO CST) programme

Key Messages:

1. Children’s play provides sensory stimulation, emotional regulation, and developmental opportunities.
2. The child’s developmental profile determines how the child plays, their specific interests, and the requirements of the play partners in play activities.
3. Basotho children with developmental disabilities in resource-limited contexts mostly play in the house under the supervision of their caregivers.
4. Ecocultural understandings of families are imperative for the development, adaptation, implementation, and feasibility of play-based and caregiver-mediated interventions for children with developmental disabilities.

Introduction

Children’s play is a universal concept easily apparent to even the most casual observer. It is a natural phenomenon through which children explore and make sense of their world, societal norms, and cultural expectations (Kirk & Jay, 2018). Play is generally voluntary, fun, and mostly spontaneous (Yogman et al., 2018). The nature and purpose of play have been extensively studied across various disciplines, leading to the consensus that it is essential for healthy child development (Burriss & Tsao, 2002; Memari et al., 2015; Yogman et al., 2018). The activity of play relies on a dynamic set of skills that children develop over time, promoting their physical, socio-emotional, and cognitive development, as well as mental health (Ginsburg, 2007). The widespread value embedded in play and the opportunities it serves during child development (Ginsburg, 2007; Piaget, 1952; Vygotsky, 1967) makes play the ideal medium for fostering learning and implementing early interventions for children who are at risk of developmental delays or disabilities (D’Agostino et al., 2022; Hampshire & Crawford, 2022; United Nations Children’s Fund, 2018).

Worldwide, millions of children are affected by developmental delays and/or disabilities (DD). DD include children with sensory impairments, autism spectrum disorder, intellectual disabilities, and other neurodevelopmental disorders. The majority of children with DD live in low- and middle-income countries (LMICs) such as South Africa (Black et al., 2017; Olusanya et al., 2018; World Health Organization & Unicef, 2012). In LMICs, factors such as poverty, inadequate nutrition, and insufficient stimulation increase the risks of DD (Demirci & Kartal, 2018; Walker et al., 2011). Other influences such as inadequate access to public healthcare services (Malakoane et al., 2020; Memari et al., 2015; Salomone et al., 2019), limited access to resources, and adequate safe spaces to explore and play can also negatively impact children’s development (Ginsburg, 2007). However, early intervention for children with DD can circumvent the cumulative risk factors, reduce the severity of the delay or disability, and improve adaptive functioning (Estes et al., 2019; Khatib et al., 2020; Reichow et al., 2013; Walker et al., 2011).

In recent years, early interventions for children with DD have moved away from high-intensity instructor-based approaches to more naturalistic, behavioural- and developmentally-appropriate strategies (Lord et al., 2022). Naturalistic Developmental Behavioural Interventions (NDBIs) are evidence-based intervention strategies for young children with DD or autism that use elements of applied behavioural and developmental principles in the intervention (Schreibman et al., 2015; Tiede & Walton, 2019). Several features are shared in NDBIs. These are implemented in natural settings, combine adult-led methods with child-led routines, and use natural opportunities to facilitate development (Schreibman et al., 2015). Meta-analysis reviews done by Sandbank and colleagues (2020) and Tiede and Walton (2019) provided quality evidence for NDBIs as an early intervention for young children with autism that achieved a range of positive developmental child outcomes. NDBIs, such as *Joint Attention, Symbolic Play, Engagement, and Regulation* (JASPER), *Early Start Denver Model* (ESDM), *Project ImPACT*, and hybrid programmes such as the *World Health Organization Caregiver Skills Training Programme* (WHO CST), are widely used as an early intervention to support the development of children with DD and improve their quality of life within their natural environments (D’Agostino et al., 2022; Sandbank et al., 2020; Schuck et al., 2022; Tiede & Walton, 2019). A more naturalistic approach is particularly suited to LMICs, where access to specialised health care and intensive early intervention services are sporadic or non-existent (Schlebusch et al., 2020). Furthermore, there is strong feasibility that non-specialists, such as caregivers, may be effective at implementing these interventions (Guler et al., 2018; Reichow et al., 2013), a factor particularly encouraging for low-resourced settings.

The WHO CST programme is currently receiving global attention as a potential solution to address the global treatment gaps for children with DD and their families (Salomone et al., 2019). The WHO CST programme is built on the principles of nurturing care for children (WHO et al., 2018). Non-specialist facilitators are trained to educate caregivers of children (aged 2 to 9 years old) with DD. The programme focuses on teaching caregivers the necessary skills to improve the interaction between caregivers and their children and promote their children's participation in play and daily routines. It specifically focuses on promoting children's communication and positive child behaviours (Salomone et al., 2019). However, the feasibility of these interventions rests heavily on understanding the ecocultural contexts of these families (Salomone et al., 2018, 2019; Salomone, Ferrante, et al., 2022; Sengupta et al., 2021; Tekola et al., 2020). There is a paucity of contextual information from families of children with DD living in LMICs and multicultural communities (Elsabbagh et al., 2012; Nielsen et al., 2017).

Play is considered a culturally embedded phenomenon (Bergen, 2015; Gosso & Carvalho, 2013; Roopnarine & Davidson, 2015). Generally, a variance is accepted in how children with DD play, specifically in *the activity of play* (Baron-Cohen, 1987; Barton et al., 2020; Brown & Bergen, 2002; Lane et al., 2019; Libby et al., 1998; Vygotsky, 1967), *play preferences* (Brodin, 1999; Case-Smith & Kuhaneck, 2008; Fetta et al., 2021; Thiemann-Bourque et al., 2019; Ziviani et al., 2005), the initiation and engagement in *play interactions with others* (American Psychiatric Association, 2013), and *the use of objects and toys in play* (Fanning et al., 2021; Nwokah et al., 2013). A long tradition of comparative studies has investigated these differences in the play profiles of children with DD versus autism versus typically developing children. While it is accepted that there are differences in how children with DD play, there is controversy in the literature with some finding no differences between children with autism and DD, particularly on measures of symbolic play (Thiemann-Bourque et al., 2012). For the purpose of this study, play differences were therefore referred to more broadly as DD even though many features were characteristic of autism.

Ecological and ecocultural paradigms offer valuable insight into how the family ecology influences both children's play and development, their social context, the resources available, and the cultural customs and beliefs (Bronfenbrenner, 1977, 1979; Gallimore et al., 1989; Weisner, 2002; Weisner & Hay, 2014). According to the *Ecocultural Theory of Development,* children's development takes place within a broader ecocultural context. A child's development is influenced by the cultural and physical contexts (e.g., poverty), the physical and social setting of the child (e.g., the physical setting in which the child lives), and the surrounding cultural customs (e.g., culturally determined values) of the child. The family-constructed understanding and meanings of their situation, as well as the family's activities, their resource opportunities and restrictions, parental morals, beliefs, and value systems, and the family's understanding of the function of play and child development create the milieu in which the child develops, thus impacting the child's developmental trajectory (Adams et al., 2022; Elsabbagh et al., 2012; Gona et al., 2015; Guler et al., 2018). The ecocultural impact on development means that daily activities and routines, such as joint routines and play in young children, within a specific family culture and context, are the setting in which a child's potential development is facilitated through engagement with nurturing caregivers.

While play in children (with and without DD) is extensively researched internationally, there is a lack of contextual evidence on the play of children with DD in poorly resourced communities and LMICs. Preliminary South African studies suggest that caregivers may already be actively engaging in joint routines, including play routines, with their autistic children (Ramseur et al., 2019). Nevertheless, family-based activities are greatly dependent on the context and perceptions of the caregivers (Balton et al., 2019). Berinstein and Magalhaes (2009) explored play in children from Zanzibar, Tanzania, highlighting the need for investigating children's play within different cultures in LMICs. Furthermore, Bartie and colleagues (2016) investigated the play experiences of preschool children in a low socio-economic rural community in South Africa. They recommended further investigations into why, how, and what children play within these settings to inform play intervention strategies more meaningfully. A deeper ecocultural understanding of play is critical for developing and implementing NDBIs for young children with DD from LMICs and culturally diverse backgrounds (Tekola et al., 2020). This is particularly important since most NDBIs use play activities as an access point in their approaches.

One of the largest ethnic groups in South Africa is the Basotho cultural group. It consists of Sesotho-speaking people primarily located around the Free State region (South African History Online, 2019). Well-defined gender roles govern Basotho families, where men work to earn an income while women take responsibility for household duties and raising children. Daily routines include rigid duties, based on age and gender, assigned to children. These duties often influence how children play. Traditionally, girls and children under the care of their mothers assist with domestic chores, while boys herd and tend to animals (Gosalia, 2021). In addition, song, dance, ceremonious gatherings, and social activities are deeply rooted in the Basotho culture (Gosalia, 2021). These ecocultural aspects impact how, where, and with whom Basotho children play (Burnett & Hollander, 2004; Masiea, 1973).

Since there is no universal context within which the interplay between play and child development may be considered (Nielsen et al., 2017), caution must be taken when implementing play-based interventions. For effective intervention, it is essential to gain a deeper ecocultural understanding of play in young children with DD, especially those living in resource-limited contexts in LMICs. Therefore, this study aimed to explore the play of children with DD living in poorly resourced communities and explicitly focused on the perspectives of South African Basotho caregivers. In this paper, the researcher explored the *why*, *how,* and *where* of the play of Basotho children with DD living in resource-limited communities. In an accompanying article, the researcher explored the types of toys and play materials the children use in these contexts (Manuscript 1).

Methods

Study Design

The researcher used an exploratory and descriptive qualitative study design with a social constructivist orientation (Hammersley & Atkinson, 1983; Neuman, 2014). Focus groups were selected to facilitate collaborative interactions between the caregivers to gain depth and richness in the conversations. This approach was considered suitable for meeting the study's aims as it enabled a deep exploration and understanding of the phenomenon of play in young Basotho children with DD living in poorly resourced, low socio-economic environments.

Setting

The study was conducted in two settings within the Free State province in South Africa. The first setting was Bloemfontein (Mangaung Metropolitan Municipality), and the second was Welkom (Matjhabeng Local Municipality). The Mangaung Metropolitan Municipality has a population of 787 803, with approximately 83.3% identified as Black African, while the Matjhabeng Local Municipality has a population of 429 113, of which approximately 87.7% are Black African (Statistics South Africa, 2016, 2018). More than 70% of the Free State population is dependent on public health services. The province has the second-highest prevalence of disability in the country (6.4% of individuals aged five years and older) (Statistics South Africa, 2021). Although the Free State is a culturally diverse province, Sesotho is the most commonly spoken language (71.9%) (Statistics South Africa, 2018). The two settings offered greater diversity in resource access. While Bloemfontein is the largest city in the Free State, public health services are overwhelmed by the population in need of the services. Welkom is the second largest city in the Free State. However, access to more specialised public health services is scarce, and people must travel far to receive specialised health services. The different settings are thus considered a strength of this study.

Despite South Africa's strong policies regarding health and early childhood development (ECD), it remains an LMIC where resources, healthcare services, and education are inadequate and inequitably distributed, both in practice and in terms of outcomes, particularly in rural areas (Black et al., 2017; Malakoane et al., 2020; Storbeck & Moodley, 2011).

Participants

To participate in this study, the caregiver had to meet the following inclusion criteria: (1) be a long-term primary caregiver of a child with DD; (2) be older than 18 years old; (3) the child with DD had to be between ages two and eleven years; (4) have at least one other child without any developmental concerns to offer reference of typical child development and play; (5) identify as ethnically Basotho; and (6) living in a self-identified resource-limited setting. In this study, caregivers qualitatively rated the disability level of their child with DD based on their child's adaptive functioning and degree of dependency on others compared to other children their age. The age range of the children aimed to be as inclusive as possible, given that lack of access to services may delay children being identified with DD.

Participants were recruited using purposive sampling via the Free State Regional Development Officer of a non-profit organisation supporting families with children who have DD, many of whom are diagnosed with autism. During recruitment, the Regional Development Officer who supports families across the Free State was briefed on the study's inclusion criteria. She contacted caregivers meeting the criteria via telephone to ask if they were interested in participating in the study. Digital communication using mobile networks was used since all participants had access to mobile devices. Participants were sent information on the research study and a digital invitation with an assigned date to participate in a caregiver focus group discussion if they consented.

In total, 12 caregivers participated in the study (six from Bloemfontein and six from Welkom). This study will report on all 12 caregivers as a group. The participants consisted of mothers (*n* = 10), a father (*n* = 1), and a grandmother (*n* = 1). See Table 1 for participant characteristics and demographic information.

Table 1. Participant Characteristics and Demographic Information

Participant		***Household***			***Child with DD***			
Code	**Relationship to the child**	**Adults**	**Children**	**Financial Stability**	**Age (years)**	**Gender (M/F)**	**Primary Diagnosis**	**Level of DD Symptoms**
1A	Mother	2	2	Struggling	11	F	Autism	Moderate
1B	Grandmother	2	6	Just getting by	8	B	Autism	Mild
1C	Mother	1	2	Just getting by	7	B	Autism	Moderate
1D	Mother	2	4	Struggling	7	B	Autism	Moderate
1E	Mother	1	3	Struggling	7	B	Autism	Severe
1F	Mother	3	3	Just getting by	8	B	Autism	Mild
2A	Mother	1	2	Struggling	6	B	Physical Disability	Severe
2B	Mother	2	2	Just getting by	3	B	Autism	Moderate
2C	Mother	2	2	Just getting by	4	B	Autism	Moderate
2D	Father	4	2	Doing okay	6	F	Autism	Severe
2E	Mother	2	3	Doing okay	8	B	Autism	Severe
2F	Mother	3	3	Doing okay	8	B	Autism	Moderate

Abbreviations: DD, developmental delay, disorder, disability

Focus Groups

All caregivers participated in three sessions: an introductory discussion where they introduced themselves and their child with DD and two parts of a focus group discussion. The first part of the focus group discussion identified and evaluated play materials, while the second part explored the play activity of children with DD.

The focus groups concentrated on the caregivers' observations of play and the kind of activities their children preferred. The discussion first focused on how the caregiver's child with DD engages in play. The focus group facilitator explicitly brought up themes to facilitate the depth of the discussion. Themes included playing with toys, playing without toys, playing on his/her own, and playing with others (siblings, peers, other adults, and parents). The discussion also explored the caregivers' perceptions of how play activities with their child with DD differ from their other typically developing child(ren).

Procedure and Data Collection

The General/Human Research Ethics Committee at the University of the Free State (blinded for review) approved the study procedures. Due cognisance was given to the vulnerability of the research participants. The researcher was sensitive to the complexities and challenges of conducting research within multilingual and multicultural social communities (Adams et al., 2014). Therefore, the researcher engaged a research assistant with whom the participants were familiar and trusting and who also served as the Sesotho-English translator. Each participant was given an information brochure in digital format before the focus group meeting. Before data collection, the research assistant explained the process and goals of the project to each participant, and the participants signed an informed consent form. In addition, a sociodemographic questionnaire was completed with the assistance of the research assistant before any discussion commenced.

The focus groups were conducted in both English and Sesotho with the assistance of a Sesotho-speaking translator. Most participants chose to speak English, but when they preferred to express themselves in Sesotho, the translator assisted by translating into English. A handheld audio-recording device was used to capture the focus group discussions with the consent of all present.

The focus groups were conducted in a private space, and each part lasted approximately 60 minutes. At the end of the focus groups, all participants were reimbursed for their travel expenses and received a voucher for ZAR 100 (approximately US$7) as a token of appreciation.

Data Analysis

Data were transcribed verbatim, after which all data were cross-checked for accuracy by two research team members (R.S. and L.N.). All identifiable information, such as names of people or local organisations, was removed from the final transcriptions to protect participants' privacy. The data were analysed using a hybrid thematic analysis (Fereday & Muir-Cochrane, 2006) and the NVivo software package (QSR International, 2020). The data analysis followed the Braun and Clarke (2006) six-step process. The transcripts were reviewed several times before two coders (R.S. and L.N.) created tentative open codes. The code labels were based on the thematic meanings of the data, which later developed into a hierarchy of thematic codes based on the relationships between those labels. The codes were discussed between the two coders (R.S. and L.N.). A master code structure was developed in an electronic format and imported into NVivo. Procedures were implemented to code the transcripts further, allowing for the emergence of novel themes or codes that were previously not included. To ensure comprehensive coding, the data was reviewed twice. A third independent coder (L.S.) reviewed the coded data, coding discrepancies were discussed, and consistency across the coders was established. The double-coding process was applied to all six transcripts (i.e., two groups that each had an introduction session and two focus group discussions) to identify salient emergent themes.

A thorough analysis of the complete coded data was conducted, with in-depth considerations of the ecocultural contextual factors. Recurring themes and subthemes were finalised, representative quotes were identified, and thematic summaries were developed.

Results

The analysis focused on exploring the caregiver's perspective on the play of their child with DD. This study yielded 142 open codes that could be grouped under three broad themes (i.e., *why*, *how*, and *where*). Figure 1 represents the ecocultural considerations when exploring the play of Basotho children with DD living in resource-limited communities, particularly regarding the main themes of *why* children play, *how* children play, and *where* children play. (*What* they play with was reported in-depth in Manuscript 1).

Figure 1. The "Box Toy"

Note: The "Box Toy" represents the ecocultural considerations when exploring the play of Basotho children with DD living in resource-limited communities.

Main Theme 1: Why Children Play

This theme refers to the perceived function that play serves in children with DD. The sensory stimulation, the emotional regulatory function of play, and the notable developmental growth and progress observed through play emerged as three subthemes underpinning why caregivers believed their children with DD play the way they do.

Subtheme 1: Sensory Stimulation

This subtheme refers to objects, playthings, and materials that the children frequently use in a manner that stimulates sensory input. Caregivers described child preferences for things stimulating the body's sensory systems, particularly gross and fine motor movement, repetitive movements, tactile and textured touch, and sound-stimulating objects.

A caregiver described engagement in movement, *"clapping hands, running around, jumping"* [2D] as favourite play activities. Similarly, another caregiver explained that her child *"likes to climb… the tree, everywhere, even on top of the fridge, and jump down to the floor"* [1D].

Different available objects are used to obtain the sensory-stimulating movement. One caregiver described how her child's favourite thing to do is to *"take the 'garing' (cotton) to play with it"* [1D] as he wraps cotton, a piece of string, or even hair around his finger.

Texture-stimulating play material was also highlighted, with one caregiver stating, *"sand… maybe they like the texture"* [1D]. Another caregiver described her child enjoying playing with *"the rice bag…with the food colouring… he would like to play with it… take the spoon and take from the bowl to the other one"* [1A].

Materials and objects used to stimulate sound were a prominent theme. For example, spoons or brooms scraped on the floor to make a sound. A caregiver explained that her son enjoys

> *"making sounds and taking the cups and doing the sound. Everything he does, he loves to hear the sound. I think also the wheels, the turning of the wheels. I don't*

> *know... With the car, he doesn't use it to play; most of the toys he doesn't use them the correct way"* [2B].

Subtheme 2: Emotional Regulation

This subtheme refers to the emotional regulatory function that the preferred play offers the child. Caregivers frequently discussed how preferred play regulates their child's behaviour and mood. One caregiver explained,

> *"I remember during the lockdown; he broke two beds because of jumping... I notice when it's too much for him, he likes to jump or do something… we (bought) a trampoline for him. So, now… he's very happy, jumping every day"* [2F].

Another caregiver noted, *"if she's distressed… want to calm her down, it's water. She's fascinated with water"* [2D]. The regulation through sound and movement was also frequently discussed, *"soothing music"* [2A]; *"if he's in a jumping castle, he'll calm down"* [1E].

Subtheme 3: Development of Skills

This subtheme refers to the process of development that is observed throughout the play. Caregivers frequently noted developmental growth and progress as they described how their children used to play in the past versus their current play. Caregivers frequently explained that they had to intervene to demonstrate how to play correctly but that the child would use the play object correctly over time. One caregiver explained, *"he was not playing the ball normally... Then I told him, 'Stand there. Come, come catch. Throw to me, catch, kick, kick.' … now he knows how to play with the ball"* [1F], and *"two years ago, he was focusing on the wheels… Then I told him, 'No, we're driving the car'... Now he knows, he even (has) that wheel, that driving (steering) wheel…"* [1F].

Caregivers highlighted a curiosity in their children when they play with toys, *“if you buy toys, sometimes he’ll break them. It’s like he wants to see the inside”* [1C]. Caregivers expressed surprise at their children’s abilities, noting that they develop skills without formal instruction. One caregiver said, *“I’m so amazed. It’s a month or 2 months, the commercials, he’s speaking with the TV… even the English one”* [1F]. Frequent discussions of how their children learn quickly through observation, such as, *“you teach him once, and you will never teach him again”* [1F]. Another caregiver described, *“he can read, he doesn’t go to school, but he can read”* [1C].

Caregivers provided examples of using digital devices, as illustrated by one caregiver, *“they’re so intelligent. I didn’t even know that’s in my phone; he does something… He goes step by step…”* [1C], and by another caregiver,

> *“last time the tablet got blank... the screen was black, and the letters were white… I said, ‘Oh, I broke the tablet’… Then he said, ‘Mamma, don’t be angry. You will never break it. Don’t be angry. Just be calm’… The phone was fine. He did that. The phone was black because of him. He said, ‘Mom, you see, you press here’”* [1F].

Socialisation and participation were also often observed to improve through play. One caregiver explained that *“in the beginning, he was not playing with other kids, now he can play with other kids”* [2F], while another caregiver observed the process of progress, *“I think it will get there eventually. I’m seeing an improvement, and when they (other children) come again, I see the excitement in him that, oh, he can recognise them, even after two, three weeks”* [2B].

Main Theme 2: How Children Play

This theme refers to the display of play in children with DD. Caregivers described the uniqueness of play displayed in their child with DD, particularly in reflecting on how it differs from the play in their other typically developing children. They described how the diagnosis or delay is portrayed in how they play. Caregivers frequently mentioned specific interests dominating the play. The socialisation and engagement in play were highlighted as notable differences. This theme is divided into three subthemes which will be described in detail.

Subtheme 1: The Visibility of their Disability

This subtheme refers to how the diagnosis or developmental delay is portrayed through the play. While the toys used by the children with DD are typical of most children, how the toy was used was frequently noted to be different. A caregiver explained, *"most of the toys, he doesn't use them the correct way"* [2B]. Fixation on a part of the toy was often described as *"the car, he doesn't drive it, he just plays with the wheels"* [2B].

Caregivers frequently described their children as appearing to be unaware of what is happening around them or when they are being spoken to, but that they, in fact, are aware. One caregiver described this as *"he's like a multitasker in his own way"* [1F]. Another caregiver shared, *"because autistic, they use to observe a lot, they can be quiet. I think they're watching the world, but she's busy watching… what you're doing also"* [2F]. The idea of playing in their *"imagination"* was also shared. One caregiver explained, *"he'll be alone, like he's talking to somebody there... he wants to be there with his imaginary friend, and they would play"* [1F]. Another caregiver described how her child communicates differently, *"he talks a lot, but he doesn't talk a proper language… talking a language that we don't know… maybe he's developing a language"* [2B].

The sensory stimulation and making of sounds were frequently described in how they play, *"everything he does, he loves to hear the sound"* [2B]. Creating order, lining play things up, or binding them together was often shared. One caregiver explained, *"…bind them, the cars, together, even the broken ones… so if he drives it, they come along… it's a train"* [1F].

Many caregivers described the interest in play as short. When their child is no longer interested, they walk away or throw the item down. One caregiver stated, *"when he's tired of the sandals, he will just throw it against the wall"* [Translated] [2A].

Repetition in their play was also a common theme, with many caregivers describing spinning, repetitive dropping and picking up of items, and throwing play material. A caregiver described how her child repeatedly throws pillows off the furniture for enjoyment, "*he just throws them everywhere and I put them back and (he) throws them back, the whole day"* [2B].

Subtheme 2: Specific Interest

This subtheme refers to the specific interests preferred by the child. Many caregivers described specific interest or attachment to specific items such as cars, string, brooms, specific cartoons, mobile phones, particular colours, specific textures, or a particular soft toy, which dominates how the child plays. One caregiver described her child's attachment to the cartoon characters Barney and Mickey Mouse. She explained, *"he imitates, exactly the voice of Barney, exactly the voice of Mickey Mouse"* [2F]. Specific interests were often described intensely, with one caregiver sharing, *"they are so obsessed with cars. [My child] is based on colours… He wants a green car"* [1F]. Another caregiver described intense emotion when her child could not find his specific attached item, *"… like the spoon, he likes the green spoon. I buy the red one, but he wanted green... when he can't find that thing he wants, he becomes like a lion, very aggressive"* [2F].

Wheels and how wheels are used in the play were frequently discussed. One caregiver shared, *"mine likes the wheels; anything that has the wheels, he just loves. The car, he doesn't drive it, he just plays with the wheels"* [2B].

Particular textures were often highlighted, such as *"anything soft"*, as one caregiver mentioned, *"the one with the soft texture… just to feel. I think it's the texture"* [2D]. Wind, water, dust, sand, brushes, and rice were also described as items children with DD become fascinated with or particularly attached to, especially used as tactile stimulation objects.

Caregivers also described rigidity in their children's behaviour, particularly in avoidance of trying new or different things in play. One caregiver explained, *"autistic children, they don't want to fail. If he can't jump, he gets irritated… 'Come, come, let's try, let's try.' He doesn't want to think"* [1F].

Subtheme 3: Play Partners

This subtheme refers to how children engage in play with others. Almost all the caregivers described their child with DD as preferring to *"play alone"*. Engagement in joint play depended on various factors, such as the degree of comfort with the play partners. One caregiver explained, *"he's comfortable around people that he knows… he plays with them; they are the people that he knows"* [2B]. Some caregivers explained that their children would only play with their siblings, *"mine always plays with his sister, only his sister"* [2E]. Others over time include neighbours and cousins.

Frequently, caregivers discussed that joint play took place on the terms of the child with DD. One caregiver shared, *"most of them, they play what he wants to play because if they play what they want to play, he just do (does) his own thing and leaves them"* [2B]. Their children's limited interest in things and particular attachment to objects also demand that play partners carefully manage the use of these objects to prevent intense negative emotional reactions. As one caregiver described, "*He's very attached to what he want. He stop even sleeping"* [2F]. While many caregivers shared that their child was not interested in playing with other children, they often noticed that they enjoyed observing others. One caregiver illustrated, *"he usually does not play with other kids, but he loves to observe other people"* [2A].

Furthermore, the length of joint play was frequently described to be short. One caregiver shared, *"the only game that she loves is chasing people around, and she gets bored, then she goes back to being isolated and lone ranger"* [2D]. Another caregiver explained, *"he will play with them and then, and then maybe for 10 or 15 minutes, he'll be alone"* [1F].

Joint play activities included running around and chasing each other, jumping on the trampoline, tickling each other, kicking balls, and riding bicycles. Differences in social skills between the caregivers' child with DD and the child without DD were highlighted. The initiation of play was often described as inappropriate, and the caregiver had to explain the intention of the child with DD to the other children. As one caregiver explained, *"when she, she initiates play, she will push the bigger sister, then the bigger sister will get upset. Then the mom will explain, 'No, she wants to play with you'"* [Translated] [1A].

A few caregivers described their children narrating the imaginary play. As the play is narrated, the child seeks out the mother's attention to notice the narrated play. For example, one caregiver described*, "'Mommy, this is a scooter…' and then no, he is up and down"* [1C]; while another caregiver described a play scenario as,

> *"he's building a garage, a house. 'Mamma, this garage is moving'…He said, 'It's a garage. Vroom. The car is moving in. Mamma, we are sleeping'. Maybe he is playing make-believe. Now he has to sleep. 'Koekelakoe (rooster sound), now it's the morning, now we are going to work'"* [1F].

Caregivers frequently described their children as happy around others, despite not wanting to play with others. Many caregivers expressed that their children would become angry if others interfered with them. One caregiver explained, *"he's a happy guy, but you mustn't mess with him because sometimes he can get very angry"* [1C].

Caregivers described their children as very sensitive to others, often seeking permission from or apologising to the caregivers. One caregiver explained that her child would ask permission for something. Without permission, he would not do anything, *"he asking for permission… 'Mamma, toilet.' If you don't agree, he will never go to the loo. 'Mamma, mamma, toilet.' Then I said, 'Yes', then he goes to the toilet… If you don't say yes, he will never do"* [1F].

Many caregivers described a unique difference in their children with DD in their perception of others. One caregiver shared,

> *"I see they are very good, I don't know, to sense people... I always say, if he doesn't like you, then I know you're not good for me... It's like he can see, at first sight, sense, are you a good or a bad person"* [1C].

Caregivers also explained that their children were particularly perceptive of the caregiver's emotional state. One caregiver explained, *"he can see that I'm not happy and then sit here and comfort me and then laying like this and even if I'm crying, he will see that there's something wrong"* [1E]. Another caregiver reiterated,

> *"if I'm not all right, he will come to me, 'Mamma, are you okay? Why are you sad? Don't be sad. It will be all right, Mamma'. If I want to cry, I don't cry in front of him because he can feel, he can sense that mamma is not okay"* [1C].

Many caregivers noted that their children are very different with more vulnerable or younger children. They frequently fight with their siblings but display care and are gentle with younger children or pets. One caregiver explained, *"fighting with the older sister, but with the younger one... so nicely, he would never drop him"* [1F].

Many children with DD experience expressive communication difficulties, which demand additional skills from the play partners to understand their minimal-speaking communication and intentions. In addition, children with DD are not always aware of their strengths and often push other children when playing with them. One caregiver explained, *"there's only that thing of pushing; I must just be around to make sure there's no accidents"* [2F]. Many caregivers also mentioned that their children fight with their siblings, especially older siblings. One caregiver explained the demand on the play partner to accommodate the child with DD, *"the brother is trying to accommodate him, takes time to just play with him"* [2B].

Main Theme 3: Where Children Play

This theme refers to the context in which the play takes place. Caregivers reported that play typically occurs in very limited environments, inside the house, with close family or friends, and at school or creche. The over-riding ecocultural factors influencing where the play takes place were discussed, with the home being the primary place where play occurs.

Many of the ecocultural factors described limit the play environments to the home and restrict play opportunities in other environments. One prominent factor was the cultural influence on understanding DD within the Basotho culture, which impacts where the child with DD is exposed to.

One caregiver shared how her husband struggled to handle having a child with a disability, *"my husband… didn't want to accept the child. Even if people… come to see me, he'll want us to go into the room… he didn't want people to see that we are having a kid like [my child]"* [1E].

Caregivers also shared frustration with finding a suitable centre or school to meet their children's needs. One caregiver expressed, *"I feel like they don't understand him because he gets lost"* [1D]. Similarly, one caregiver described her challenge of finding a creche willing to accept her child,

> *"the nappy was stressing me because he dropped out of nappy at 4 years… There was no daycare that wanted to took him. I didn't know what to do. My mother tried to support me, his mother tried to support us, and we, we tried by all means"* [1F].

Another caregiver shared her experience with daycare, *"they beat my child at that* *creche because [my child] doesn't speak, doesn't say anything"* [1E].

Play mainly takes place inside the house or within the safety of the home environment. Caregivers described the process of development of social play to be firstly limited to the home environment with no other people, but over time to start including others within their comfortable play environments, such as the home garden. One caregiver described how her child never played with others, but now *"he can go to the neighbours… he is busy calling all the friends to come with him to the trampoline"* [2F].

All caregivers described the play happening within the context of their homes, with a few caregivers describing play occurring within their garden (e.g., on the trampoline, riding a bike, running and chasing, or kicking a ball). One caregiver explained that she keeps her child inside because *"she feels like she doesn't have the time to also play outside because she has to be inside"* [Translated] [2A].

Furthermore, the poor understanding of their child's developmental needs and differences within the communities impacted the restricted play environments. Caregivers tend to choose to keep their children in the houses or go to places where the child would be understood and accepted, such as grandparents' homes. One caregiver expressed the challenge of not being welcome at other people's homes, *"we don't want [child name] to come at our home because he breaks all our things in the house"* [1F]. Another explained why she keeps her child with DD inside the house, *"when she takes him out to play with other kids, so he doesn't always be at home, they will make fun of him"* [Translated] [2A]. One caregiver gave insight into how she felt when anticipating going out with her child with DD,

> *"sometimes we want to go to KFC, there's a party to the neighbour, and you start stressing, 'What am I going to do with my child? He's autistic. He's gonna do one, two, three'. So, what I use to do, because I used to know people are gonna laugh on him, I prepare my mind already. And I go to them, and I say, 'Okay, I will come with*

my son, but my son is autistic. Don't push him, play around him, but not with him'… It's difficult, I use to cry, but we must do it. Don't hide your child inside, away from society" [2F].

Discussion

While play is a universal concept, it is a culturally embedded phenomenon. In this study, the researcher used the *Ecocultural Theory of Development* as a theoretical lens to explore the play of Basotho children with DD from low-resourced communities in South Africa. The interplay between the unique characteristics of the child (i.e., developmental level, preferred interests, play skills) and the ecocultural factors (i.e., physical space, available resources, cultural beliefs of the adults, play participants) nuance the play of these children. The findings from the focus group discussions with 12 Basotho caregivers reflected the specific ecocultural nuances of *why their children play*, *how they play*, and *where they play*, illustrating the importance of understanding the ecocultural contexts of families. Each section will be discussed in more detail.

Why Do Their Children Play?

Caregivers frequently described a sensory regulatory function present in the child's preferred play, which supports literature on the significance of sensory stimulation for assisting a child in organising and calming their system (Fetta et al., 2021; Ziviani et al., 2005). Notably, the level of severity of the children's disability in this study was mainly described by their caregivers as moderate to severe. Basic sensory-motor play, lower-demand activities, and immediate gratification are more prevalent in younger children below three years (Baron-Cohen, 1987; Vygotsky, 1967). The high reported prevalence of this form of play in this study is, therefore, likely to be reflective of the developmental stages of the children, given the high impact level of disability symptomology of the sample population.

Caregivers reported developmental progress through play, reflecting on scaffolding offered by the play partners and noting the progress taking much longer to be generalised, supporting earlier literature (Barton et al., 2020; Brown & Bergen, 2002; Vygotsky, 1967). The caregivers also described this scaffolding process. Children are met in their preferred play, accommodated, and through demonstration, can learn (Vygotsky, 1967, 1979). Caregivers play active roles in facilitating development through play, and findings show promising outcomes from caregiver-facilitated interventions (Brodin, 1999; Guler et al., 2018; Reichow et al., 2013; Salomone et al., 2018). As caregivers were able to scaffold their children's play and observe progress, caregiver-facilitated NDBI's may be well-received and acceptable to these caregivers.

How Do Their Children Play?

There was a significant focus on the caregivers' narratives of *how* their children spontaneously play within their natural environments. This study aimed to explore and describe play in children with various DD. These findings were consistent with performance limitations characteristic of DD, such as autism, sensory integration dysfunction, attention deficit hyperactivity disorder, or general developmental delays. Children with DD had restricted interest in toys; toys were not used functionally; and play activities tended to be fixed and repetitive (American Psychiatric Association, 2013; Brodin, 1999; Case-Smith & Kuhaneck, 2008), which are also hallmark features of play in autism. Given that most of the caregivers' children were autistic, the findings support the notion that specific play features of children with autism are remarkably similar across cultural contexts.

Where Do Their Children Play?

Caregivers shared various ecocultural factors that limit *where* children with DD get to play. Cultural beliefs, lack of societal understanding of their child and their child's needs, and stigma were frequently reported as obstacles to taking their children out beyond the security of the home. Consequently, children play in and around their homes, where caregivers feel they can protect and supervise their children safely.

In the context of poorly resourced communities, as in South Africa, many families have limited financial resources to purchase play materials and toys, particularly when children with DD do not use the play materials and toys functionally (Fanning et al., 2021; Nwokah et al., 2013). Safety, poverty, and limited resources are genuine factors that influence the opportunity for children to play and develop, even more so for children with DD, where caregivers struggle to meet the basic needs of their families, let alone provide additional developmental stimulation for their child with DD (Nwokah et al., 2013; Prinsloo & Wilson, 2017).

Moreover, South Africa encompasses a wide array of rich cultures, all of which may vary in the cultural beliefs and values regarding the importance of play, the stigmatisation and meaning of DD within families, as well as the roles and responsibilities of family members. These cultural nuances influence how play activities are prioritised within a family and the type of routines and activities the child can access. Cultural beliefs and poor understanding of DD foster stigmatisation within the community (Gona et al., 2015; Guler et al., 2018; Tilahun et al., 2016), which serves to isolate the caregivers and the child with DD to the home, limiting exposure and learning opportunities in varied contexts.

Furthermore, the ecological factors associated with poverty and struggling families place the caregiver at the centre of many additional responsibilities such as work, household chores, maintaining marital relationships, and caring for other children, while implementing home-based intervention strategies, supervising, and caring for their child with DD (Adams et al., 2022). The combination of these factors restricts play opportunities in different play environments and increases socialisation. These findings are important contextual factors to consider when adapting NDBIs to ensure sustainable positive outcomes.

The Importance of an Ecocultural Understanding of Children's Play

The findings of this study highlight the interplay between the child's characteristics (such as having a developmental disability) and their surrounding environment. The ecocultural factors influencing opportunities to play must be considered when implementing NDBIs. Children with DD from these contexts are restricted in where they can play, and the resources available for them to play largely depend on the families' daily routines. Thus, these findings highlight that careful consideration of the family structure, context, and access to resources should be considered to facilitate the feasibility of caregiver-mediated NDBI strategies for children with DD.

This study added to the current literature in several ways. It offered a detailed account of play in children with DD, adding to the existing body of knowledge regarding the visibility of DD within how a child with DD plays (Baron-Cohen, 1987; Brown & Bergen, 2002; Case-Smith & Kuhaneck, 2008; Libby et al., 1998; Vygotsky, 1967). This suggests that children with DD engage in play predominantly based on their developmental functioning.

Furthermore, this study contributed to understanding the influences of a broad spectrum of ecocultural factors affecting low-resourced Basotho communities. One of the biggest factors impacting these communities is stigmatisation around children with DD. The factors associated to poverty and limited financial resources to create varied play opportunities for children, as well as the household demands on the caregivers while supervising their children were also important ecocultural factors highlighted. Thus, it offered insights into the sustainability of NDBIs for vastly under-represented multicultural families in low-resourced environments with a child with DD (Adams et al., 2022; Elsabbagh et al., 2012; Franz et al., 2017; Guler et al., 2018). The play materials, the family routines and resources, and the social support structures should be carefully considered when implementing NDBIs, such as the WHO CST, in South Africa. South Africa is a multicultural, multilingual country (Statistics South Africa, 2018), necessitating a sensitivity to ecocultural factors when designing and implementing play-based NDBI interventions and strategies.

Limitations and Future Recommendations

South Africa is a multicultural, multilingual country, and it is important to consider language limitations. The dynamics of the focus groups could be influenced by more vocal participants, which may have been affected by language. While the option to speak in Sesotho was encouraged, most participants opted to speak English, which may have resulted in fewer contributions offered by less fluent participants. Another limitation was that the focus groups were only audio recorded. The caregivers often expressed themselves with demonstrations to show how their children played. These non-verbal communications were reflected and paraphrased by the interviewer to record the communication; however, a deeper exploration would have benefited from video recordings. The study’s convenience sampling procedures and the small number of participants may have impeded a complete representation of all caregivers with children with DD. However, the two focus groups offered greater richness to the data with participants from different settings.

In a setting with limited or no disability-related support services available, especially for families from low-resourced settings, it is extremely important to acknowledge the general lack of emotional support for the caregivers. The caregivers were drawn to sharing their experiences, often leading the group’s focus off-topic and to more support group discussions. Sensitivity to the needs of the caregivers was considered while gently re-directing the conversation to the direction of the focus group. The researcher also followed up with a focused caregiver well-being programme for the most vulnerable caregivers.

The present findings support further research into a deeper understanding of how children play within different settings, particularly those with DD. In practice, a better understanding of how children with DD from different ecocultural contexts play is important for practitioners to guide play-based assessment and interventions adequately. While this study offered caregiver perspectives of play in children with DD, ethnographic studies observing natural play routines within the home context of children with DD from ecoculturally diverse settings would offer deeper and richer understandings for naturalistic interventions.

Conclusion

This study was the first to explore Basotho caregivers' perspectives of the play of their children with DD using an ecocultural approach. This qualitative study drew attention to ecocultural features within low-resourced multicultural communities that must be considered when designing, adapting, or implementing NDBI or play-based programmes. Play in children with DD is largely reflective of the diagnosis. Play predominantly takes place within the home. While children with DD prefer to play alone, play partners tend to be caregivers, siblings, or close family or friends. Early intervention for children with DD continues to gain attention in sub-Saharan Africa and the results of this study suggest that NDBIs, such as the WHO CST, can be effectively implemented in these contexts. Therefore, it will be important to consider the ecocultural contextual data to support low-cost, feasible, and sustainable caregiver-mediated play-based NDBI programmes for children with DD. The influence of play on a child's development is enormous, making the understanding of children's play crucial to explore.

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The authors alone are responsible for the content and writing of the paper.

Conflict of Interest

The authors declared no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

Authors’ Contributions

R.S. conceptualised and designed the study, coordinated and conducted the participant recruitment, data collection, and analysis, and drafted the manuscript. L.S. and L.N. provided expertise in the study’s conceptualisation, reviewed the data analysis, and revised and reviewed the manuscript. All authors approved the final manuscript.

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SECTION C: CONCLUSIONS AND RECOMMENDATIONS

Introduction

Children's play is a universal and natural phenomenon through which children explore and make sense of their world, societal norms, and cultural expectations (Kirk & Jay, 2018). It is considered a culturally embedded phenomenon (Bergen, 2015; Gosso & Carvalho, 2013; Roopnarine & Davidson, 2015) essential for healthy development (Burriss & Tsao, 2002; Memari et al., 2015; Yogman et al., 2018). Interventions for children with DD and autism often use play as the medium to develop other skills, such as social engagement and language, and it is therefore important to conduct contextualised research of play. Specifically, contextualised research on children's play in their natural environments and the toys and materials they play with is essential when developing and implementing play-based intervention programmes, such as NDBIs (Balton et al., 2019; Makombe et al., 2019; Nwokah et al., 2013; Phetlhu, 2014). Research is available on the play of children with and without DD. However, there is minimal research on the play of children with DD living in culturally diverse, resource-limited settings.

The point of departure of this study was to gain a deeper understanding of play and play materials in children with a DD from low-resourced communities, subsequently informing (a) the development and implementation of interventions for children at risk of DD living in resource-limited communities, and (b) interventions that include play and play materials in their approaches. This study aimed to explore the play of Basotho children with DD living in resource-limited communities in South Africa from their caregivers' perspective. In order to achieve this, the study first explored the toys and play materials that these children can access (i.e., *what* they play with) and, secondly, delved deeper to understand *why* they play, *how* they play, and *where* they play. The researcher specifically included the toys and play materials suggested by the WHO CST programme to explore the availability of their suggested items.

The following section presents the significance of the integrated findings of the study. Thereafter, the researcher's insights obtained during the research process, the impact of the study on practice and future research, as well as the study's limitations are discussed. The researcher's reflection will conclude this section.

Research Questions

The study was guided by a primary research question and secondary research questions. A schematic representation of the research questions and how the study approached these questions are presented in Table 3 below.

Table 3. A Schematic Representation of How the Research Questions were Explored

Caregiver perspectives on how their child with a DD plays within their natural environments

Primary research question	**How do Basotho children with developmental delays play in low-resourced communities?**	
Secondary research question	**Manuscript 1** 1. What toys or materials do Basotho children with DD in poorly resourced contexts play with? 2. Are the WHO CST-suggested play materials available and relevant to Basotho children with DD in low-resourced contexts?	• Focus group discussions with 12 Basotho caregivers of children with DD were conducted. • Play materials suggested by the WHO CST, as well as other commonly available materials and toys, were presented to the caregivers. • Data on play materials were organised into frequency tables. • Accessibility to play materials and play opportunities were explored across five domains: availability, affordability, accessibility, acceptability, and accommodation.
	Manuscript 2 1. Why do Basotho children with DD in low-resourced contexts play? 2. How do they play? 3. Where do they play?	• Focus group discussions with 12 Basotho caregivers of children with DD were conducted. • Transcripts were deductively and inductively analysed to explore how Basotho children with DD play in low-resourced communities. • The analysis indicate that play is reflective of the diagnosis and developmental level of the child, play predominantly takes place in the home, and ecocultural factors such as stigmatisation, poverty and the associated caregiver demands and responsibilities influence play opportunities.

Data Collection

The onset of the Covid-19 pandemic complicated the data collection phase. In the initial study, the plan was to have two separate focus group discussions with each group of caregivers (i.e., the Bloemfontein-based and Welkom-based groups). However, when data collection could occur, each group of caregivers had one contact session, and all three discussion sessions were conducted on one day. Two separate meeting days would have offered the caregivers a greater opportunity to reflect on the discussions between the two meetings, which may have increased the depth and richness of the second follow-up meeting. However, the data collection phase was postponed to accommodate national Covid-19 protocols, regulations, and infection rates. The data collection took place when the infection rate in South Africa had reduced and when the National State of Disaster levels were set at the Adjusted Alert Level 2 (Disaster Management Act, 2002: Amendment of Regulations Issued in Terms of Section 27(2), 2021), allowing for face-to-face interviews. The mandatory public places protocols were followed, including the use of face masks, physical social distancing, and hand sanitisers on entry to the premises. All participants and members of the research team completed a Covid-19 screening questionnaire. They had their temperatures measured as part of the health protocols. In retrospect, having one meeting time for the caregivers was practically and logistically better for the caregivers since they only had to find alternative care for their children for one day instead of two. It also reduced the risk of caregivers not attending the second part of the discussion on a second meeting day.

Data Analysis and Interpretation

The data analysis phase initially presented a challenge with respect to transcription. The researcher attempted to transcribe the audio recordings of the interviews herself to become close and familiar with the data. However, following many hours of transcribing with limited progress, she decided to employ the services of a professional transcriber so that data analysis could continue more efficiently. The researcher checked the transcribed interviews several times for accuracy, facilitating the familiarisation of the data. The data analysis progressed smoothly following the transcription process. While every effort was made to reflect any non-verbal communication cues on the audio recordings of the interviews, the researcher acknowledges that a video recording of the interviews would have offered a greater depth of non-verbal communication and demonstrations to the overall data.

Findings

Manuscript 1

Manuscript one reported on the results of the qualitative exploration of the toys and play materials that Basotho children with DD living in resource-limited settings access during their play routines. The caregivers of the children with DD shared their observations of what their children prefer to play with and what play materials their children have access to. The findings indicated that the children have access to various play materials, including those suggested by the WHO CST. The results highlighted that ecocultural understandings of access to materials should consider five interrelated domains of access to resources, namely: availability, affordability, accessibility, acceptability, and accommodation factors for play-based interventions. The specific exploration of the domains of access to play materials for the children is reflected in Table 4 below.

Table 4. Findings Emanating from Manuscript 1

Access to toys and play materials for Basotho children with DD living in resource-limited settings

1. Availability	✓ The WHO CST-suggested materials are available, but not all materials are preferred as play materials by the children. ✓ Repurposable materials and materials from nature are most commonly used in play.
2. Affordability	✓ The WHO CST-suggested materials are included in daily routines, making them affordable resources. ✓ Materials that are repurposable and easily accessible to households are used as play materials. ✓ Few toys are available to the children, but the children most frequently prefer balloons, cars, soft toys, and miniature animals. ✓ A high frequency of real-life objects is preferred and used in play routines.
3. Accessibility	✓ Particular materials, such as drawing supplies, books, balls, playing cards, and hygiene and cleaning materials, are available to children but under adult supervision. ✓ Materials discouraged by caregivers for play are messy in nature, costly, or pose a danger to self, others, or things.
4. Acceptability	✓ Caregivers appraise certain play materials, such as balloons and bubbles, as dangerous but still acceptable to use in play. ✓ Caregivers limit access to play materials that they consider choking hazards or physically dangerous to their children.
5. Accommodation	✓ Caregivers have many additional demands and responsibilities which impact the accessibility that their child has to play opportunities. ✓ Children with DD are highly dependent on caregivers, which affects the caregivers' emotional capacities, ultimately impacting their capacity to facilitate play opportunities for their children.

Manuscript 2

Manuscript two reported the results of the qualitative exploration of play routines of Basotho children with DD living in resource-limited settings. Caregiver perspectives of why their children play, how they play, and where they play were explored. The findings of this study revealed the caregivers' understanding of the function that play serves their children with DD. Furthermore, the caregivers described how they observe their children playing and the context and space where their children typically play. Caregivers reported that play routines serve both sensory regulatory and stimulatory functions. The sensory profiles of the children influence what and how they engage with materials during play routines. Play routines also offer a medium through which emotional regulation takes place. The development and growth of children with DD were observed in how their play levels develop and progress. Therefore, how children with DD play is significantly influenced by the developmental profile of the child with a DD. The features of the DD are evident in the way in which they play, and play routines and preferences are highly restricted, specific, and limited in variation. Play partners are required to accommodate the play routines and preferences of the child with a DD. Caregivers take the majority of the responsibility for facilitating play opportunities. Caregivers from this study expressed high levels of stress and additional responsibilities, which impede their capacity to facilitate varied play with their children with DD. Several ecocultural factors also impact where children play, resulting in them mostly playing inside the home. Table 5 illustrates a summary of the findings of Manuscript 2.

Table 5. Findings Emanating from Manuscript 2

The play of children with developmental disabilities living in resource-limited contexts

1. Why children play	✓ Sensory stimulation ✓ Emotional regulation ✓ Development of skills
2. How children play	✓ Visibility of the disability through the play ✓ Specific interests ✓ Play partners have additional roles
3. Where children play	✓ Play mostly occurs within the home

Overall Conclusions

The overall conclusions of this study contribute to the ecocultural understanding of play routines in children with DD in the multicultural South African context. It remains essential that the ecocultural contexts of children and their families are considered when developing and implementing early interventions for children with DD. The researcher found that the play materials suggested by the WHO CST programme were suitable and available to the Basotho caregivers. Suggested play materials of early intervention programmes should consider including repurposable materials that are freely available and accessible to families. Understanding the ecocultural factors impacting children with DD and their families from resource-limited contexts is imperative for the feasibility of interventions. In addition, it is critical to be aware, respectful, and culturally sensitive to the conditions and views of the families where such intervention programmes are implemented. The participants in this study support the dire need for early intervention strategies for their children with DD and the family as a whole. The well-being of the primary caregivers is a significant factor to include in intervention strategies.

Research Recommendations

It would be beneficial to conduct a replica study on different cultural groups in South Africa and other LMICs and from more rural communities with less access to formal care facilities, such as the rural farming communities or homelands. The support structures, family understanding of the importance of play in child development, and the understanding of DD in children may differ for different population groups. They should be better understood to design and implement feasible and sustainable NDBIs. Further exploration of play in children with DD from an ecocultural perspective through an ethnographic study would add rich and meaningful material to the body of literature. In addition, the data would be meaningful for tailoring naturalistic intervention programmes for the South African context.

Practical Recommendations

To the researcher’s knowledge, this is the first study to explore the play activities and routines of Basotho children with DD from an ecocultural perspective. The study contributed to the existing literature on play in children with DD by providing detailed descriptions of what, why, how, and where Basotho children with DD play. It contributed to the call and need for NDBIs for low-resourced communities. It offered promising evidence for the suitability of the WHO CST programme for the South African context. It confirmed that the suggested WHO CST play materials are accessible and feasible for Basotho families living in poorly resourced contexts. Deeper insights into the ecocultural understanding of play for children with DD enlightened the practical scalability of play-based interventions for similar population groups.

Play materials available to children with DD in low-resourced families are low-cost materials found in nature or items repurposable from household materials. This should be considered when implementing play-based interventions to families from these contexts. Creative ways to transform empty containers, boxes, or recyclable materials into functional play materials should be provided and encouraged in play-based NDBIs.

Play activities and routines of Basotho children with DD mostly occur within the home, with limited play outdoor and away-from-home opportunities. Most of the shared play routines centre around house cleaning routines. These ecocultural factors should be considered for implementing shared play routines in NDBIs. Social engagement and participation activities can be created through every day routines, such as washing up and cleaning routines, packing school bags, or sorting objects into categories.

The caregivers of these children are integral in providing opportunities for play and development. This study highlighted the specific challenges of the caregivers which should be considered when implementing caregiver-mediated interventions to this context. It confirmed that families with children with DD need support and interventions for their children. Caregiver well-being interventions should be included in caregiver-mediated interventions to maximise the support and mitigate additional burdens on them.

Limitations to the Current Study

Despite the valuable contributions of this study, several limitations are acknowledged. The multicultural, multilingual dynamics of South Africa make language and cultural limitations important to consider. The focus group dynamics may have been influenced by more vocal participants, who may have been more comfortable speaking and understanding English. Including a familiar Sesotho-English-speaking translator was aimed at mitigating this limitation for participants who could not speak English.

The focus groups were recorded in audio format only. This was considered a limitation as non-verbal demonstrations of what or how children play with play materials were missed. The interviewer reflected on the demonstrations verbally to capture the essence of the demonstration; however, a video recording of the focus groups would have been valuable.

Convenience sampling procedures, the small sample group, and limited representation of other caregivers such as fathers and grandparents as participants may be considered a limitation for the generalisability of the study. However, including two separate groups of participants from different geographical areas with different resource accessibility added contextual variability, which added greater richness and depth to the data received.

Personal Reflection

Research is not an easy journey. It demands a passionate curiosity, commitment and motivation, constant reflection, grit, perseverance, and high ethical standards to deliver reliable and trustworthy literature. This process generally moves the researcher deeply, challenges assumptions, refines perceptions, and grounds your way of thinking. At the start of my research journey, I was very clear about what I wanted to achieve from my research project. Primarily, I wanted to contribute to practical research that would make meaningful differences for the most vulnerable people – children. Finding a research topic that met these criteria took many months of reading literature and conversing with various researchers. After a particular discussion with a local developmental paediatrician, I was introduced to the principal researcher of the Diamond Families Study, Dr Liezl Schlebusch. Dr Schlebusch introduced me to the WHO CST programme and the idea of bringing this programme to South African communities. The conversation ignited great excitement in me at the prospect of being able to contribute to a much larger practical project, namely working towards making the WHO CST available and accessible to vulnerable children at risk of not reaching their potential. My home is in a rural farming community in South Africa. Poverty, resources, specialist medical care, accessible therapies, and specialised educational interventions are inaccessible to most people in this community. The idea of being able to bring the WHO CST programme to communities like my home town gave me the big enough "why" that I needed to embark on this journey.

During the data collection process, I was deeply touched by the conversations shared by caregivers about their lived experiences with their children with DD. As they described their child's play, they added valuable context on where and what they play. They authentically shared their struggles, burdens, and hopes for their families. They showed up as loving caregivers as they comforted each other as participants emotionally shared their stories. At times, the conversations were held in Sesotho – while I could not understand the language of the spoken words, I genuinely felt the compassion, support, and encouragement offered in the space. In reflection on the first focus group of caregivers, I felt deeply moved by the courage and resilience of the caregivers. I understood the lack of support that the caregivers experience – culturally, ecologically, and emotionally. I realised that these caregivers are frequently the only advocates for their child – children with DD in the Basotho culture are poorly understood, even within their own families. Caregivers and their children with DD are at risk of feeling isolated and ostracised by the community. That poor understanding of the child with DD leaves them particularly vulnerable to abuse by others. I was particularly surprised by the clear preferred play materials of the children with DD. Many of the children have no or few toys partly because they break the toys that they have. The children with DD have strong preferences for real-life objects (e.g., real cars, brooms, and buckets with water). In addition, the children are creative and resourceful in what they prefer to play with (e.g., string, blocks, and rice bags).

The second focus group of caregivers were more homogenous in that most of their children attended a very supportive school environment. It was evident as they shared their observations of their child's play that the caregivers lacked insight into the play activities that their children engaged in at school. I noticed that few children were exposed to different play opportunities within the home context. This was partly due to some of the limiting ecocultural factors. Caregivers feared that their children would hurt themselves and others or choke on small things if they were allowed to explore the materials (e.g., sticks, small stones, crayons). Caregivers must supervise their children while playing, resulting in children not playing outside because caregivers need to clean inside their houses and do the housework over weekends when children are at home all day. I wondered to what degree a supportive educational facility contributed to the caregivers' low insight into the various play activities at school. For example, the peace of mind of knowing that your child is stimulated at school relieves additional pressure to create learning opportunities at home. Overall, the need for guidance and support on how to manage the challenging behaviour of their child with DD came across strongly in this group of caregivers. I often had to re-direct conversations to the focus group guide. I had to pause when caregivers were seeking advice and guidance. I respectfully tried to acknowledge their needs, allowed other caregivers to offer insights, and reflected on the need for a support group. After the discussions, the research assistant took the lead in facilitating regular support groups at the school facility where the caregivers' children attend school.

Overall, this study was a meaningful experience for me. I was moved by the absolute care, love, and special bonds the caregivers share with their children with DD. It was a valuable process as I gained confidence and skills in my abilities as a researcher. Personally, I thoroughly enjoyed connecting meaningfully with the caregivers as they shared their challenges and joys. I have grown through this experience. I am in awe of the caregivers and their resilience in coping with the multiple and multi-level challenges. It has been humbling for me to work with and learn from them. Their honest sharing and contributions to our discussions touched me deeply. I felt comforted that caregivers are so often perfectly attuned to their children, and it seems that this attunement often follows some hard struggles. The caregivers are innately resourceful, even when they feel alone and have intense feelings of loss, frustration, sadness, helplessness, and guilt. I witnessed resilience and tenacity in their desperation to be the best caregiver they can be for their children.

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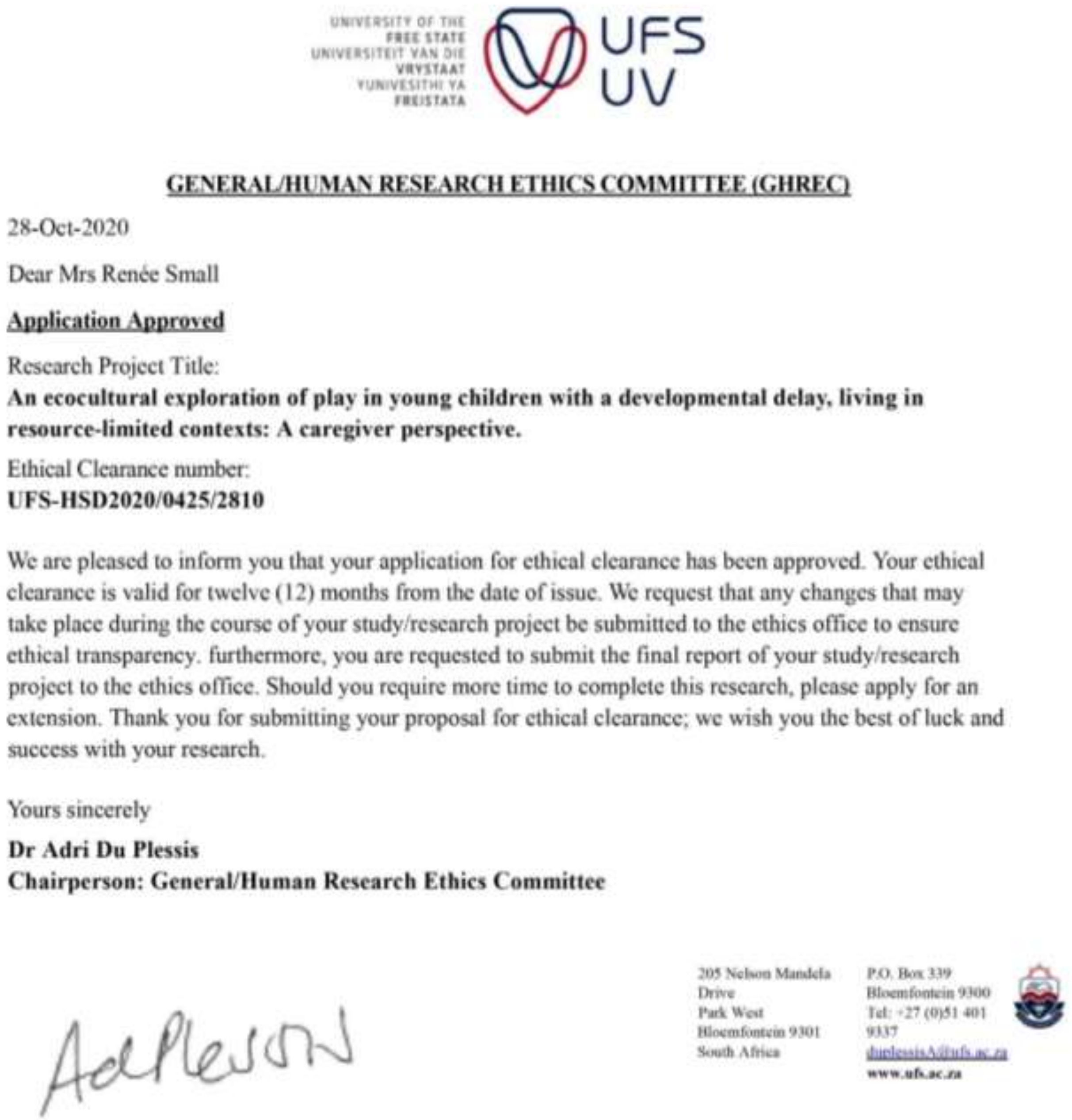
List of Appendices

Appendix A: Ethical Approval



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GENERAL/HUMAN RESEARCH ETHICS COMMITTEE (GHREC)

28-Oct-2020

Dear Mrs Renée Small

Application Approved

Research Project Title:
An ecocultural exploration of play in young children with a developmental delay, living in resource-limited contexts: A caregiver perspective.

Ethical Clearance number:
UFS-HSD2020/0425/2810

We are pleased to inform you that your application for ethical clearance has been approved. Your ethical clearance is valid for twelve (12) months from the date of issue. We request that any changes that may take place during the course of your study/research project be submitted to the ethics office to ensure ethical transparency. furthermore, you are requested to submit the final report of your study/research project to the ethics office. Should you require more time to complete this research, please apply for an extension. Thank you for submitting your proposal for ethical clearance; we wish you the best of luck and success with your research.

Yours sincerely

Dr Adri Du Plessis
Chairperson: General/Human Research Ethics Committee

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Bloemfontein 9300
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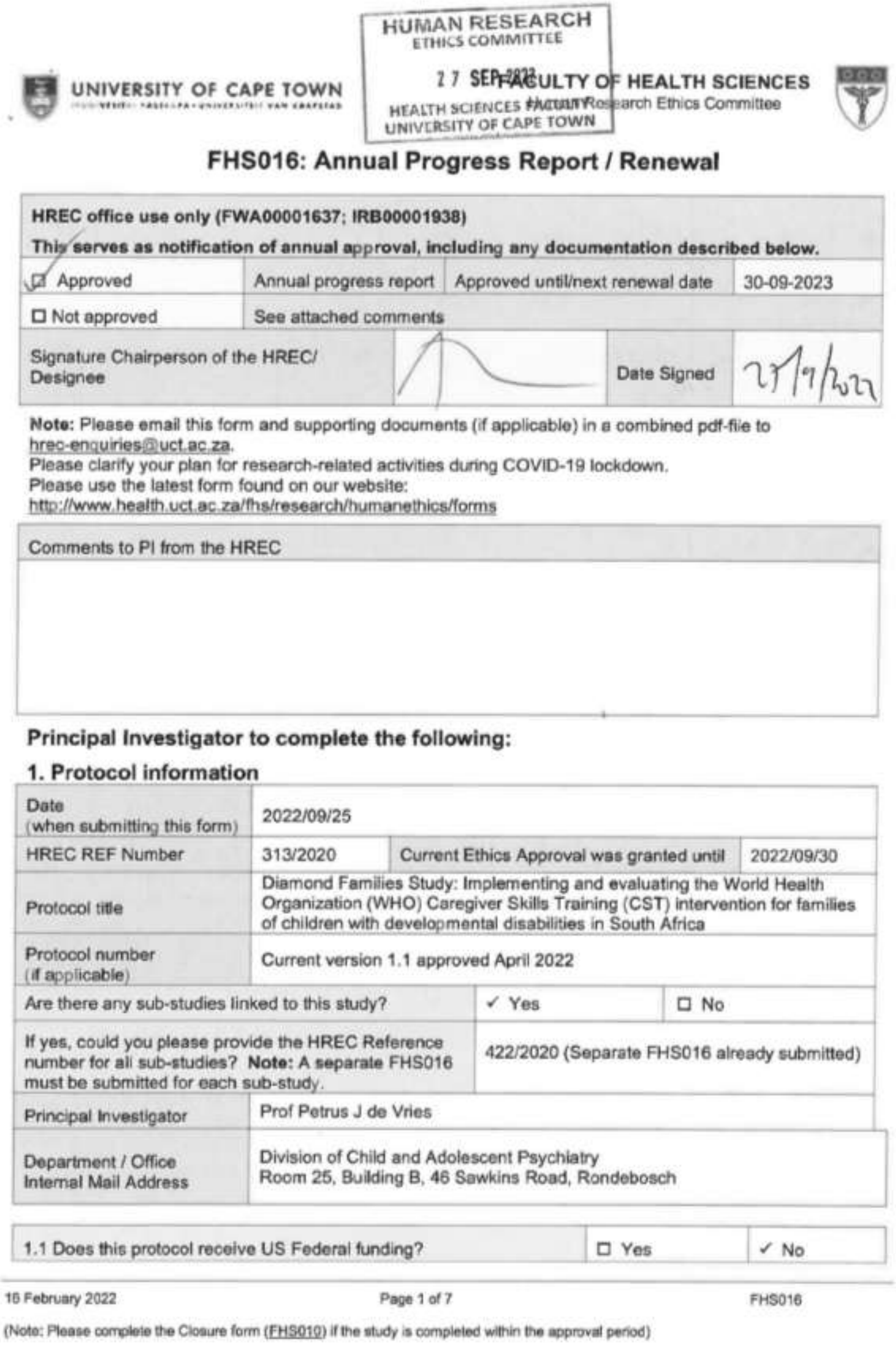
Appendix B: Ethical Approval for the Diamond Families Study



HUMAN RESEARCH
ETHICS COMMITTEE
27 SEP 2022
HEALTH SCIENCES FACULTY
UNIVERSITY OF CAPE TOWN

UNIVERSITY OF CAPE TOWN

FACULTY OF HEALTH SCIENCES
Human Research Ethics Committee

FHS016: Annual Progress Report / Renewal

HREC office use only (FWA00001637; IRB00001938)

This serves as notification of annual approval, including any documentation described below.

☑ Approved	Annual progress report	Approved until/next renewal date	30-09-2023
☐ Not approved	See attached comments		
Signature Chairperson of the HREC/ Designee		Date Signed	27/9/2022

Note: Please email this form and supporting documents (if applicable) in a combined pdf-file to hrec-enquiries@uct.ac.za.
Please clarify your plan for research-related activities during COVID-19 lockdown.
Please use the latest form found on our website:
http://www.health.uct.ac.za/fhs/research/humanethics/forms

Comments to PI from the HREC

Principal Investigator to complete the following:

1. Protocol information

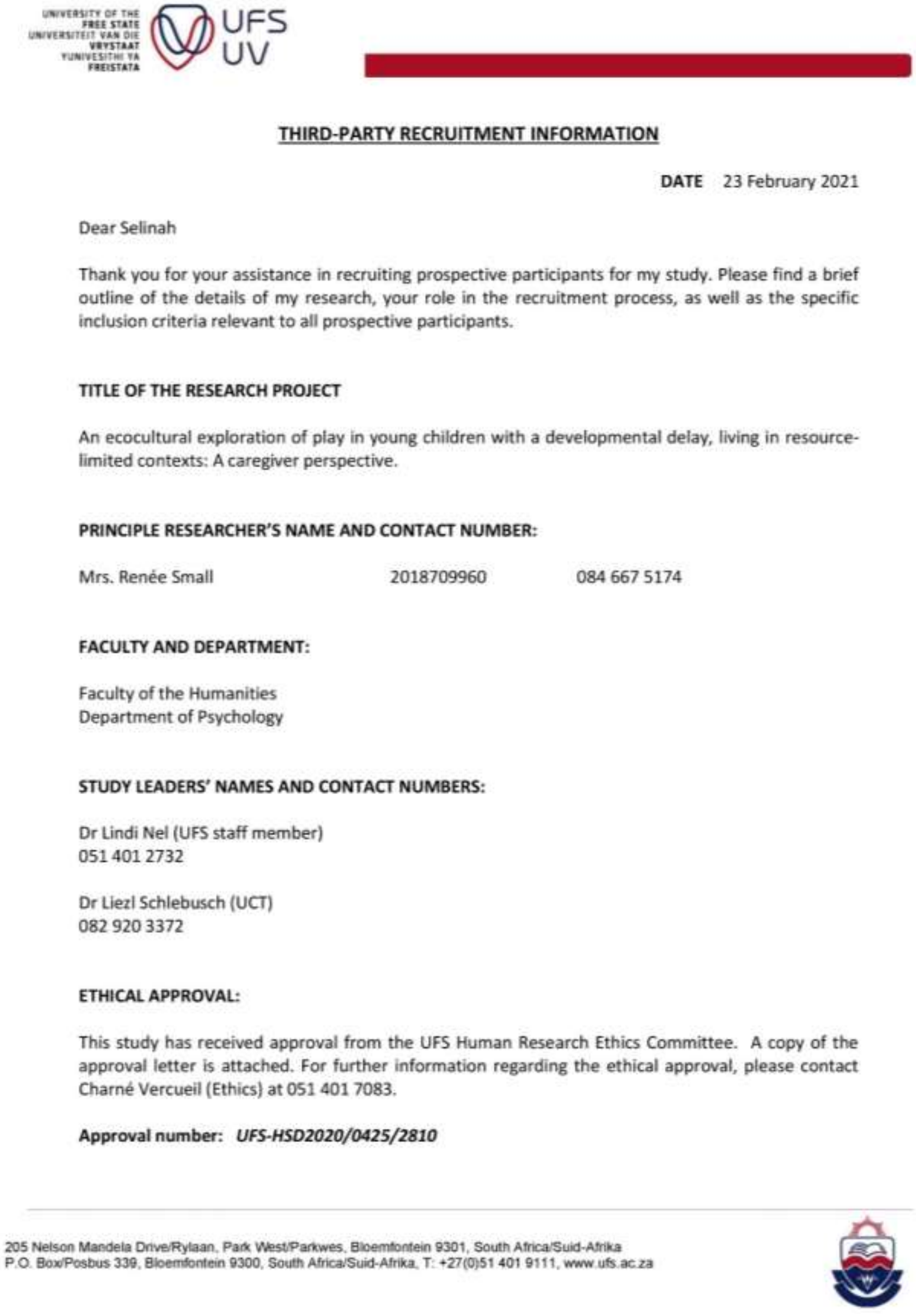
Date (when submitting this form)	2022/09/25		
HREC REF Number	313/2020	Current Ethics Approval was granted until	2022/09/30
Protocol title	Diamond Families Study: Implementing and evaluating the World Health Organization (WHO) Caregiver Skills Training (CST) intervention for families of children with developmental disabilities in South Africa		
Protocol number (if applicable)	Current version 1.1 approved April 2022		
Are there any sub-studies linked to this study?	✓ Yes	☐ No	
If yes, could you please provide the HREC Reference number for all sub-studies? **Note:** A separate FHS016 must be submitted for each sub-study.	422/2020 (Separate FHS016 already submitted)		
Principal Investigator	Prof Petrus J de Vries		
Department / Office Internal Mail Address	Division of Child and Adolescent Psychiatry Room 25, Building B, 46 Sawkins Road, Rondebosch		

1.1 Does this protocol receive US Federal funding?	☐ Yes	✓ No

16 February 2022 Page 1 of 7 FHS016

(Note: Please complete the Closure form (FHS010) if the study is completed within the approval period)

Appendix C: Third-party Recruitment Information



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THIRD-PARTY RECRUITMENT INFORMATION

DATE 23 February 2021

Dear Selinah

Thank you for your assistance in recruiting prospective participants for my study. Please find a brief outline of the details of my research, your role in the recruitment process, as well as the specific inclusion criteria relevant to all prospective participants.

TITLE OF THE RESEARCH PROJECT

An ecocultural exploration of play in young children with a developmental delay, living in resource-limited contexts: A caregiver perspective.

PRINCIPLE RESEARCHER'S NAME AND CONTACT NUMBER:

Mrs. Renée Small	2018709960	084 667 5174

FACULTY AND DEPARTMENT:

Faculty of the Humanities
Department of Psychology

STUDY LEADERS' NAMES AND CONTACT NUMBERS:

Dr Lindi Nel (UFS staff member)
051 401 2732

Dr Liezl Schlebusch (UCT)
082 920 3372

ETHICAL APPROVAL:

This study has received approval from the UFS Human Research Ethics Committee. A copy of the approval letter is attached. For further information regarding the ethical approval, please contact Charné Vercueil (Ethics) at 051 401 7083.

Approval number: ***UFS-HSD2020/0425/2810***

THE PURPOSE OF THE STUDY:

This study aims to understand play in children who experience a developmental delay, who live in resource-limited settings, and who are from a family who identifies as ethnically Basotho. Data will be collected from the participants by conducting a focus group. The focus group will be structured in two parts. During the first part of the focus group, the caregivers of young Basotho children with a developmental delay will be asked to share their perspectives regarding their child's play within the context of their natural environment. After a refreshment break, the second part of the focus group will explore the play materials used in an early intervention programme, namely the World Health Organisation Caregiver Skills Training (WHO-CST) programme. The WHO-CST play material will be shown to the caregivers and they will be asked to share their opinions of how useful the materials would be to their children. The findings of the study will be shared with the research team from the Diamond Families Study to further inform the adaptation and upscaling processes of the World Health Organisation Caregiver Skills Training (WHO-CST) programme to the South African context.

RECRUITING PROCESS:

As you are a significant support network to families who are identified as having a child with a developmental delay, disorder, or disability (DDD), I would like to request your assistance in identifying potential participants for my study. My study inclusion criteria are the following:

- A primary caregiver of a child with a developmental delay, disorder, or disability (DDD). A DDD includes children with multiple disabilities, sensory impairments, intellectual disabilities, autistic spectrum disorders, or other neurodevelopmental disorders.
- The caregiver must be older than 18 years old (parent, family member, grandparent) and must have a long-term caring responsibility for the child.
- The child with a DDD must be between the ages of two and 11 years.
- The caregiver must also be a caregiver to at least one other older or similar-aged child without any DDD.
- Caregivers and the child must identify as ethnically Basotho.
- Caregivers must be living in a self-identified resource-limited setting.

I, therefore, request that you introduce my study to caregivers meeting the inclusion criteria and provide them with the documents titled "RESEARCH STUDY INFORMATION LEAFLET" and "CONSENT TO PARTICIPATE IN THIS STUDY" (available in English and Sesotho). Copies of the "RESEARCH STUDY INFORMATION LEAFLET" and the consent forms will be supplied to you.

The document, "THIRD-PARTY CONSENT TO PROVIDE CONTACT DETAILS TO THE PRINCIPAL RESEARCHER," will be completed by you and the interested caregivers. The principal researcher will have access to the names and contact details of all prospective participants.

The study will be explained to the prospective participants before starting the focus group meeting. The participants will also complete the document "CONSENT TO PARTICIPATE IN THIS STUDY," together with the "SOCIO-DEMOGRAPHIC INFORMATION FORM". The consent and socio-demographic information forms will be available in English and Sesotho. Assistance will be provided to participants that have difficulty completing these forms. After all the required documentation has been completed, and all participants understand the details of the study, the focus group will begin. The first part of the focus group will be allocated an hour. Following a refreshment break, the second part of the focus group will follow.

Thank you for your support and assistance in recruiting prospective participants for my study. For further information or clarification, please do not hesitate to contact me at 084 667 5174 or renee@dingle.co.za.

Kind regards

Mrs Renée Small
Principal Researcher

Appendix D: Participant Invitations

Dear Caregivers

You are invited to join a study about how children with developmental difficulties play!

HELLO. I AM RENEE SMALL

I am a researcher from the University of the Free State.

I am a Clinical Psychologist and doctoral researcher at the Department of Psychology.

What is the research about?

I want to learn more about how children with developmental difficulties play at home. I am especially interested in children who are from the Basotho cultural group and who have limited resources available. This information will help us to adapt an early intervention programme for the South African context.

WHO IS INVITED TO TAKE PART IN THE STUDY?

Caregivers of a child with developmental difficulties.

- you must be older than 18 years old.
- your child must be between ages 2 and 11 years.
- you must have an older child or similar age child who has no developmental concerns.
- you must be from the Basotho cultural group.
- you must have limited access to resources.

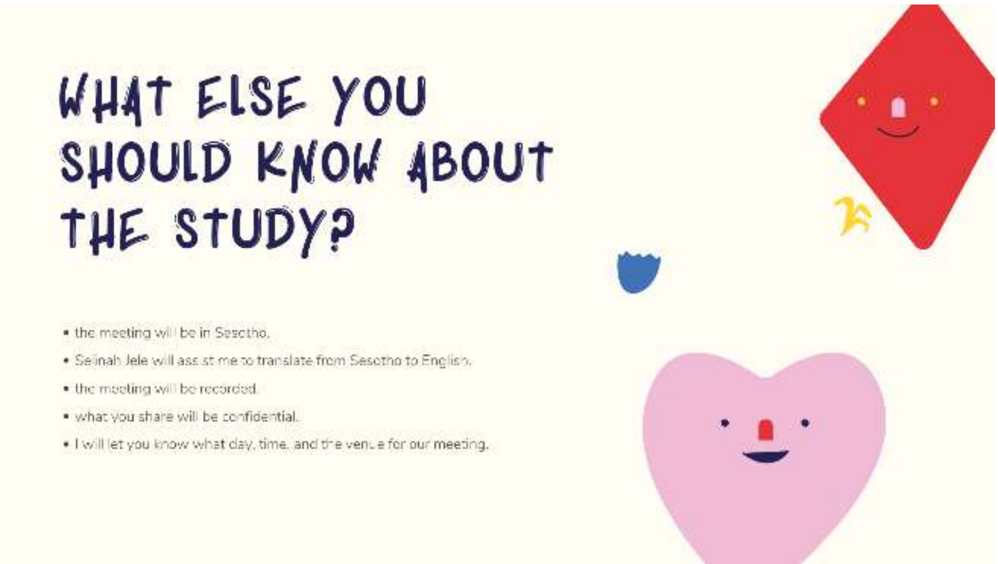
WHAT I NEED FROM YOU?

Join me and 5 other caregivers in a group discussion.

You will meet me and 5 other caregivers to talk about how your child plays at home. I will also share some play things with you and ask your thoughts about how your child would play with them.

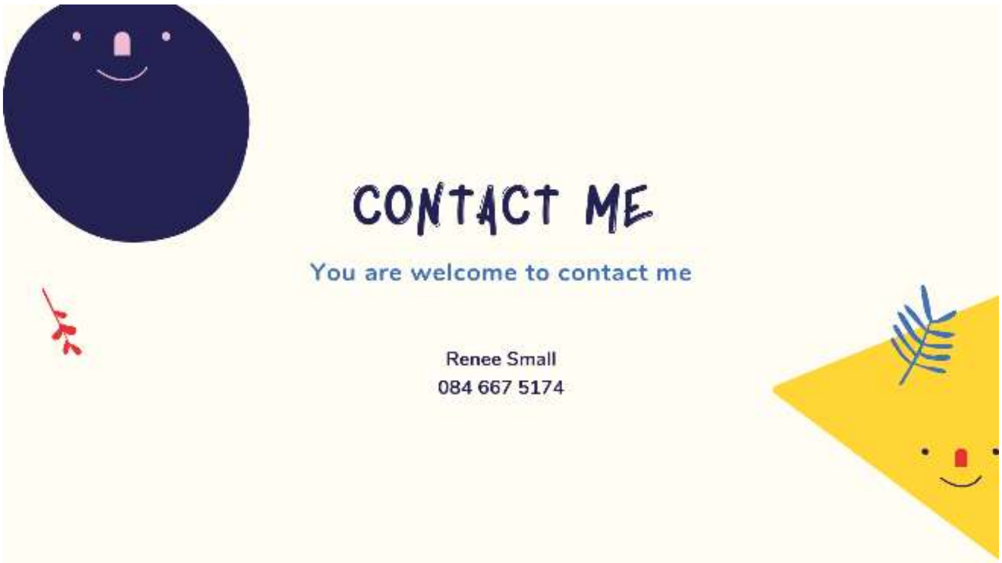
The discussion will take place one morning, for about 3 and a half hours. I will refund you for your transport costs for coming to the meeting and offer you a R100 voucher to say thank you for your time.

You don't have to prepare anything. Just come and share your thoughts about how your child plays at your home.



WHAT ELSE YOU SHOULD KNOW ABOUT THE STUDY?

- the meeting will be in Sesotho.
- Selinah Jele will assist me to translate from Sesotho to English.
- the meeting will be recorded.
- what you share will be confidential.
- I will let you know what day, time, and the venue for our meeting.



CONTACT ME

You are welcome to contact me

Renee Small
084 667 5174

Bahlokomedi ba ratehang

O ya mengwa hore o kenele dithuto tsa hore bana ba nang le Mathata a hlabollo ba rutwa jwang!

DUMELA. KE NNA RENEE SMALL

Ke mofuputsi wa Univesithi ea Free State.

Ke Setsebi sa mahloko a kelello le mofuputsi wa bongaka lefapheng la menahano.

Dipatlisiso ke tsa eng?

Ke batla ho ithuta haholoanyane ka bana ba nang le mathata a hlabollo a bapalang karolo ka lapeng le maphelong a bona. Ke khahliloe haholo ke bana ba tsoang morabeng wa Basotho ba nang le ditshebeletso tse fokolang. Mme Tlhahisoleseding ena e tla re thusa ho ikamahanya le lenaneo la ntshetsopele bakeng sa hlabollo ya maemo Afrika Boroa.

KE MANG YA MENGWANG?

Bahlokomedi le Batswadi bohle ba memelwa ho nka karolo Diphuputsong, Dithutong le Dipatlisisong tsena.

Bamengwa ba:

- Tlameha ho ba dilemo tse 18 kapa ho feta.
- Bana ba lokeha ho ba dipakeng tsa dilemo tse 2 le 11.
- Ba tlameha ho ba le ngwana o mong,a seng a le moholo kapa a le dilemo tse tshwanang...a se nang kameho-kgolo ka mahloko a kelello kgolong ya hae.
- Ba tlameha ho ba le phihlello e lekanyetsweng ya disebediswa tsa diphuputso.

SEO KE SE HLOKANG HO WENA?

Kopano le bahlokomedi ba ba 5 ba bana puisanong ya dihlopha tse kgethilweng.

O tla kopana le nna le bahlokomedi ba bang ba 5 ho bua ka moo bana/ngwana a bapalang lapeng.

Ke tla arola dipapadi/dithuto tse ding le wena mme ke botse maikutlo a hao ka hore na ngwana o tla bapala jwang le bana ba bang.

Puisano e tla etsahala ha nngwe hoseng dihora tse 3 ho isa ho tse 4.

Ke tla le busetsa chelete ya ditšenyehelo tsa dipalangwa tsa ho tla kopanong le teboho ya diranta tse R100 ho leboha nako ya hao.

Ha o wa tlameha ho lokisa letho. Tloho feela ho tla arolelana maikutlo a hao le rona ka hore na ngwana hao o bapala ka mekgwa e joang lapeng.

KE ENG HAPE SEO U LOKELANG HO SE TSEBA KA DITHUTO TSENA?

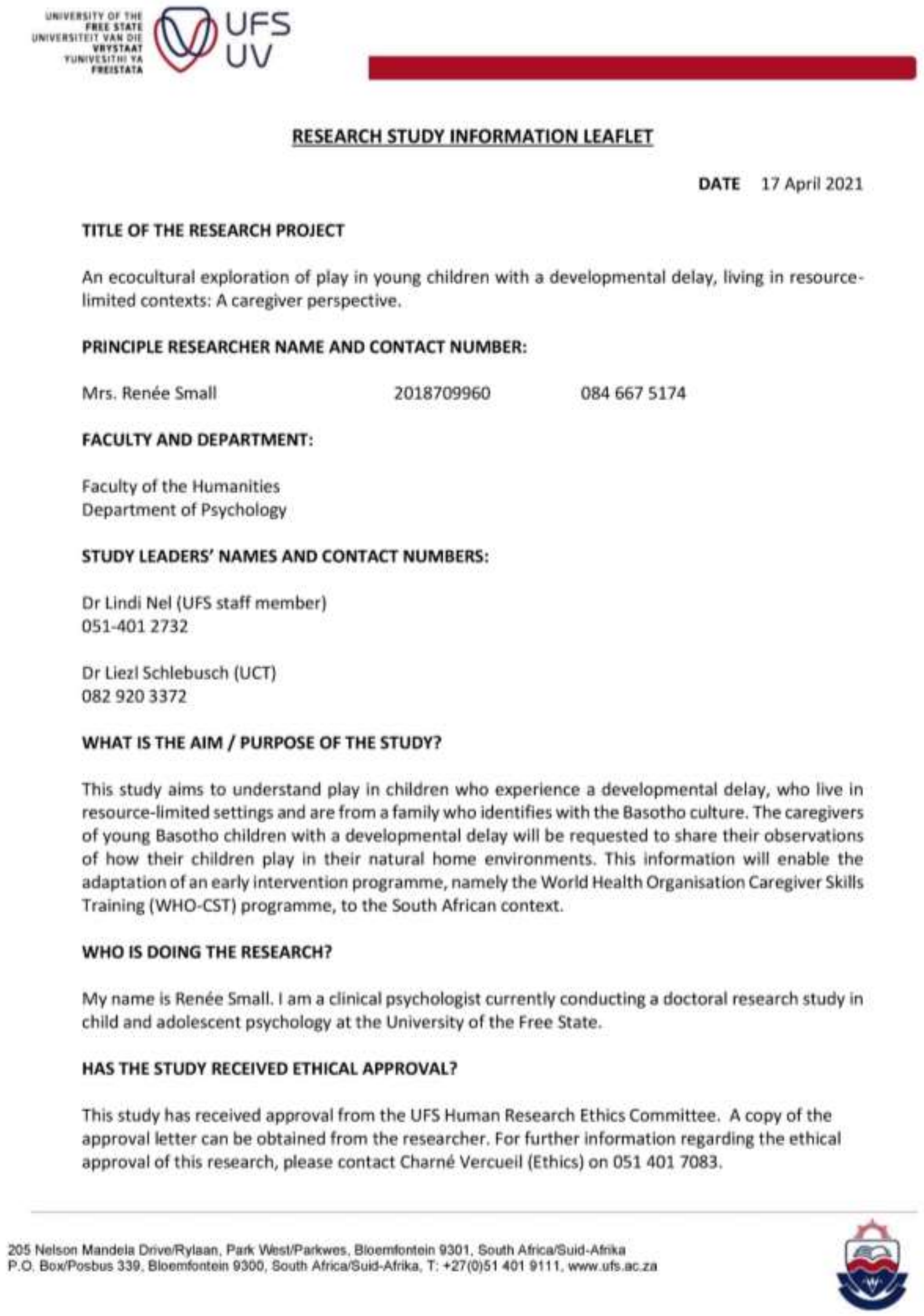
- Kopano e tla ba ka puo Sesotho.
- Selina Jele o tla nthusa ho fetolela/toloka ho tloha Sesotho ho ea Senyesemane.
- Kopano e tla hatiswa/ rekoto.
- Se o se arolelanang e tla ba lekunutu la bankakarolo.
- Ke tla u tsebisa hore nna ke letsatsi lefe, nako le sebaka sefe sa kopano ya rona.

IKOPANYE LE NNA

O amohelehile ho ikopanya le nna

Renee Small
084 667 5174

Appendix E: Research Study Information Leaflet



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RESEARCH STUDY INFORMATION LEAFLET

DATE 17 April 2021

TITLE OF THE RESEARCH PROJECT

An ecocultural exploration of play in young children with a developmental delay, living in resource-limited contexts: A caregiver perspective.

PRINCIPLE RESEARCHER NAME AND CONTACT NUMBER:

Mrs. Renée Small 2018709960 084 667 5174

FACULTY AND DEPARTMENT:

Faculty of the Humanities
Department of Psychology

STUDY LEADERS' NAMES AND CONTACT NUMBERS:

Dr Lindi Nel (UFS staff member)
051-401 2732

Dr Liezl Schlebusch (UCT)
082 920 3372

WHAT IS THE AIM / PURPOSE OF THE STUDY?

This study aims to understand play in children who experience a developmental delay, who live in resource-limited settings and are from a family who identifies with the Basotho culture. The caregivers of young Basotho children with a developmental delay will be requested to share their observations of how their children play in their natural home environments. This information will enable the adaptation of an early intervention programme, namely the World Health Organisation Caregiver Skills Training (WHO-CST) programme, to the South African context.

WHO IS DOING THE RESEARCH?

My name is Renée Small. I am a clinical psychologist currently conducting a doctoral research study in child and adolescent psychology at the University of the Free State.

HAS THE STUDY RECEIVED ETHICAL APPROVAL?

This study has received approval from the UFS Human Research Ethics Committee. A copy of the approval letter can be obtained from the researcher. For further information regarding the ethical approval of this research, please contact Charné Vercueil (Ethics) on 051 401 7083.

Approval number: ***UFS-HSD2020/0425/2810***

WHY ARE YOU INVITED TO TAKE PART IN THIS RESEARCH PROJECT?

My study is interested trying to understand how children with a developmental delay or disorder or disability plays in their home environments. I am going to be focussing on families who are ethnically Basotho and who have limited access to resources, such as therapy, finances etc. The WHO-CST was developed for families with a child with a developmental delay living in resource-limited environments. We are trying to adapt the WHO-CST for the South African population, so it is important for us to understand how children from different cultural groups in South Africa, living in poorly resourced environments, play in their home environments.

I will be speaking to a group of Basotho caregivers of children with a developmental delay to learn more about how your child plays at home. The caregivers need to be older than 18 years and should be involved in caring for the child with the developmental delay. The child should be between the ages of two and 11 years. Caregivers should also have an older (or similar-aged) child who is developing appropriately to have an understanding for typical development and play in children.

Ms Selenah Jele, Autism South Africa Regional Development Officer, Free State, will assist the researcher with identifying and referring caregivers who might be interested in participating in the study. The focus group discussion will include 6 caregivers. The first part of the focus group will be discussing how your child plays at home. A refreshment break will then follow. After the break, a second discussion will look at some of the WHO-CST materials and toys and we will discuss what you think these materials and toys and how you think they could be used in your family. We hope to use this information to adapt the WHO-CST so that it is well suited for South African families from different cultural groups.

WHAT IS THE NATURE OF PARTICIPATION IN THIS STUDY?

The researcher, assistant / translator, and 6 caregivers will attend the focus group meeting. The meeting will be conducted in Sesotho. The meeting will start with an explanation of the study and the participants will complete a consent form and a socio-demographic information form about their child and family. Once the forms are completed, the first focus group discussion will begin. The participants will be asked to share their experiences of how their children play at home. Questions will be asked about the toys the children play with, their different play activities, and what family routines they participate in, for example. When the discussion is complete, the participants will be given a break with refreshments. A second discussion will take place after the break. The researcher will show the participants some of the play materials used in the WHO-CST programme and the participants will be asked their opinions of the materials and how they think their child would use them in their home contexts. The focus group interviews will be audiotaped. The focus group session will take approximately three and a half hours.

CAN THE PARTICIPANT WITHDRAW FROM THE STUDY?

Participation in this study is voluntary and there is no penalty or loss of benefit for non-participation. Parents/caregivers are under no obligation to consent to participation. Those interested in participating will receive this information leaflet and asked to sign a written consent form. Participants may withdraw at any time during the data collection phase, without providing a reason. Withdrawing from the study will bear no negative consequences for participants and their children, and it will not affect the services they receive at the clinic.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

A personal benefit for parents/caregivers participating in this study is the shared experience with other caregivers from similar contexts and with similar caregiving experiences of children with a developmental delay. In sharing their experiences, they may feel connected with others, and the challenges they all face may feel less daunting. Participants may also feel a sense of pride as they share their progress with their child, while possibly even learning from other caregivers too. The researcher hopes that participants will gain some ideas and knowledge of how to play and support their children with their development. The larger contribution of their participation will be their input in the adaptation of early intervention programmes, such as the WHO-CST, assisting young children and their families in South Africa and other similar countries around the world in the future.

WHAT IS THE ANTICIPATED INCONVENIENCE OF TAKING PART IN THIS STUDY?

While there are no physical risks involved in taking part in the study, participants may experience discomforting emotions. If participants become tired or distressed during the interviews, they may request a break at any time. If they become distressed and require further emotional support, they will be referred to a psychologist for assistance. The focus group is for a total of two and a half hours, which may be an inconvenience. No children are allowed at the focus groups, which might further inconvenience parents/caregivers as alternative care and supervision need to be arranged. Participants' travel costs to the focus group will be reimbursed.

WILL WHAT I SAY BE KEPT CONFIDENTIAL?

Some of the information shared by the participants may be sensitive, but all information recorded in the socio-demographic information form will be kept strictly private and confidential. Only members of the research team will be able to view the information. The names of the participants will not be recorded in the interview notes. The researcher will allocate each participant with a participant number, and thus no participant or child of the participant will be identified when the research is published. A pseudonym will be used to refer to any information shared in any publications or other research reporting methods such as conference proceedings. A transcriber and external coder will access the information the participants shared with the researcher; however, these individuals will maintain confidentiality by signing a confidentiality agreement. Any anonymous information that participants share during the interviews may be used for other purposes, such as a research report, journal articles, and a conference presentation. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report. While the researcher will make every effort to ensure that participants will not be connected to the information they share during the focus group, there is no guarantee that other participants in the focus group will treat the information confidentially. However, the researcher will encourage all participants to be respectful of information shared and treat it as confidential. It is thus advisable that participants do not disclose personally sensitive information in the focus group.

HOW WILL THE INFORMATION BE STORED AND ULTIMATELY DESTROYED?

Hard copies of the information shared by the participants will be stored for a period of five years in a locked filing cabinet in a private office for future research or academic purposes. Electronic information, as well as the audio recordings of the focus group interviews, will be stored on a password-protected computer in password-protected files. Future use of the stored data will be subject to further research ethics reviews and approval, if applicable. After five years, the hard copies of the raw data will be destroyed.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

The participants will be reimbursed for their travel costs to and from the focus group meeting. They need to submit their travel receipts to the researcher, who will reimburse them. In addition, they will receive one voucher valued at ZAR100 as a token of appreciation for their time. The details of any additional expenses incurred (e.g., alternative childcare) for attending these meetings should be submitted to the researcher before the meetings to ensure that arrangements are made in order to minimise any financial expense on the participants.

HOW WILL THE PARTICIPANT BE INFORMED OF THE FINDINGS / RESULTS OF THE STUDY?

Those interested in being informed of the final research findings may contact Renée Small on 084 667 5174 or at renee@dingle.co.za. If any further information is required or the need arises to contact the researcher about any aspect of this study, please contact Renée Small on 084 667 5174 or at renee@dingle.co.za. Concerns about how the research has been conducted should be directed to Dr Lindi Nel (051-401 2732 / NelLi@ufs.ac.za) or Dr Liezl Schlebusch (liezl.schlebusch@uct.ac.za).

Thank you for taking the time to read this information sheet and for participating in this study.

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LEQEPHE LA DINTLHA TSA THUTO YA DIPHUPUTSO

LETSATSI 08 Mots'eanong 2021

SEHLOOHO SA PROJEKE YA DIPHUPUTSO

An ecocultural exploration of play in young children with a developmental delay, living in resource-limited contexts: A caregiver perspective.

LEBITSO LA MOFUPUTSI E MOHOLO LE NOMORO YA BOIKOPANYO:

Mofumahadi Renée Small	2018709960	084 667 5174

FAKHALTHI LE LEFAPHA:

Fakalthi ya Humanities
Lefapha la Psychology

MABITSO A BAETAPELE BA THUTO YA PHUPUTSO LE DINOMORO TSA BOIKOPANYO:

Ngaka Lindi Nel (Mosebeletsi wa UFS)
051-401 2732

Ngaka Liezl Schlebusch (UCT)
082 920 3372

SEPHEO SA THUTO ENA YA DIPHUPUTSO KE SEFE?

Thuto ena ya ka ya diphuputso e reretswe ho tseba ka papadi ho bana ba diehang ho hola ka phethahalo ka tlwaelo, ba phelang malapeng a se nang mehlodi e tsitsitseng mme ba tswa malapeng a ikamahanyang le moetlo wa Basotho. Ke kopa bahlokomedi ba bana ba banyenyane ba Basotho ba nang le bothata ba ho dieha ho hola ka tshwanelo ho re tsebisa ka boiphihlelo ba bona ba kamoo bana ba bapalang ka teng tikolohong tsa malapa a bobona a tlhaho. Dintlha tsena tsa tsebo di tla thusa ho sebedisa ka nepo lenaneo la thuso la kgodiso, lenaneo la World Health Organisation Caregiver Skills Training (WHO-CST) bophelong ba moahi wa Afrika Borwa.

KE MANG YA ETSANG DIPHUPUTSO?

Lebitso la ka ke Renée Small. Ke Clinical Psychologist ha jwale mme ke etsa thuto ya diphuputso tsa bongaka tsa mahlale a kelello ya ngwana le motjha mane Yunivesithing ya Freistata.

NA THUTO YEE YA DIPHUPUTSO E FUMANE TUMELLO YA BOITSHWARO DIPHUPUTSONG?

Thuto ena e fumane tumello ho Komiti ya Taolo ya Boitshwaro Diphuputsong tsa Botho ya UFS. Khopi ya lengolo la tumello e ka fumanwa ho mofuputsi. Mabaka le dintlha tse ding mabapi le tumello ya tsa boitshwaro mererong ena ya diphuputso, ka kopo ikopanye le Charné Vercueil (Komiti ya Boitshwaro Diphuputsong) ho 051 401 7083.

Nomoro ya tumello: ***UFS-HSD2020/0425/2810***

HOBANENG HA O MENNGWE HO BA LE SEABO PROJEKENG YEE YA DIPHUPUTSO?

Ke kopa batswadi/bahlokomedi ba mmalwa ba bana ba nang le kgaello kgolong e potlakileng ho ba le seabo thutong ena ya ka ya diphuputso. Ka ho qolleha ke lebeletse malapa a itsebahatsang e le a morabe wa Basotho mme ba bileng ba amohelang hore maemo a bona a bophelo ke a fokolang a futsanehileng (ke ho re, a hloka mehlodi ya bophelo). WHO-CST e etseditswe malapa a phelang maemong ao a bofutsana mme ka hona ho molemo hore re tsebe kamoo bana ba phelang ka teng malapeng ao a setjhaba se phelang tikolohong e jwalo, esita le ho tswa dihlopheng tse ding tsa meetlo e meng e menyenyane e fapaneng ka hara naha ya Afrika Borwa, jwaloka moetlo wa Basotho. Hona ho tla etsa bonnete ba hore tshebediso ya lenaneo lena e ka fihlella ditlhoko tsa moetlo le maemo a tikoloho mona Afrika Borwa. Bakeng sa thuto ena ya ka ya diphuputso, bahlokomedi ba bana ba lokela ho ba le dilemo tse fetang 18 mme ba lokela ho sebetsana ka ho otloloha le ho hlokomela bana ba nang le mathata ana a ho dieha ho hola ka tshwanelo. Ngwana o lokela ho ba le dilemo tse pakeng tsa dilemo tse 2 le tse 11. Bahlokomedi ba bana le bona ba lokela ho ba le ngwana e moholwanyane (kapa wa dilemo tsona tseo) ya holang ka tshwanelo e le hore ba tle ba bapise le kgolo e tlwaelehileng le yona papadi ho bana. Ngaka DJ Griessel, eo e leng Paediatrician tleliniking ya kgodiso ya methapo (Neurodevelopmental Clinic) mane Universitas Hospital, Bloemfontein, Freistata, o nthusa ka ho hlwaya le ho fetisetsa bahlokomedi ba ka ratang ho ba le seabo thutong ena ya ka ya diphuputso ho nna. Ke lokela ho ba le mekgahlelo e mmedi ya dipuisano le dihlopha tse 2 tse hlwailweng tsa batswadi / bahlokomedi ba 12 e le hore ke kgone ho tseba hantle kamoo ngwana a bapalang ka teng lapeng. Ke tla rata ho sebedisa dintlha tsena tsa tsebo ho etsa lenane la thuso la pele bakeng sa bana ba nang le kgaello e potlakileng ya kgolo le loketseng le ho tshwaneleha bakeng sa ditjhaba tsa Afrika Borwa.

MOFUTA WA SEABO DIPHUPUTSONG TSEE KE OFE?

Ngaka Griessel o tla o hlalosetsa thuto ya ka ya diphuputso, esita le se lebeletsweng ho ba nang le seabo. Haeba o na le thahasello ya ho ba le seabo thutong ena ya ka ya diphuputso, o tla kotjwa ho fa Ngaka Griessel tumello ya ho mpha dintlha tsa hao tsa boikopanyo. Ngaka Griessel o tla be a o fe leqephe lena la dintlha mme o ka ikopanya le nna bakeng sa dintlha tse ding tse eketsehileng, haeba ho hlokeha. Ngaka Griessel o tla mpha dintlha tsa boikopanyo tsa bahlokomedi ba bana ba ratang ho ba le seabo diphuputsong tsena tsa ka. Mofetoledi wa English-Sesotho ya nthusang ka thuto ena ya ka ya diphuputso o tla ikopanya le wena ka mohala e le ho o kopa ho etela kopano le nna esita le bahlokomedi ba bang ba 11 ka letsatsi le itseng mane Yunivesithing ya Freistata. Dikopano tseo di tla tsamaiswa ka puo ya Sesotho, ka thuso ya mofetoledi wa English-Sesotho. Nakong ya kopano ya pele ya sehlopha se kgethilweng, ke tla le hlalosetsa thuto ena ya diphuputso mme le tla tlatsa foromo ya tumello le foromo ya maemo a tikoloho ya bophelo mabapi le ngwana wa hao le ba lelapa la hao. Hang ha diforomo di se di tlatsitswe, re tla ba le dipuisano, jwaloka sehlopha sa bahlokomedi ba bana, mabapi le boiphihlelo ba hao ka ngwana wa hao le kamoo a bapalang ka teng mane lapeng. Ke tla o kopa ho mpolella ka dibapadiswa le mesebetsinyana ya papadi eo ngwana wa hao a ratang ho bapala ka yona, o rata haholo ho bapala le mang, le hore ke dintho dife tse etswang kamehla lapeng tseo ngwana wa hao a ratang ho ba le seabo haholo ho tsona. Qetellong ya dipuisano, ke tla o fa letsatsi la dipuisano tse latelang tsena bakeng sa sehlopha sa bobedi sa dipuisano. Ke tla be ke o kope ho tla le ntho e itseng (mohlala; sebapadiswa, ntho, senepe kapa setshwantsho sa ntho e itseng) eo ngwana wa hao a ratang a thabelang ho bapala ka yona mme o ka bapala le yena ka ntho eo o tlileng ka yona. Ke tla be ke o bontshe tse ding tsa dintho tsa dibapadiswa tsa lenaneo la WHO-CST mme re tla qoqa ho utlwa maikutlo a hao ka thepa ena, le kamoo o nahanang hore ngwana wa hao o tla di sebedisa ka teng malapeng a lona. Dipuisano tsena tse pedi tsa dihlopha tse kgethilweng di tla hatiswa bakeng sa kgatiso ya mantswe mme di tla nka nako e ka etsang hora e le 1 bakeng sa kopano ka nngwe.

Ms Selinah Jele, wa Lefapha la Autism South Africa mo Foreistata, o tla thusa dipatlisiso ka ho fumana le ho mema bahlokomedi ba tla nka karolo Dithutong tsena. Mosebetsi o moholo o tla hloka sehlopha sa bahlokomedi ba 6. Qalong sehlopha sena sa bahlokomedi ba tla bontsha hore Bana bana ba bapala ka mokgwa o jwang malapeng, ebe re ba le kgefutso ya ho nyaya leleme le mmetso. Ka mora kgefutso re tla ba le kopano ho buisana ka seo Lefapha la Lefatshe la Bophelo bo Botle le re tataisang ka teng.Hore re buisane ka disebediswa le dintho tse bapalang tsa bana re kgone ho bona bohlokwa ba disebediswa tsena ka hara malapa. Re hopola hore tshebediso ya tlhahisoleseding ena e tla re amahanya le ditabatabelo tsa lefapha la lefatshe la bophelo bo botle, e tla thusa ka tsamaiso ya merabe le malapa ka ho fapana Africa Borwa.

SEO KE SE HLOKANG HO WENA PATLISISONG?

Kopano le bahlokomedi ba ba 6 ba bana puisanong ya dihlopha tse kgethilweng.Kopano e tla ba ka puo ya Sesotho. Banka-karolo ba tla tlatsa le ho tekena diforomo tsa ho nka karolo dipatlisisong.
O tla kopana le nna le bahlokomedi ba bana ba 6 ho bua ka moo bana/ngwana a bapalang lapeng.
Ke tla arola dipapadi/dithuto tse ding le wena mme o arolelane tsebo ya hao ka ngwana
Puisano e tla etsahala ha nngwe hoseng dihora tse 3 ho isa ho tse 4.
Ke tla le busetsa chelete ya ditšenyehelo tsa dipalangwa tsa ho tla kopanong le teboho ya diranta tse R100 ho leboha nako ya hao.
Ha o wa tlameha ho lokisa letho. Tloho feela ho tla arolelana maikutlo a hao le rona ka hore na ngwana hao o bapala ka mekgwa e joang lapeng. Thuto tsena di tla nka bonyane hora tse tharo ho isa ho tse nne.

NA MONKAKAROLO A KA IKGULA THUTONG YEE YA DIPHUPUTSO?

Ho ba le seabo thutong ena ya diphuputso ke boithaopo mme ha ho na kahlolo ya letho kapa tahlehelo ya menyetla ha o sa be le seabo. Ha ho na se o tlamang ho dumela ho ba le seabo. Haeba o qeta ka ho ba le seabo, o tla fuwa leqephe lena la dintlha hore o le boloke mme o tla kotjwa ho saena foromo e tlatsitsweng ya tumello. O na le bolokolohi ba ho ikgula ka nako efe kapa efe nakong ya ho bokella dintlha leha o sa fane le ka mabaka. Ha ho na ba le ditlamorao dife kapa dife bakeng sa hao le ngwana wa hao mme ebile sena ha se na ama ditshebeletso tseo o di fumanang tleliniking ya heno.

MENYETLA EO O KA E FUMANANG KE EFE KA HO BA LE SEABO THUTONG YEE YA DIPHUPUTSO?

Monyetla oo wena jwaloka motho o tla o fumana ka ho ba le seabo thutong ena ya diphuputso ke boiphihlelo bo kopanetsweng le bahlokomedi ba bang ba tswang maemong a tshwanang le a hao mme ba bile ba na le boiphihlelo ba ho hlokomela bana bo tshwanang ka ho ba le bana ba nang le kgaello ya tieho kgolong ya bona. Ka ho buisana ka boiphihlelo ba lona, o ka iphumana o amana le ba bang mme ebile o se mong diphephetsong tseo o nang le tsona. O ka ba wa ikutlwa o le motlotlo ha o buisana ka katleho ya hao le ngwana wa hao, mme ka mohlomong o bile o ntse o ithuta ho bahlokomedi ba bang. Ke tshepa hore etlare ha o qeta ka boiphihlelo ba hao ba thuto ena ya diphuputso o tla be o na le mehopolo le tsebo ya kamoo o ka bapalang le ho tshehetsa ngwana wa hao ka teng kgolong ya hae. Nyehelo e kgolo ya seabo sa hao e tla ba hore o hlahisa diphehiso tsa dintlha tsa bohlokwa tse tla theha mananeo a qalang a thuso, jwaloka WHO-CST, hore a be teng ho thusa bana le ba malapa a bona mona Afrika Borwa le dinaha tse jwalo ho potoloha le lefatshe ka nako e tlang ya bokamoso.

DITSHITISO TSE KA LEBELLWANG MABAPI LE HO BA LE SEABO THUTONG ENA YA DIPHUPUTSO E KA BA DIFE?

Le hoja ho se na dikotsi tse ka o hlahelang mmeleng bakeng sa ho ba le seabo thutong ena ya diphuputso, o ka ba le ho sisimoloha ha maikutlo. Ha o ikutlwa o kgathetse kapa o ferekane nakong ya dipuisano, o ka kopa kgefutso ka nako efe kapa efe. Haeba o ikutlwa o ferekane maikutlong mme o batla ho tshehetswa kapa ho kgothatswa maikutlong a hao, o tla fetisetswa ho setsebi sa Psychology mane sepetleleng sa Universitas bakeng sa thuso. Tshitiso e bonahalang e ka o hlahela ke ho kopana ka makgetlo a mabedi a fapaneng bakeng sa dipuisano tse pedi tsa dihlopha tse pedi tse hlwailweng. Ditshenyehelo tsa hao bakeng sa dikopano tsena tse pedi di tla leshwa. O tla mpha diresiti tsa tefo ya dipalangwang bakeng sa dikopano tsena tse pedi. Ha ho bana ba dumeletsweng dipuisanong tsena, ka tsela e jwalo ho ka ba le tshitiso ya hore o lokela ho hlophisetsa tlhokomelo ya bana ba hao ha o ile dikopanong tsena.

NA SEO KE TLA SE BUA SE TLA BOLOKWA E LE SEPHIRI?

Ke utlwisisa hore tse ding tsa dintlha tseo o ka fanang ka tsona e ka ba tse hlokolotsi haholo, empa dintlha tsohle tseo ho tla fanwa ka tsona foromong ya dintlha tsa tikoloho tsa setjhaba sa hao di tla bolokwa e le tsa poraefete ebile e le sephiri. Ke ditho feela tsa sehlopha sa diphuputso tsena tse tla kgona ho bona dintlha tsena. Lebitso la hao ha le na hlahiswa direkotong tsa dipuisano tsena. Ho na le hoo, o tla fuwa nomoro ya monkakarolo mme ha re phatlalatsa diphuputso, wena kapa bana ba hao ha le na tsebahatswa ka tsela efe kapa efe. Ho tla sebediswa lebitso la boikgakanyo bakeng sa ho qotsa dintlha dife kapa dife tseo o tla fana ka tsona diphatlalatsong dife kapa dife, kapa ho mekgwa e meng ya dipehelo tsa diphuputso jwaloka ditsamaiso tsa seboka. Dintlha tseo o tla mpha tsona di tla bokellwa ke mongololli le mongodi e mong wa ka ntle, empa leha ho le jwalo, batho bana ba tla boloka sephiri ka ho saena tumellano ya ho boloka sephiri. Dintlha dife kapa dife tse sa amanyweng le mang kapa mang tseo o fanang ka tsona nakong ya dipuisano di ka sebediswa bakeng sa mabaka a pehelo ya diphuputso, diatikele tsa jenale, ditlhahiso tsa seboka, jwalojwalo. Pehelo ya thuto ena ya diphuputso e ka lebiswa diphalalatsong empa batho ba bileng le seabo ha ba na tsebahatswa ka hara pehelo eo. Le hoja ho tla etswa mekutu yohle ke mofuputsi ho etsa bonnete ba hore ha o amanywe le dintlha tseo o faneng ka tsona nakong ya dipuisano tsa dihlopha tsena; ha ke na tiisetso ya bonnete ba hore ba bang ba bankakarolo ka hara dihlopha tsena tse kgethilweng ba tla boloka dintlha e le sephiri. Leha ho le jwalo, ke tla kgothaletsa bankakarolo bohle ho hlompha dintlha tseo ba bang ba faneng ka tsona mme ba di nke e le sephiri. Ka lebaka lena, ke o eletsa ho se hlahise dintlha tse hlokolotsi tsa sephiri sa motho ka hara sehlopha se kgethilweng sa diphuputso.

DINTLHA DI TLA BOLOKWA JWANG MME QETELLONG DI TABOLWE?

Ke tla boloka dikhophi tsa maqephe a dintlha tsa hao nako ya dilemo tse hlano ka hara raka e notlelwang ya difaele ka hara ofisi e ikgethileng bakeng sa diphuputso tsa bokamoso kapa merero ya thuto. Dintlha tsa elektroniki, hammoho le dikgatiso tsa mantswe tsa dipuisano tsa dihlopha tse kgethilweng tsa diphuputso di tla ka hara khomphutha e bulwang ka phasewete le ka hara difaele tse babaletsweng le ho fihlellwa feela ka tshebediso ya phasewete. Tshebediso ya dintlha tsena tse bolokilweng bakeng sa bokamoso e tla laolwa ke Tekolobotjha ya Komiti ya Boitshwaro Diphuputsong esita le tumello, haeba e le teng. Kamora dilemo tse hlano, dikhophi tsena tsa dintlha di tla tabolwa.

NA KE TLA FUMANA MOPUTSO KAPA HO HLATSUWA MATSOHO KA LEBAKA LA HO BA LE SEABO THUTONG YEE YA DIPHUPUTSO?

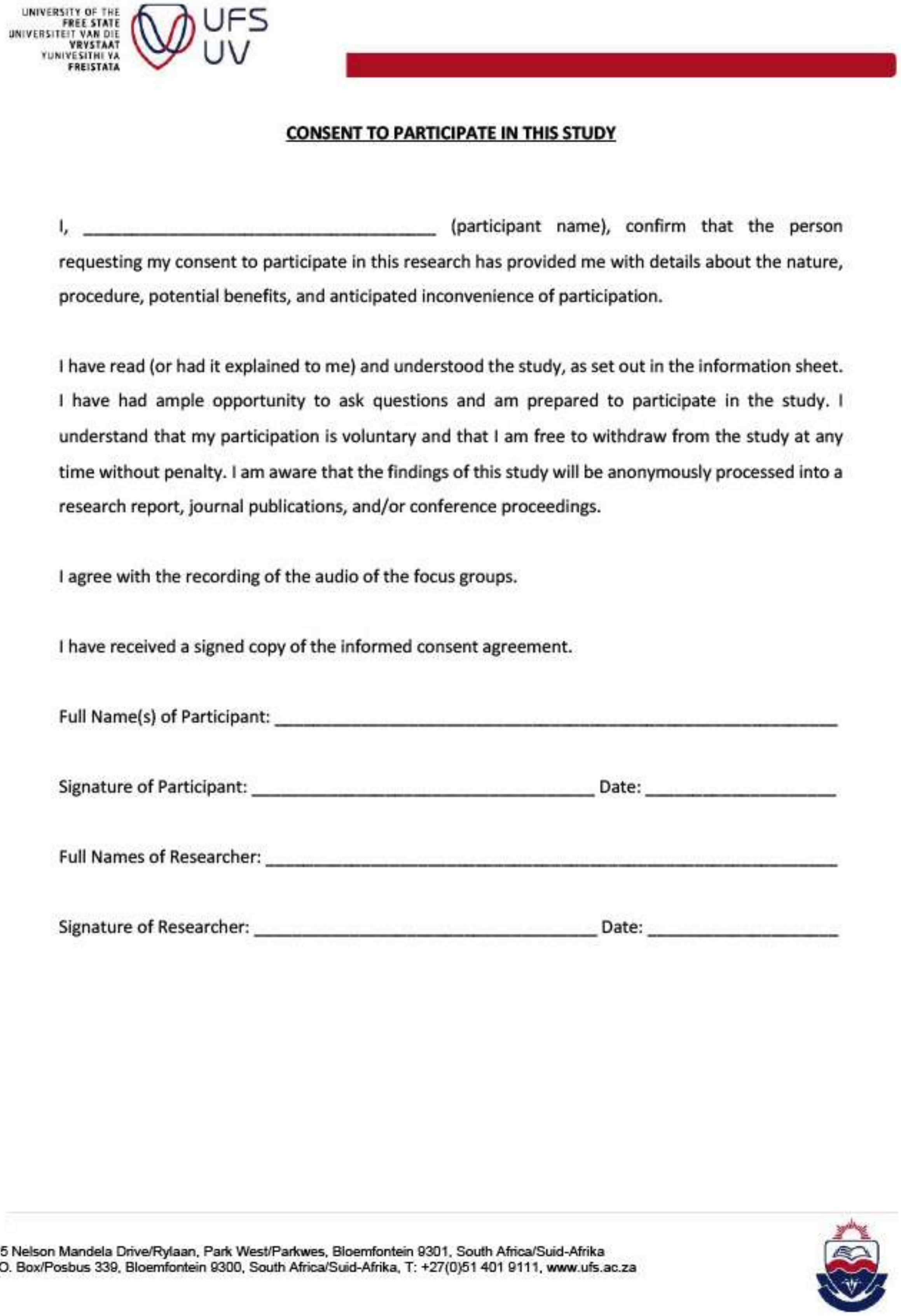
O tla leshwa kapa ho kgutlisetswa tefo ya ditshenyehelo tsa hao tsa maeto a ho tla le ho kgutla dikopanong tse pedi tsa dihlopha tse kgethilweng. O tla mpha diresiti tsa maeto a hao mme ke tla o buseletsa tefo ya ditshenyehelo tsa hao. O tla be o fumane vaotjhara e le nngwe ya boleng ba ZAR100 e le ketso ya teboho bakeng sa nako ya hao. Haeba o ka ba le ditshenyehelo tse ding tse eketsehileng (mohlala; mohlokomedi e mong wa ngwana) bakeng sa ho tla dikopanong, o tla kotjwa ho mpha dintlha tsa ditshenyehelo tsena pele ho dikopano e le hore ho etswe ditlhophiso e le ho fokotsa ditshenyehelo dife kapa dife tsa ditjhelete tsa hao.

MONKAKAROLO O TLA TSEBISWA JWANG KA DIPHIHLELLO/DIPHETHO TSA THUTO YA DIPHUPUTSO?

Haeba o rata ho tsebiswa ka diphihlello tsa ho qetela tsa diphuputso tsena, ka kopo ikopanye le Renée Small ho 084 667 5174 kapa ho imeile ya renee@dingle.co.za. Haeba o batla dintlha tse ding hape kapa o batla ho ikopanya le mofuputsi mabapi le ntlha efe kapa efe ya thuto ena ya diphuputso, ka kopo ikopanye le Renée Small ho 084 667 5174 kapa ho renee@dingle.co.za. Haeba o na le ditletlebo mabapi le kamoo diphuputso di entsweng ka teng, o ka ikopanya le Ngaka Nel at 051-401 2732 kapa ho NelLi@ufs.ac.za kapa Ngaka Liezl Schlebusch ho liezl.schlebusch@uct.ac.za.

Re a o leboha ka ho ipha nako ya ho bala leqephe lena la dintlha tsena esita le ho ba le seabo thutong ena ya diphuputso.

Appendix F: Consent Form



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CONSENT TO PARTICIPATE IN THIS STUDY

I, ________________________________ (participant name), confirm that the person requesting my consent to participate in this research has provided me with details about the nature, procedure, potential benefits, and anticipated inconvenience of participation.

I have read (or had it explained to me) and understood the study, as set out in the information sheet. I have had ample opportunity to ask questions and am prepared to participate in the study. I understand that my participation is voluntary and that I am free to withdraw from the study at any time without penalty. I am aware that the findings of this study will be anonymously processed into a research report, journal publications, and/or conference proceedings.

I agree with the recording of the audio of the focus groups.

I have received a signed copy of the informed consent agreement.

Full Name(s) of Participant: ________________________________

Signature of Participant: ________________________________ Date: ________________

Full Names of Researcher: ________________________________

Signature of Researcher: ________________________________ Date: ________________

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TUMELLO YA HO BA LE SEABO THUTONG ENA YA DIPHUPUTSO

Nna, ______________________________________ (lebitso la monkakarolo), ke tiisa mona hore motho ya nkopang tumello ya ho ba le seabo diphuputsong tsena o ntsebisitse sebopeho, tsela ya tshebetso, menyetla e ka bang teng, esita le ditshitiso tse ka lebellwang tsa ho ba le seabo thutong ena ya diphuputso.

Ke badile (kapa ke hlaloseditswe) le ho utlwisisa thuto ya diphuputso jwalokaha e hlalositswe leqepheng la dintlha. Ke bile le monyetla wa ho botsa dipotso ebile ke ikemiseditse ho ba le seabo diphuputsong tsena. Ke utlwisisa hore seabo sa ka diphuputsong tsena ke boithaopo le hore ke na le bolokolohi ba ho ikgula ka nako efe kapa efe ka ntle ho kahlolo. Ke a hlokomela hore diphihlello tsa thuto ena ya diphuputso e tla ba sephiri se sebediswang ka hara pehelo ya diphuputso, diphatlalatso tsa jenale, le/kapa ditsamaiso tsa seboka.

Ke dumela hore ho etswe dikgatiso tsa mantswe tsa dihlopha tse kgethilweng.

Ke fumane khopi e saenetsweng ya tumellano ka tsebiso.

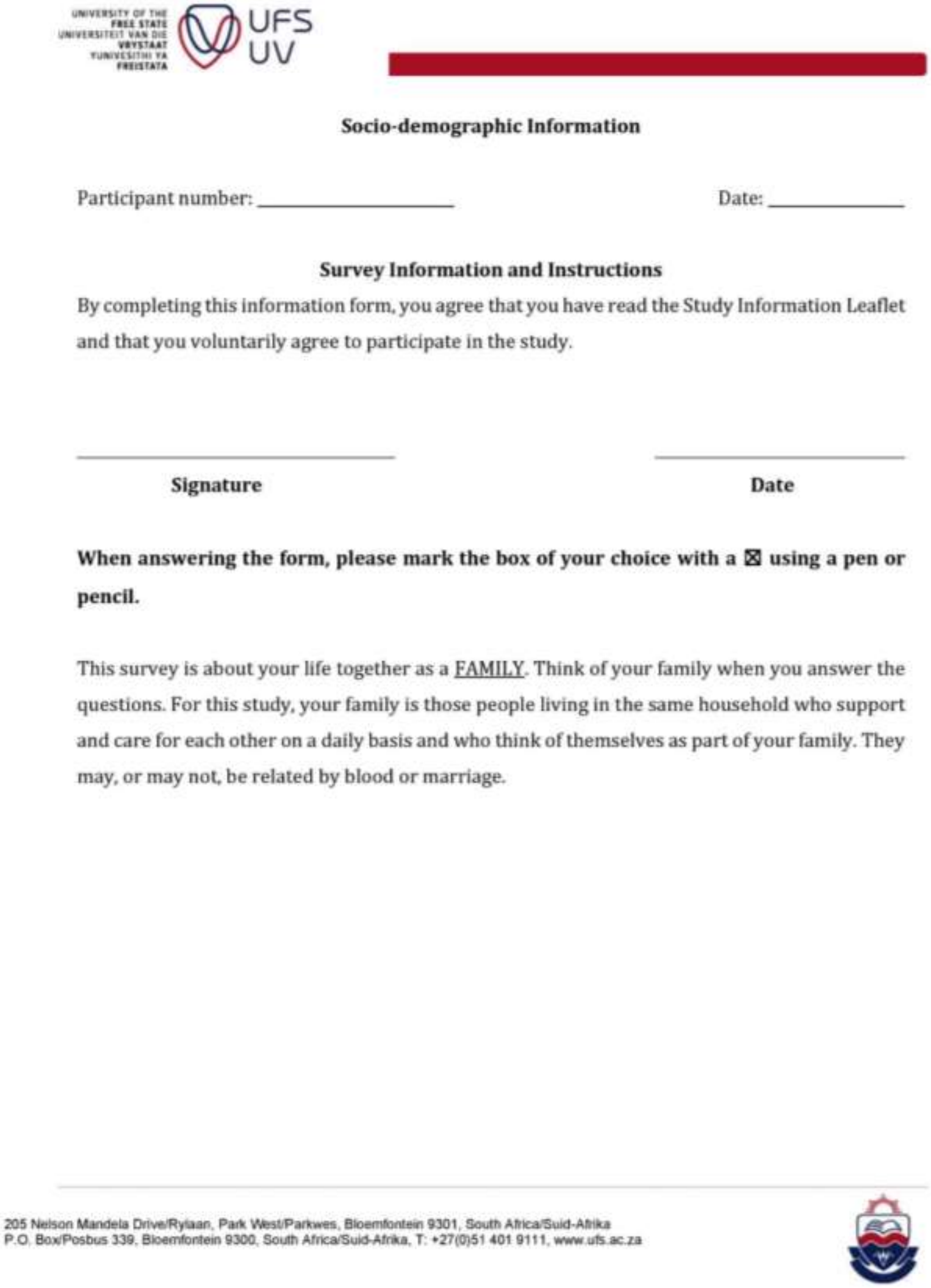
Lebitso(Mabitso) a Monkakarolo: ____

Tshaeno ya Monkakarolo: ____________________________________ Letsatsi: _________________

Mabitso ka botlalo a Mofuputsi: ____

Tshaeno ya Mofuputsi: _______________________________________ Letsatsi: _________________

Appendix G: Sociodemographic Questionnaire



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Socio-demographic Information

Participant number: ____________________ Date: ______________

Survey Information and Instructions

By completing this information form, you agree that you have read the Study Information Leaflet and that you voluntarily agree to participate in the study.

________________________________ ________________________

Signature **Date**

When answering the form, please mark the box of your choice with a ☒ using a pen or pencil.

This survey is about your life together as a <u>FAMILY</u>. Think of your family when you answer the questions. For this study, your family is those people living in the same household who support and care for each other on a daily basis and who think of themselves as part of your family. They may, or may not, be related by blood or marriage.

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About you and your family

First, I want to ask you a few questions about yourself and your family. Remember, your answers will be kept confidential and only reported as a group, not as individuals or families.

1. **What is your relation to the child with the developmental delay in your family?** (e.g., mother, father, grandparent)____________________________________

2. **Who are the people living in your household? Please mark all that apply.**

2.1. ☐ Father Year of birth ____________________ Working? ☐ Yes ☐ No

2.2. ☐ Mother Year of birth ____________________ Working? ☐ Yes ☐ No

2.3. The number of children in your household ____________________________________

2.4. Grandparent(s) living in your household ____________________________________

2.5. Any other family members living in your household, please specify__________________

____

3. **What are the dates of birth of your all of your children?** _______________________

____

____

____

____

____

____

4. **Which one best describes your family type?**

☐ Two-parent family (two parents & child) ☐ One-parent family (one parent & child)

☐ Blended or stepfamily (two separate families merging into one new family unit)

5. What is the highest level of education that you completed?

☐ No formal education ☐ Grade 8 or less ☐ Grade 9 – 11 ☐ Grade 12

☐ Tertiary education ☐ Other, please specify ____________________

About your child with a developmental delay

Now we would like to know a bit more about your child with the developmental delay.

6. What is his/her gender? ☐ Boy ☐ Girl

7. What is his/her date of birth? ____________________

8. At what age did you first become concerned? ____________________

9. At what age was your child formally diagnosed with a developmental delay by a medical professional? ____________________

10. Does he/she have any <u>additional</u> disabilities or medical conditions?

☐ No ☐ Yes, please specify ____________________

11. How would you describe the level of his/her disorder?

☐ Mild ☐ Moderate ☐ Severe

12. What language(s) is your child exposed to?

☐ Sotho ☐ Afrikaans ☐ English ☐ isiXhosa ☐ isiZulu ☐ Tswana

☐ Venda ☐ Tsonga ☐ Swati ☐ Ndebele ☐ SA Sign Language

☐ Other, please specify ____________________

13. What language(s) does your child speak?

☐ Sotho ☐ Afrikaans ☐ English ☐ isiXhosa ☐ isiZulu ☐ Tswana

☐ Venda ☐ Tsonga ☐ Swati ☐ Ndebele ☐ SA Sign Language

☐ Other, please specify ______________________________

14. How many hours of schooling, intervention and/or therapy does he/she receive <u>per week</u>?

__________________ total hours per week

About your household

15. What is your employment status?

☐ Employed full-time ☐ Employed part-time / Casual ☐ Not currently working

☐ Home executive / Housewife ☐Other, please specify ______________________

16. What is your main source of income?

☐ Own business ☐ Salary or wage ☐Grant ☐ No income

☐Other, please specify ______________________________

17. What grants or pensions does your household receive?

☐ Child support grant ☐ Care dependency grant (child disability grant)

☐ Foster care grant ☐ Adult disability grant ☐ Pension

☐ No grant ☐ Other, please specify ______________________

18. What is your family's total household income per month?

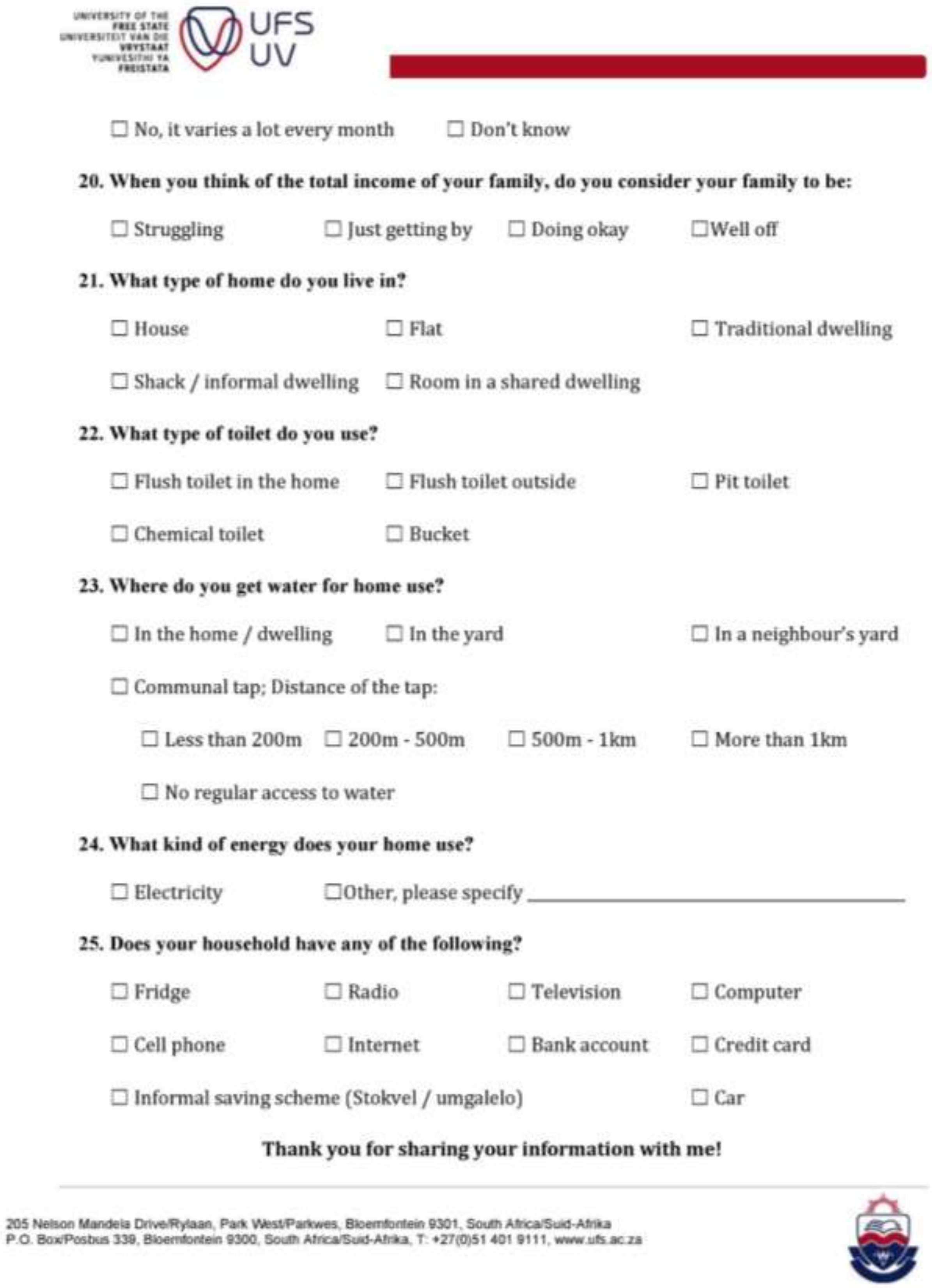
☐ No income ☐ less than R400 pm ☐ R401 - R800 pm

☐ R801 - R1 600 pm ☐ R1 601 - R3 200 pm ☐ R3 201 - R6 500 pm

☐ R6 501 - R12 500 pm ☐ R12 501 - R25 500 pm ☐ R25 501 or more

19. Is this amount the same every month?

☐ Yes, it is the same every month ☐ Yes, most of the time it is the same



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☐ No, it varies a lot every month ☐ Don't know

20. When you think of the total income of your family, do you consider your family to be:

☐ Struggling ☐ Just getting by ☐ Doing okay ☐Well off

21. What type of home do you live in?

☐ House ☐ Flat ☐ Traditional dwelling

☐ Shack / informal dwelling ☐ Room in a shared dwelling

22. What type of toilet do you use?

☐ Flush toilet in the home ☐ Flush toilet outside ☐ Pit toilet

☐ Chemical toilet ☐ Bucket

23. Where do you get water for home use?

☐ In the home / dwelling ☐ In the yard ☐ In a neighbour's yard

☐ Communal tap; Distance of the tap:

☐ Less than 200m ☐ 200m - 500m ☐ 500m - 1km ☐ More than 1km

☐ No regular access to water

24. What kind of energy does your home use?

☐ Electricity ☐Other, please specify ______________________________

25. Does your household have any of the following?

☐ Fridge ☐ Radio ☐ Television ☐ Computer

☐ Cell phone ☐ Internet ☐ Bank account ☐ Credit card

☐ Informal saving scheme (Stokvel / umgalelo) ☐ Car

Thank you for sharing your information with me!

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Dintlha tsa bodulo ba setjhaba

Nomoro ya monkakarolo: ____________________ Letsatsi: ______________

Dintlha tsa dipatlisiso le Ditaelo

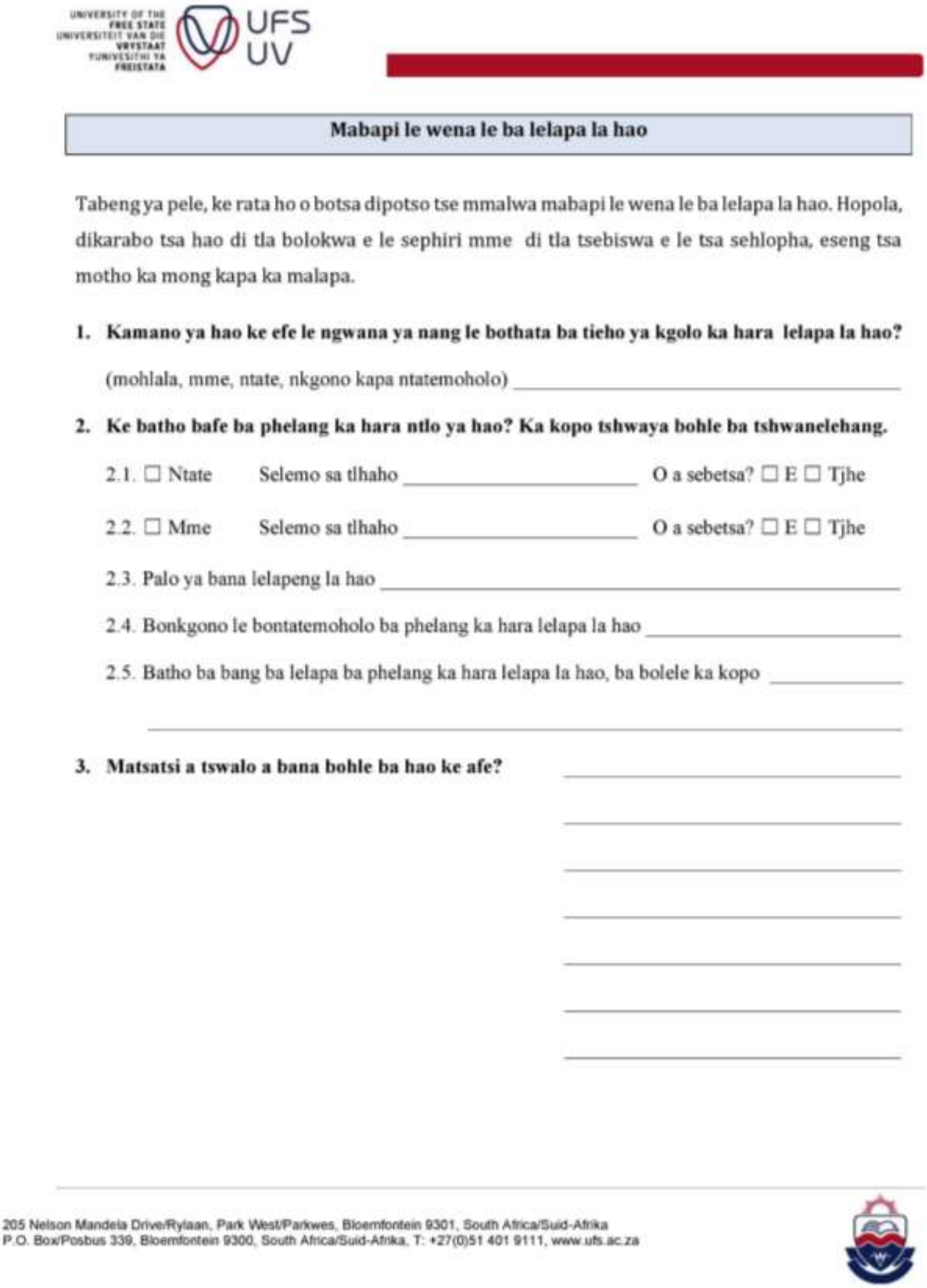
Ka ho tlatsa foromo ena ya dintlha, o dumela hore o badile Leqephe lena la Dintlha tsa Thuto ya Diphuputso le hore o dumela ka ho ithaopa ho ba le seabo thutong ena ya diphuputso.

________________________________ ________________________

Tshaeno **Letsatsi**

Ha o tlatsa foromo ena, ka kopo tshwaya lebokose leo o le kgethileng ka ☒ ka ho sebedisa pene kapa pensele.

Dipatlisiso tsena di mabapi le bophelo ba lona jwaloka LELAPA. Nahana ka lelapa la hao ha o araba dipotso. Bakeng sa thuto ena ya diphuputso, lelapa la hao ke batho ba phelang ka hara bodulo bo le bong, ba tshehetsanang le ho hlokomelana ka letsatsi le letsatsi mme ba dumelang hore ke karolo ya lelapa la hao. Ba ka nna, kapa ba se ke ba amana ka madi kapa ka lenyalo.



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Mabapi le wena le ba lelapa la hao

Tabeng ya pele, ke rata ho o botsa dipotso tse mmalwa mabapi le wena le ba lelapa la hao. Hopola, dikarabo tsa hao di tla bolokwa e le sephiri mme di tla tsebiswa e le tsa sehlopha, eseng tsa motho ka mong kapa ka malapa.

1. Kamano ya hao ke efe le ngwana ya nang le bothata ba tieho ya kgolo ka hara lelapa la hao?

(mohlala, mme, ntate, nkgono kapa ntatemoholo) ______________________________

2. Ke batho bafe ba phelang ka hara ntlo ya hao? Ka kopo tshwaya bohle ba tshwanelehang.

2.1. ☐ Ntate Selemo sa tlhaho ____________________ O a sebetsa? ☐ E ☐ Tjhe

2.2. ☐ Mme Selemo sa tlhaho ____________________ O a sebetsa? ☐ E ☐ Tjhe

2.3. Palo ya bana lelapeng la hao ______________________________

2.4. Bonkgono le bontatemoholo ba phelang ka hara lelapa la hao ____________________

2.5. Batho ba bang ba lelapa ba phelang ka hara lelapa la hao, ba bolele ka kopo __________

____

3. Matsatsi a tswalo a bana bohle ba hao ke afe? ____________________

____

____

____

____

____

____

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4. **Ke efe e hlalosang mofuta wa lelapa la hao?**

   ☐ Lelapa la batswadi ba babedi (batswadi ba babedi le ngwana)

   ☐ Lelapa la motswadi a le mong (motswadi a le mong le ngwana)

   ☐ Lelapa le kopaneng kapa la batswadi bao eseng ba madi (malapa a mabedi a arohaneng a kopanang ho theha lelapa le le leng le letjha)

5. **Ke maemo afe a phahameng ka ho fetisisa a thuto ao o a fihleletseng?**

   ☐ Ha ke a kena sekolo ☐ Kereiti ya 8 kapa ka tlase ☐ Kereiti ya 9 – 11 ☐ Kereiti ya12

   ☐ Thuto e phahameng ☐ Tse ding, hlalosa ka kopo ________________________________

Mabapi le ngwana wa hao ya nang le bofokodi ba tieho ya kgolo

Jwale re tla rata ho tseba haholwanyane ka ngwana wa hao ya nang le bofokodi ba tieho ya kgolo.

6. **Bong ba hae ke bofe?** ☐ Moshemane ☐ Ngwanana

7. **Letsatsi la hae la tswalo ke lefe?** ____________________

8. **O ile wa qala ho kgathatseha ha a le dilemo tse kae?** ________________________________

9. **Ke ha ngwana wa hao a le dilemo tse kae moo a ileng a hlokomelwa hore o na le bofokodi ba tieho ya kgolo ke setsebi sa tsa bongaka?** ____

10. **Na o na le bofokodi bo bong hape <u>bo eketsehileng</u> kapa boemo ba bofokodi ba bongaka?**

    ☐ Tjhe ☐ E, hlalosa ka kopo ____

11. **O ka hlalosa boemo ba hae ba bofokodi jwang?**

    ☐ Tlase ☐ Mahareng ☐ Phahame

12. Ngwana wa hao o phela ka hara dipuo dife?

☐ Sesotho ☐ Afrikaans ☐ English ☐ IsiXhosa ☐ IsiZulu ☐ Setswana

☐ Tshivenda ☐ Xitsonga ☐ SiSwati ☐ IsiNdebel

☐ Puo ya matsoho ya Afrika Borwa ☐ Tse ding, di bolele ka kopo ____________________

13. Ngwana wa hao o bua (di)puo dife?

☐ Sesotho ☐ Afrikaans ☐ English ☐ IsiXhosa ☐ IsiZulu ☐ Setswana

☐ Tshivenda ☐ Xitsonga ☐ SiSwati ☐ IsiNdebel

☐ Puo ya matsoho ya Afrika Borwa ☐ Tse ding, di bolele ka kopo ____________________

14. O fumana dihora tse kae bakeng sa sekolo, thuso le / kapa kalafo <u>ka veke le veke</u>?

__________________ dihora tsohle ka veke

Mabapi le lelapa la hao

15. Maemo a mosebetsi wa hao ke afe?

☐ Hirilwe ka nako tsohle ☐ Hirilwe ka nako tse itseng / Mokobobo ☐ Ha ke sebetse ha jwale

☐ Molaodi wa lelapa / Mosadi wa lelapa ☐Tse ding, di bolele ka kopo ____________________

16. Mohlodi o moholo wa lekeno la hao ke ofe?

☐ Kgwebo ya ka ☐ Moputso kapa dihlapiso ☐Nyehelo ☐ Ha ho lekeno

☐Tse ding, di bolele, ka kopo ____

17. Lelapa la hao le amohela dinyehelo kapa dipenshene dife?

☐ Nyehelo ya tshebetso ya ngwana ☐ Nyehelo ya tlhokomelo ya ngwana (nyehelo ya kgolofalo ya ngwana)

☐ Nyehelo ya qobello ya kgodiso ya ngwana ☐ Nyehelo ya kgolofalo ya motswadi

☐ Penshene ☐ Ha ho nyehelo ☐ Tse ding di bolele ka kopo ____________________

18. Lekeno lohle la lelapa la hao ke bokae ka kgwedi?

☐ Ha ho lekeno ☐ ka tlase ho R400 ka kgwedi ☐ R401 - R800 ka kgwedi

☐ R801 - R1 600 ka kgwedi ☐ R1 601 - R3 200 ka kgwedi ☐ R3 201 - R6 500 ka kgwedi

☐ R6 501 - R12 500 ka kgwedi ☐ R12 501 - R25 500 ka kgwedi ☐ R25 501 kapa ho feta

19. Na palo yee ya tjhelete e dula e tshwana ka kgwedi le kgwedi?

☐ E, e dula e tshwana ka kgwedi le kgwedi ☐ E, hangata e dula e tshwana

☐ Tjhe, e fetoha haholo kgwedi le kgwedi ☐ Ha ke tsebe

20. Ha o nahana ka lekeno lohle la lelapa la hao, o bona lelapa la hao le:

☐ Sokola ☐ Le ntse le tswella ☐ Le sebetsa hantle ☐Le phetse hantle

21. O phela ka hara lelapa le jwang?

☐ Ntlo ☐ Folete ☐ Bodulo ba botjhaba

☐ Mokhukhu / ntlo ya nakwana ☐ Phaposi ya bodulo ba kopanelo

22. O sebedisa mofuta ofe wa ntlwana?

☐ Ntlwana ya metsi e ka tlung ☐ Ntlwana ya metsi e ka ntle ☐ Ntlwana ya mokoti

☐ Ntlwana ya dikhemikhale ☐ Nkgo

23. O kga metsi a sebediswang ka tlung hokae?

☐ Hona ka tlung / bodulong ☐ Ka jareteng ☐ Jareteng ya moahisani

☐ Pompong ya setjhaba; Bohole ba pompo:

☐ Ka tlase ho 200m ☐ 200m - 500m ☐ 500m - 1km ☐ Ho feta 1km

☐ Ha ho moo metsi a fumanehang kamehla

24. Ke mofuta ofe wa eneji oo lelapa la hao le o sebedisang?

☐ Motlakase ☐ O mong, o bolele ka kopo ____________________

25. Na lelapa la hao le na le ntho e nngwe ya tse latelang?

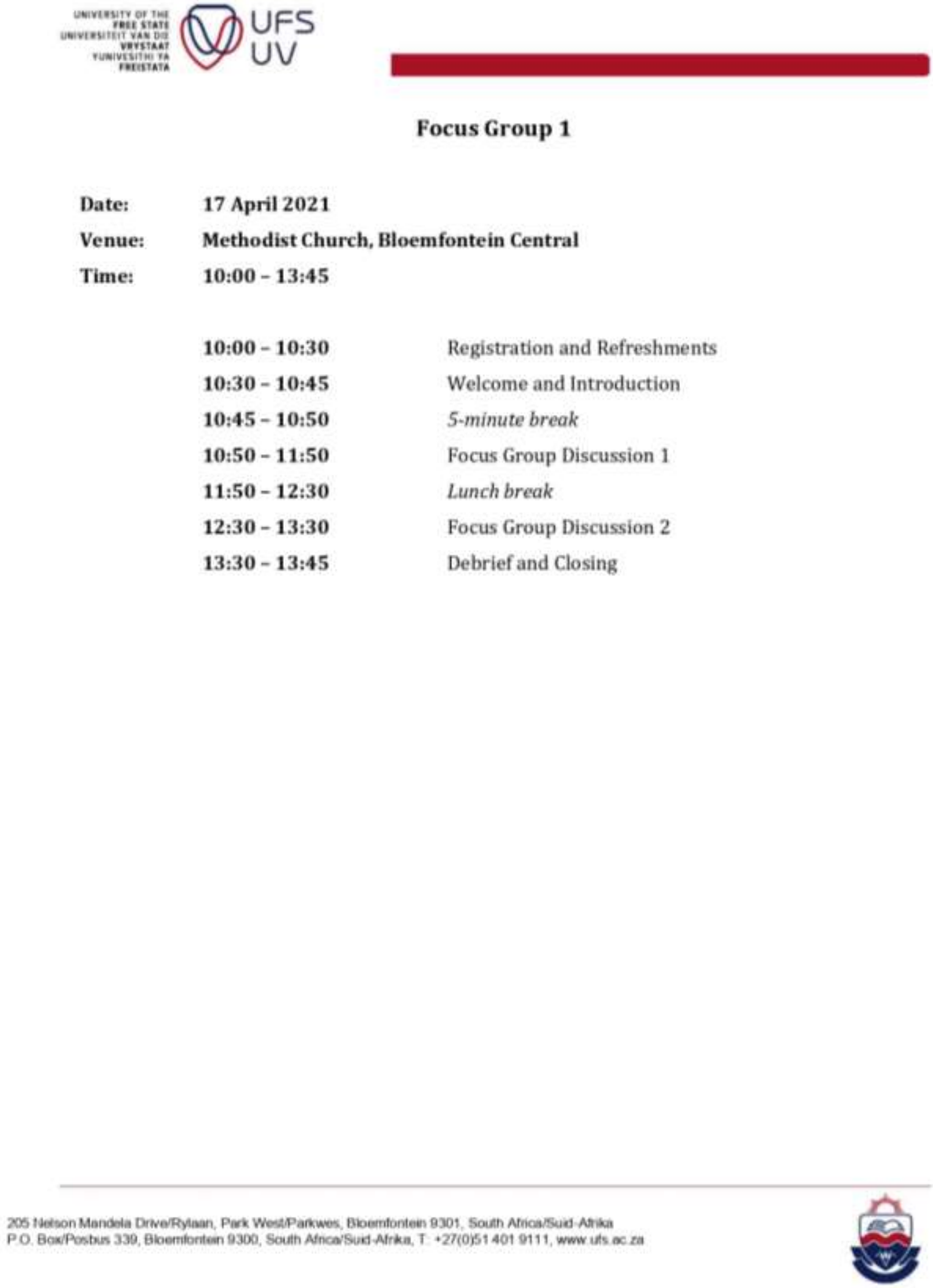
☐ Sehatsetsi ☐ Seyalemoya ☐ Thelevishene ☐ Khomphutha

☐ Selefounu ☐ Inthanete ☐ Akhaonto ya banka ☐ Karete ya mokitlane

☐ Mokgwa wa ho ipolokela tjhelete (Setokofele / mokgodisano) ☐ Koloi

Ke a o leboha ka ho ntsebisa dintlha tsa hao!

Appendix H: Interview Schedule



Focus Group 1

Date: **17 April 2021**
Venue: **Methodist Church, Bloemfontein Central**
Time: **10:00 – 13:45**

10:00 – 10:30	Registration and Refreshments
10:30 – 10:45	Welcome and Introduction
10:45 – 10:50	*5-minute break*
10:50 – 11:50	Focus Group Discussion 1
11:50 – 12:30	*Lunch break*
12:30 – 13:30	Focus Group Discussion 2
13:30 – 13:45	Debrief and Closing

205 Nelson Mandela Drive/Rylaan, Park West/Parkwes, Bloemfontein 9301, South Africa/Suid-Afrika
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UFS
UV

Focus Group Discussion 1:

[Have the WHO-CST play material, as well as other commonly used play things visible during the focus group discussions].

WHO-CST Material:

- Clothes, shirt or jacket, socks, pants
- Tooth brush, wash basin / container, soap, cloth
- School bag
- Three types of stackable objects (blocks, cups, small cardboard boxes, etc.)
- Two plastic cups, 1 bowl, and 1 spoon
- One carrier bag/basket
- A few books
- A variety of toys (car, doll, teddy, etc.)
- Bag and objects for clean-up routine
- Basket / bucket
- 6-10 blocks
- 4-6 animal figures, small people, stones
- Balls (smaller than soccer ball)
- Crayons, pencils, blank paper
- Picture books with simple illustrations

Other Commonly used Play Things:

- Bricks
- String
- Feathers
- Plastic bags
- Sticks
- Stones
- Cans
- Pack of cards
- Traditional board games (Marabara)
- Dice
- Skipping rope
- Music / dance material
- Old stockings

205 Nelson Mandela Drive/Rylaan, Park West/Parkwes, Bloemfontein 9301, South Africa/Suid-Afrika
P.O. Box/Posbus 339, Bloemfontein 9300, South Africa/Suid-Afrika, T: +27(0)51 401 9111, www.ufs.ac.za

These are some of the things used in the WHO Caregiver's Skills Training programme. Parents and caregivers are trained on how to use these things to help their child learn.

1. I would like to give each parent an opportunity to look at and think about each of the WHO-CST items:
    a. Does your child with a disability play with any of these items?
    b. Do you have any of these items in your house most of the time?
    c. Do you and your child play with any of these toys / things together?
    d. Would you be interested in playing with any of these things with your child?
2. Are there other things that you and your child may play with instead of the things shown here?
    a. Show the alternative box as a stimulation for further discussions if necessary.

Conclusion:

We have looked at some of the WHO-CST things and other play things. Is there anything else that you want to add?

Do you have any questions?

Focus Group Discussion 2:

1. Think about your child with a disability. What is his / her favourite play?
    a. Think about play with toys.
    b. Think about play without any toys.
    c. Think about play on his / her own.
    d. Think about play with others (siblings, peers, other adults, parents).
2. When you think about your child with a disability, how is his / her play different to your other child(ren)?

Conclusion:

We spoke about your child's favourite play, with and without toys. We spoke about play on his / her own and with others. Is there anything else that you want to add to these discussions?
Do you have any questions?

Appendix I: Psychological Support Confirmation Letter

Lerato Mmusi-Makhele
CLINICAL PSYCHOLOGIST
PR No. 0359971

Shop C23, Middestad centre, cnr Charles & West Burger Street, Bloemfontein

M.Sc Clinical Psychology(UFS) B.Sc Honours (Psychology) B.Sc Honours (Behavioural Genetics)(UFS)

05 June 2020

Mrs Renée Small

Principal Investigator

Dear Renée

RE: REQUEST FOR DEBRIEFING / EMOTIONAL SUPPORT FOR RESEARCH PARTICIPANTS

I confirm that I am prepared to provide debriefing or supportive counselling to your research participants who may require it, as requested. I am a Sesotho-speaking clinical psychologist so will be able to provide the counselling in the Sesotho.

Please will you inform me of the dates of your focus groups one month prior your data collection.

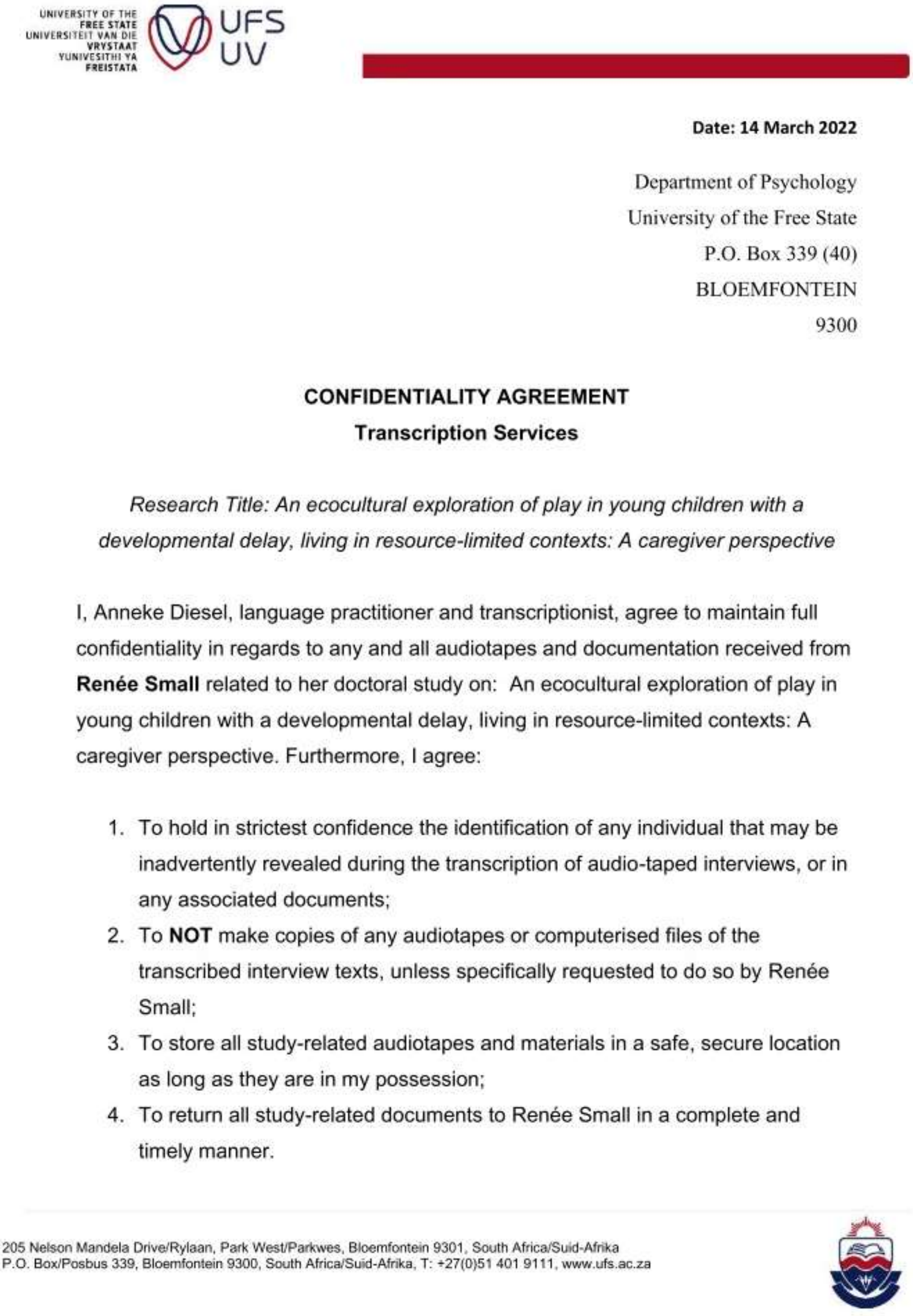
Participants requiring emotional support can contact me on 0843087238/lerato.makhele@gmail.com to schedule an appointment.

Kind regards,

Lerato Makhele

cell: 084 308 7238
e-mail: lerato.makhele@gmail.com

Appendix J: Confidentiality Agreement – Transcription Services



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VRYSTAAT
YUNIVESITHI YA
FREISTATA
UFS
UV

Date: 14 March 2022

Department of Psychology
University of the Free State
P.O. Box 339 (40)
BLOEMFONTEIN
9300

CONFIDENTIALITY AGREEMENT

Transcription Services

Research Title: An ecocultural exploration of play in young children with a developmental delay, living in resource-limited contexts: A caregiver perspective

I, Anneke Diesel, language practitioner and transcriptionist, agree to maintain full confidentiality in regards to any and all audiotapes and documentation received from **Renée Small** related to her doctoral study on: An ecocultural exploration of play in young children with a developmental delay, living in resource-limited contexts: A caregiver perspective. Furthermore, I agree:

1. To hold in strictest confidence the identification of any individual that may be inadvertently revealed during the transcription of audio-taped interviews, or in any associated documents;
2. To **NOT** make copies of any audiotapes or computerised files of the transcribed interview texts, unless specifically requested to do so by Renée Small;
3. To store all study-related audiotapes and materials in a safe, secure location as long as they are in my possession;
4. To return all study-related documents to Renée Small in a complete and timely manner.

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P.O. Box/Posbus 339, Bloemfontein 9300, South Africa/Suid-Afrika, T: +27(0)51 401 9111, www.ufs.ac.za

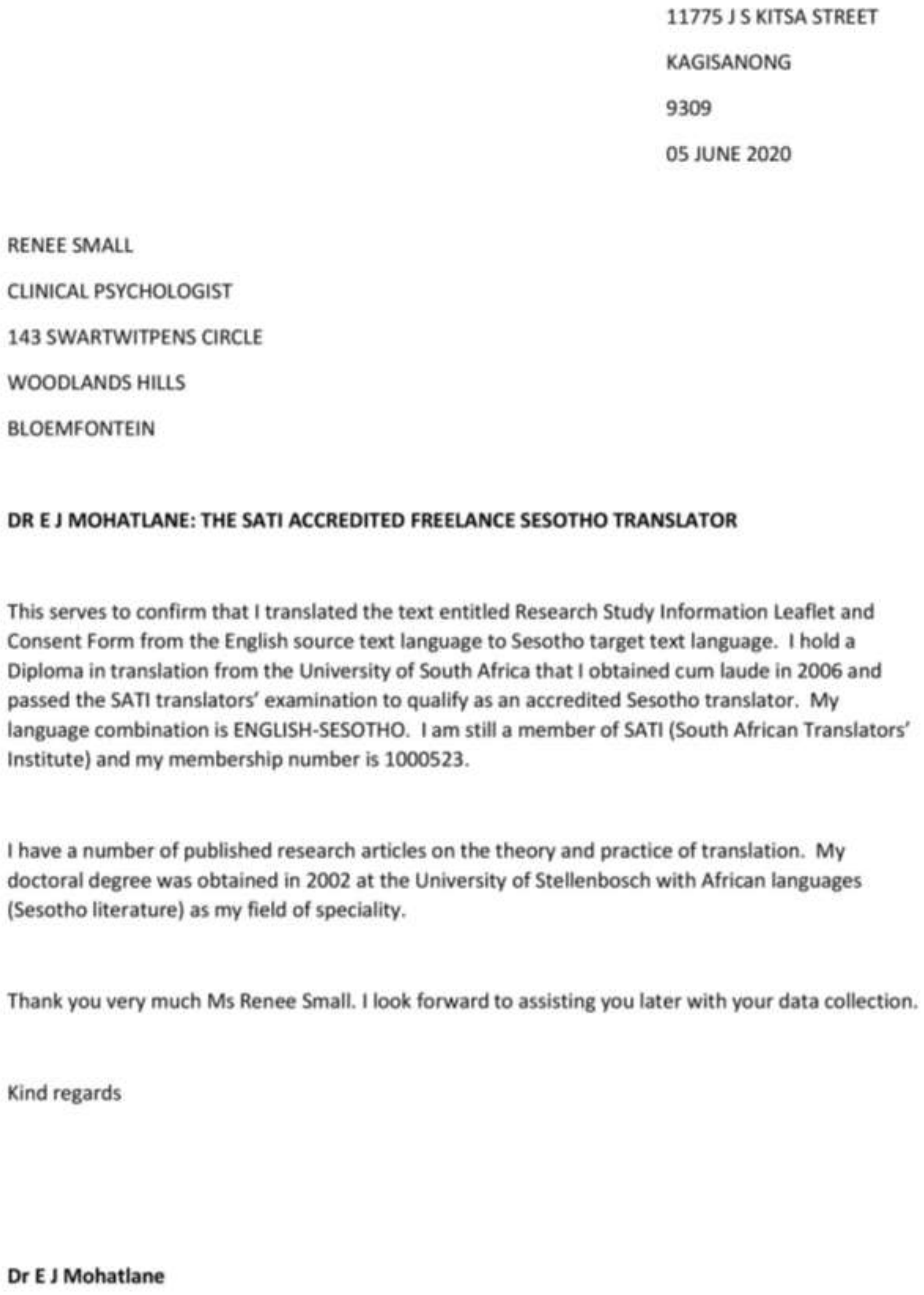
5. Upon completion of the contract, to delete all electronic files containing study-related documents from my computer hard drive and any backup devices.

I am aware that I can be held legally liable for any breach of this confidentiality agreement, and for any harm incurred by individuals if I disclose identifiable information contained in the audiotapes and/or files to which I will have access.

Anneke Diesel	Diesel
Transcriber's Name (printed)	**Transcriber's Signature**

Date: 14 February 2022

Appendix K: Translation and Editing Confirmation



11775 J S KITSA STREET

KAGISANONG

9309

05 JUNE 2020

RENEE SMALL

CLINICAL PSYCHOLOGIST

143 SWARTWITPENS CIRCLE

WOODLANDS HILLS

BLOEMFONTEIN

DR E J MOHATLANE: THE SATI ACCREDITED FREELANCE SESOTHO TRANSLATOR

This serves to confirm that I translated the text entitled Research Study Information Leaflet and Consent Form from the English source text language to Sesotho target text language. I hold a Diploma in translation from the University of South Africa that I obtained cum laude in 2006 and passed the SATI translators' examination to qualify as an accredited Sesotho translator. My language combination is ENGLISH-SESOTHO. I am still a member of SATI (South African Translators' Institute) and my membership number is 1000523.

I have a number of published research articles on the theory and practice of translation. My doctoral degree was obtained in 2002 at the University of Stellenbosch with African languages (Sesotho literature) as my field of speciality.

Thank you very much Ms Renee Small. I look forward to assisting you later with your data collection.

Kind regards

Dr E J Mohatlane

LANGUAGE PRACTITIONER: Anneke-Jean Diesel

BA Communication Science (Corporate and Marketing Communications)*
BA Hons Communication Science (Corporate and Marketing Communications)*
* Cum Laude

17A Innes Avenue
Waverley, Bloemfontein

Tel: 084 244 8961
annekedenobili@gmail.com

November 2022

DECLARATION

I, Anneke-Jean Diesel, hereby declare that I did the language editing of the research of Renée F. Small, titled *An Ecocultural Exploration of Play in Young Children with Developmental Delays Living in Resource-Limited Contexts: A Caregiver Perspective.* The research is to be ssubmitted in fulfilment of the requirements in respect of the Doctoral Degree of Psychology (Child Psychology) in the Faculty of the Humanities at the University of the Free State. All the suggested changes, including the implementation thereof, were left to the discretion of the student.

Please note:
The language editing excludes reference editing/checking and technical formatting. The editor will not be held accountable for any later additions or changes to the document that the editor did not edit, nor if the student rejects/ignores any of the changes, suggestions or queries, which he/she is free to do. It remains the student's responsibility to ensure that the similarity index is according to the University's regulations. The editor can also not be held responsible for errors in the content of the document or whether or not the student passes or fails. It is the student's responsibility to review the edited document before submitting it for evaluation.

Sincerely

SATI Registration #: 1003466

Appendix L: Coding Structure

Play for Basotho children with DD			
Name	**Description**	**Files**	**References**
What children play with	Types of play, display of play, what they play with		
Movement and sensory stimulation	Use of body		
Climbing		2	2
Dancing		1	3
Facial expressions		1	1
Gym ball	Carryover of therapeutic intervention	1	1
Jumping	Jumping castle, trampoline	3	20
Making sounds		4	36
Proprioceptive seeking	Pushing big and heavy things, movement, kicking, hitting, throwing	4	39
Repetitive movement in play	Spinning, turning, waving	4	16
Running		2	8
Sand, soil, dust, stones		4	8
Shaker - koeroe-koeroe	Bottle or tin with things inside	2	14
Wind		1	4
Relational play with things			
Appliances		2	7
Household materials		4	31
Lids		2	5
Size	Bigger items	1	1
Tree		1	1
Water		4	21
Wheels		4	8
Functional play			
Bicycle		2	4
Build towers		2	2
Cars		4	29
Cartoons		4	7
Cooking		2	4
Cut magazines		3	3
Dogs or pets		4	9

Food		3	17
Real things	Not toys	4	27
Soft toys		3	13
Technology	Mobile phone, tablet, games	3	18
Symbolic play			
Imaginary friend or play		3	9
Carryover from therapy	Therapeutic resources	3	12
Money for resources		2	3
Availability		4	65
Why children play	The Function of Play		
Sensory stimulation	See Movement and sensory stimulation above		
Emotional regulation		4	22
Developmental progress		5	30
Social skills		2	4
How children play	The Display of Play		
Diagnosis shines through in the play			
Appears non-responsive		2	2
Attention to detail		4	7
Boredom		3	4
Inappropriate use of toys	Not used correctly	2	10
Join cars	Make a train or trailer	2	3
Lack of responsiveness		1	1
Lose interest quickly		3	6
Mix things up and throw things down	Not constructive play	3	12
Multitasking	Listening to people talk and watching TV	2	2
No interest in toys		1	1
No toys		1	2
Social play			
Associative play		5	22
Narrates play		1	6
Caring	Younger child, more vulnerable, compassionate	4	12
Imitation or modelling		4	22
Onlooker or Spectator play		2	9

Parallel play		1	2
Solitary play		4	24
In their own world	In their mind	3	6
Specific Preferences			
Colours		4	10
Creativity		3	18
Fascination with difference		1	1
Language - English		3	3
Mechanical understanding		2	7
Order or structure		4	9
Perseveration		4	5
Rigid ideas or routine		6	25
Sensory stimulation or avoidance		5	38
Texture	String, hair, cotton, rice, paper	4	24
Where do children play			
Home			
Social isolation	Misunderstood by the community	2	13
Community			
Familiarity to others		3	14
Perceptive of others		2	9
Who do children play with	Skills required, Unique role, The toll and demand		
Skills needed	Specific skills needed of the play partners		
Attachment to items or things		4	15
Breaking toys or things		5	20
Compensation for physical deficits or social participation		1	3
Don't shift to accommodate		1	1
Fighting - age component		1	2
Inappropriate communication	The intention being missed or socially inappropriate initiation	2	4
Inappropriate sensory awareness	Physically strong or poor judgement of the strength	2	5
Inconsistency in context		1	3
Informal learning	Autonomous learning, intelligence, curiosity	5	17

Aggressive reaction		3	4
Hyperactive, busy, inattentive		4	17
Persistent or stubborn		2	18
Separation		1	2
Remembers	Doesn't forget	4	7
Resistant to trying new things	Fear of failure	1	2
Spontaneous	Without consequences	1	1
Unique Role of the Caregiver	Give and take, requirements	0	0
Apologise		1	1
Collaboration		1	5
Correcting play	Appropriate way	2	2
Demand attentiveness	Listening	1	4
Fun and laughter	With caregiver or sibling	1	2
Learns quickly	From demonstration	2	3
Minimal verbal communication	Verbal compensation	4	12
Permission	Affirmation, compliant, obedient	3	5
Physical touch or intimacy	With the caregiver	1	4
Routine or rituals - parenting		4	9
Underestimating the abilities		4	11
The toll and demand on the Caregiver	The toll and demand on the play partner	0	0
Caregiver exhaustion	Additional responsibilities	5	9
Social isolation	Misunderstood by the community	2	13
Play materials used by Basotho children with DD			
Name	**Description**	**Files**	**References**
Preferred play materials	WHO CST and Other items		
WHO CST Materials			
Bag or schoolbag		1	3
Balloon		2	2
Balls		5	18
Blocks		2	14
Books	Reading, magazines	2	18
Bubbles		3	9
Cars		4	29
Cleaning materials	Mop, broom, cloth	3	20

Clothing	Socks, clothes - dress self	1	6
Cups	Drink water	3	13
Dish or bucket		3	13
Doll		2	4
Drawing	Colouring, crayons, pen	3	23
Figurines - small animals		2	7
Paper		2	7
Plastic packet		3	4
Spoon		4	13
Hygiene supplies	Toothbrush, toothpaste, soap, shower gel	4	10
Other materials	Repurpose-able and available things		
2-litre bottle or bottle		4	9
Available resources	Rice, cotton, beans, samp, macaroni	4	65
Bean bag		1	1
Box		3	8
Brick		2	2
Bubble wrap		1	1
Cards		1	1
Empty containers		3	9
Feathers		2	2
Finger paint		2	4
Found in nature	Stone, stick	4	10
Music	Musical instruments, singing	5	14
Pegs		1	1
Playing cards		1	1
Skipping rope		1	1
Straw		2	3
Tin		2	6
Toilet roll		1	2

Appendix M: Samples of Transcripts

Name: Available resources

<Files\\FOCUS GROUP 1 - QUESTION 1> - § 13 references coded [8,61% Coverage]

Reference 1 - 0,05% Coverage

¶240: likes to play with rice

Reference 2 - 0,90% Coverage

¶246: when he was at occupational therapy, eh they show us how to make the rice bag eh with the food colouring. At home, then, he would like to play with it and take the spoon and take from the bowl to the other one. And also she like to play with, she likes to take anything, she sees something, paper and play with it. Tear it and play with it, don't want to stand without something in her hand. She like everything to play with it

Reference 3 - 0,50% Coverage

¶264: she would jump on the furniture, on the bed, on the sofa, anywhere. She will jump there. When they don't have a swing, she will be like this.

¶266: *Interviewer*

¶267: Rocking?

¶268: (Other interviewees respond with 'mmm' – confirming what was said.)

Reference 4 - 0,01% Coverage

¶328: boxes

Reference 5 - 0,64% Coverage

¶334: the boxes, milk boxes. I didn't know that the milk boxes, long life box, you can cut it and make the wheels and make a car. I didn't know; he did that. 'Give me skêr, give me mom, give me.’ Last time he wanted a wire. I was looking at the wire, even took my tekkies. “Take, take,” then he made a train

Reference 6 - 0,47% Coverage

¶396: he said, ‘I’m doing homework’, the older sister, cut and paste, cut and paste. Pictures, I told him to cut food from the Shoprite catalogue, cut food and paste on the paper, he did that. I think they’re doing it at school.

Reference 7 - 0,62% Coverage

¶448: the 2-litre bottles.

¶450: *Interviewer*

¶451: The 2-litre bottles?

¶453: *Participant 1C*

¶454: They kick it like a ball. I think in his imagination it’s like he’s kicking a ball. He’ll kick that 2-litre bottle like …

¶456: (Incoherent chatter)

¶458: *Participant 1C*

¶459: The sound, I don’t know.

¶461: (Incoherent chatter)

Reference 8 - 0,02% Coverage

¶467: The sand.

Reference 9 - 0,76% Coverage

¶491: Also, they like to, [child name] likes to drink glycerine.

¶493: *Interviewer*

¶494: Glycerine?

¶496: *Participant 1E*

¶497: Mmm, if you have glycerine at home, you have to make that uhm, bottle maybe a little of glycerine and put it out on that bottle. Also, the Vaseline.

¶499: *Interviewees*

¶500: Yoh.

¶502: *Interviewer*

¶503: He plays with the Vaseline.

¶505: *Participant 1E*

¶506: Yes, also eating it.

<u>Reference 10 - 0,91% Coverage</u>

¶517: Playing with the tap, yoh you'll see that [child name] is happy by that time, and if you can stop him playing, he will fight, he will break the windows maybe. Participant 1B react, eh, neh, and they'll go to Participant 1B, maybe wanted to tell cause doesn't say anything. We'll tell her, you see that he wants to tell [Participant 1B], you see [participant 1E first person] doesn't want me to play with tap. You see, like that.

<u>Reference 11 - 0,48% Coverage</u>

¶526: A bucket of water?

¶528: *Participant 1E*

¶529: Yes, yes. With maybe put eh, eh, eh, eh, eh, if, if you put some sunlight liquid in.

¶531: *Interviewees*

¶532: Ja, ja the bubbles, ja, the bubbles.

¶534: (Incoherent chatter and laughter in agreement)

Reference 12 - 2,90% Coverage

¶545: When I came there the kitchen was full of water, the whole house was full of the water. And what they did was, they put at Participant 1B's, eh, eh, eh, eh, eh bathroom, they put the towels not the water to cross.

¶547: (Incoherent chatter)

¶549: *Participant 1E*

¶550: And then also at the sitting room.

¶552: *Interviewer*

¶553: They were making a swimming pool?

¶555: *Participant 1E*

¶556: Yes, yes.

¶558: (Incoherent chatter and laughter)

¶560: *Participant 1E*

¶561: The water was like this, the water in the kitchen were like this and it's the ceramic and built-in in the kitchen. So, they were full of water like this. They were swimming. So, they didn't see that grandmother is here and his grandfather. They were staring at them like this because it's a sliding door at the front. So, they just open, and the sliding door doesn't make a sound like eh, eh, eh door, a normal door. So, they opened the sliding door; they saw the water coming like this. Yoh, yoh, yoh, yoh.

¶564: (Everyone laughing)

¶566: *Participant 1E*

¶567: They put the sunlight liquid and then it was full of the eh, eh, eh foam. That foam it was white in the kitchen. They were swimming in the kitchen.

¶570: (Everyone laughing)

¶572: *Participant 1E*

¶573: They put this chair on top of the table. It was clean. They put the chair on top of the tables, and they were swimming. They were happy, but they didn’t see their grandparents.

¶575: (Everyone laughing)

Reference 13 - 0,37% Coverage

¶773: he will play with those things there: the cupboards, the wardrobes, the fridge. I remember the other day, it was in lockdown, [child name] break eh the first door of the fridge

<Files\\FOCUS GROUP 1 - QUESTION 2> - § 23 references coded [26,05% Coverage]

Reference 1 - 0,69% Coverage

¶90: Toothbrush, like even the socks.

¶92: *Interviewer*

¶93: Okay.

¶95: *Participant 1D*

¶96: Definitely the socks.

Reference 2 - 1,14% Coverage

¶107: The tin, they like to play “Koeroe-koeroe”…

¶109: *Interviewer*

¶110: Koeroe-koeroe?

¶112: *Participant 1D*

¶113: The money inside the tin. Shake it, shake it (make noise), like that.

¶115: (Everyone laughing)

¶117: *Interviewer*

¶118: Okay. They keep the money in the tins.

¶120: *Participant 1D*

¶121: Ja.

¶123: *Interviewer*

¶124: And they call it koeroe-koeroe?

¶126: *Participant 1D*

¶127: Ja, koeroe-koeroe.

<u>Reference 3 - 0,29% Coverage</u>

¶138: like the mop, the ball, the shaker; he likes to take the crayon and scribble on the paper

<u>Reference 4 - 0,38% Coverage</u>

¶150: Cause he, eh, used to play it at the occupational therapy, so I take some rice and put it on the bottle and shake it

<u>Reference 5 - 1,57% Coverage</u>

¶244: the box, the box. I think if he, the box if he can do something with it like, if there’s no cars, then he will drive that box as if it’s a car. Imitating it, the car. The sound, the thing is about him, there if, he, he came across with a new sound, he will do this, close his ears and then open it and then close it again and then open it. I think it’s like the shutting, I don’t know, the brain or what and then allowing the new thing to come, like the new sound and then ja, like that

Reference 6 - 0,59% Coverage

¶401: the bubbles.

¶403: *Interviewer*

¶404: Bubbles.

¶406: *Participant 1A*

¶407: If it’s finished, I’ll make it with the Sunlight liquid.

¶409: *Interviewer*

¶410: So, Sunlight liquid with the water for the bubbles?

Reference 7 - 0,45% Coverage

¶437: cleaning stuff and then nothing else because he’s breaking things. So, actually the toys doesn’t have the toys. Before I bought them enough

Reference 8 - 0,57% Coverage

¶449: take this bucket and then put the water and then just put the, the…

¶451: *Interviewees*

¶452: Sunlight liquid.

¶454: *Participant 1E*

¶455: Yes.

¶457: *Interviewer*

¶458: Okay, so the bucket, the dish?

Reference 9 - 1,01% Coverage

¶461: that cloth there. Even if it's a, if it's a tablecloth or….

¶463: *Interviewer*

¶464: A face cloth?

¶466: *Participant 1E*

¶467: Yes, for him it's the same. He's doing the same thing, he's washing himself, but I'll use this and then put water and then he'll be happy, and I just put water inside and the put the, to do the foam.

Reference 10 - 0,75% Coverage

¶491: Take the crayon and scribble.

¶493: *Interviewer*

¶494: So, drawing?

¶496: *Participant 1A*

¶497: And we would with the mop together, koeroe-koeroe, he'll take the mop and mop together.

¶499: *Interviewer*

¶500: Okay, the mop, the koeroe-koeroe and the drawing.

Reference 11 - 1,33% Coverage

¶678: it's a kind of bottle that has stones in it. Is it something you would have in your house? Is it something you would find interesting?

¶680: *Interviewees*

¶681: Mmm.

¶683: *Interviewer*

¶684: Participant 1E?

¶686: *Participant 1E*

¶687: [child name] would like that thing.

<u>Reference 12 - 0,29% Coverage</u>

¶731: The 2-litre bottle.

¶733: *Participant 1A*

¶734: All around, the sound, the sound, the sound, joh.

<u>Reference 13 - 2,73% Coverage</u>

¶737: how about the doppies [lids of bottles]?

¶739: *Participant 1A*

¶740: Yes, that one, that one.

¶742: *Participant 1C*

¶743: Wheels for the car.

¶745: *Participant 1F*

¶746: Yes.

¶748: *Interviewer*

¶749: The doppie will be a wheel for a car.

¶751: *Participant 1E*

¶752: But [child's name] will just throw it in a, in a space and then take it just like that.

¶754: *Interviewer*

¶755: So, just drop it and pick it up.

¶757: (Incoherent chatter)

¶759: (Doppie being thrown on ground)

¶761: *Participant 1E*

¶762: He likes to do like this sometimes.

¶764: *Interviewer*

¶765: Spinning.

¶767: *Interviewees*

¶768: Oh, the spinning.

¶770: *Interviewer*

¶771: Participant 1D?

¶773: *Participant 1D*

¶774: Eh.

¶779: *Participant 1C*

¶780: He'll just spin it.

¶782: (Everyone laughing)

¶784: *Interviewer*

¶785: He'd spin it?

¶787: *Participant 1C*

¶788: No, I don't know what he does with it but….

¶790: *Interviewer*

¶791: He'll make something with it.

¶793: *Participant 1C*

¶794: Ja (inaudible).

<u>Reference 14 - 2,09% Coverage</u>

¶801: Participant 1D, definitely the string?

¶803: *Participant 1D*

¶804: Mmmmm.

¶806: *Interviewer*

¶807: Participant 1A?

¶809: *Participant 1A*

¶810: Yes.

¶812: *Interviewer*

¶813: Would play with the string?

¶815: *Interviewees*

¶816: Mmm.

¶818: *Participant 1A*

¶819: He would walk around with it and put it…

¶821: *Interviewer*

¶822: Pull the string, drag it with her.

¶824: *Participant 1A*

¶825: Just hold it.

¶827: *Interviewer*

¶828: Just hold it. Participant 1F?

¶830: *Participant 1F*

¶831: [Child’s name] will bind all his cars…

¶833: *Interviewer*

¶834: Make a train?

¶836: *Participant 1F*

¶837: Yes, so that it can come.

¶839: *Interviewer*

¶840: The trailer.

¶842: *Participant 1B*

¶843: With the sticks.

¶845: *Interviewer*

¶846: Tie sticks with the string?

¶848: *Participant 1B*

¶849: Yes.

<u>Reference 15 - 2,67% Coverage</u>

¶852: A brick?

¶853: (Incoherent chatter)

¶855: *Participant 1E*

¶856: Big trouble that one, ask Participant 1B.

¶858: *Interviewer*

¶859: Participant 1E, would hide it.

¶861: *Participant 1E*

¶862: Laughing.

¶864: *Participant 1F*

¶865: He would bring it in the house, I said ‘no, no’; they want to bring it into the house, play with it. “No, the brick doesn’t belong in the house… outside”.

¶867: *Interviewer*

¶868: So, it’s something of choice for him?

¶870: *Participant 1C*

¶871: Ja, his garage, driving it, the car.

¶873: *Interviewer*

¶874: Driving it.

¶876: *Interviewer*

¶877: So, the brick is, he’ll play with the brick? Participant 1D, not?

¶879: *Participant 1E*

¶880: Mna, I have this in my place, then it’s in the blocks and then it’s full.

¶882: *Interviewer*

¶883: So, he makes a tower and…

¶885: *Participant 1E*

¶886: No, he wants to pull them down.

¶888: *Interviewer*

¶889: Oh, he wants to push them over.

¶891: *Participant 1E*

¶892: Mmmmm….

Reference 16 - 1,38% Coverage

¶932: Beans or objects like this? Participant 1D, not. Participant 1A, would your child use this?

¶934: *Participant 1A*

¶935: Yes.

¶943: *Participant 1F*

¶944: Mna, I tried macaroni.

¶946: *Participant 1B*

¶947: At school they put the beans in the cotton wool and pour water.

¶949: *Interviewees*

¶950: Oh.

¶952: *Participant 1B*

¶953: So, when you put a cotton wool there …

¶955: *Interviewer*

¶956: It will grow.

Reference 17 - 1,60% Coverage

¶956: Packet, Checkers packet?

¶958: (Incoherent chatter)

¶960: *Participants*

¶961: Joh, joh, joh.

¶963: *Interviewer*

¶964: Participant 1A?

¶966: *Participant 1A*

¶967: If you don’t have the hoed, they will take that plastic and put it on their head.

¶969: *Interviewer*

¶970: For a hat?

¶972: *Participant 1A*

¶973: Mmm.

¶975: *Interviewer*

¶976: That’s something to look out for.

¶978: (Incoherent chatter)

¶981: *Participant 1F*

¶982: He made a kite, last weekend he built it so perfect.

¶984: *Interviewer*

¶985: Checkers packet for a kite.

¶987: *Participant 1A*

¶988: With an elastic

Reference 18 - 1,17% Coverage

¶1007: Straws?

¶1009: *Participant 1F*

¶1010: To drink.

¶1012: *Participant 1E*

¶1013: Mmmmm (in agreement).

¶1015: *Interviewer*

¶1016: To drink.

¶1018*: Interviewees*

¶1019: Mmm.

¶1021: *Interviewer*

¶1022: Just to drink?

¶1024: *Participant 1E*

¶1025: Yes.

¶1027: *Participant 1F*

¶1028: And blowing.

¶1030: *Interviewer*

¶1031: And blowing? Do they like the straws?

¶1033: *Participant 1F*

¶1034: He can use the bubbles just to make that sound, that sound (making sounds)

Reference 19 - 0,83% Coverage

¶1063: I’ll take the pegs and put them on his arms and just do like this and then just standing like this and by that time, joh.

¶1065: (Everyone laughing and incoherent chatter)

¶1067: *Interviewer*

¶1068: So, it’s something you use to play with him.

¶1070: *Participant 1E*

¶1071: Mmm.

<u>Reference 20 - 1,00% Coverage</u>

¶1082: *Participant 1E*

¶1083: Yes, take it back to work and then when I want him to be I’ll, I’ll…

¶1085: *Interviewer*

¶1086: You’ll get him pressing the bubble wrap.

¶1088: *Participant 1E*

¶1089: And then likes that (making sounds).

<u>Reference 21 - 1,30% Coverage</u>

¶1181: Just empty bottles, that you could cut and they use, would this be something that would be interesting, 2-litre bottles, milk bottles?

¶1183: *Participant 1E*

¶1184: In his space, on his space and then he take this cause he likes the cutlery and the…

¶1186: *Interviewer*

¶1187: Cups and bowls?

¶1189: *Participant 1E*

¶1190: Yes, and then play alone and the sound.

¶1192: *Interviewer*

¶1193: Okay, so he'll make the sound, use these to make sound.

Reference 22 - 0,80% Coverage

¶1209: Empty tins?

¶1211: *Interviewees*

¶1212: Mmm.

¶1214: *Participant 1E*

¶1215: He'll make sounds…

¶1217: (Laughing)

¶1219: *Interviewer*

¶1220: Participant 1D?

¶1222: *Participant 1E*

¶1223: Koeroe-koeroe and things, also.

¶1225: *Interviewer*

¶1226: Play koeroe-koeroe with the empty tins?

¶1228: *Interviewees*

¶1229: Mmm.

Reference 23 - 1,42% Coverage

¶1244: empty box, this is another tin, just an empty box?

¶1246: *Participant 1E*

¶1247: He'll break that box.

¶1249: *Interviewer*

¶1250: Even he'll break the box?

¶1252: *Participant 1E*

¶1253: Mmm.

¶1255: *Interviewer*

¶1256: Participant 1D?

¶1258: *Participant 1D*

¶1259: He'll climb inside.

¶1261: *Interviewer*

¶1262: He'll climb inside it.

¶1264: *Participant*

¶1265: Put the paper (Inaudible).

¶1267: *Interviewer*

¶1268: Put the paper in the box? Tear it?

¶1270: *Participant 1C*

¶1271: All these things, organise it, put them in a nice place.

<Files\\FOCUS GROUP 2 - QUESTION 1> - § 12 references coded [4,47% Coverage]

<u>Reference 1 - 0,05% Coverage</u>

¶9: he likes kitchen stuff.

Reference 2 - 0,04% Coverage

¶15: He likes plastic spoon

Reference 3 - 0,49% Coverage

¶21: He used to broom with on the floor, tick, tick, tick, tick, tick. Sometimes my neighbour must have come, “What’s going on that noise?”, we say, “No excuse me it’s my son”. Even you buy brooms; he doesn’t like it. He likes the spoon on the floor.

Reference 4 - 1,07% Coverage

¶44: He like to jump a lot. I remember during the lockdown; he broke two beds because of jumping. It was my mistake because when they diagnose him, Doctor [name], told me, autistic child they like to remove the stress by jumping, by boxing, by doing bicycle, so I was not just like taking like serious. So, I notice when it’s too much for him he likes to jump or do something. So, I think two months ago me and my husband said, no, we do something for him, we buy a trampoline for him. So, now he’s so, he’s very happy, jumping every day

Reference 5 - 0,39% Coverage

¶91: he also loves jumping. I didn’t realise it until we started here. I think he fell in love with the trampoline; now he’s jumping on the beds, jumping on the sofa, just jumping, jumping, jumping

Reference 6 - 0,21% Coverage

¶91: he’s also playing with the spoons and the cups. But he likes the uhm, the eh metal ones, the metal spoons.

Reference 7 - 0,08% Coverage

¶177: mostly and cutlery, playing with cutlery,

Reference 8 - 0,37% Coverage

¶310: The soap, the shower gels and …

¶312: *Interviewer*

¶313: Oh, the soap, the soaps, toothpaste …

¶315: *Participant 2C*

¶316: Yes, toothpaste yes.

¶317: *Interviewer*

¶318: Okay.

¶320: *Participant 2B*

¶321: The toothbrush.

Reference 9 - 0,64% Coverage

¶810: when he can’t find like the spoon, he likes the green spoon. I buy the red one but he wanted green. When he can’t find that thing he wants, he becomes like a lion, very aggressive, he want that one, (inaudible) start moving and looking for that thing he wants. He’s very attached to what he want. He stop even sleeping.

Reference 10 - 0,88% Coverage

¶1067: Does anyone have a problem with pillows, because I have a problem with pillows?

¶1070: *Interviewer*

¶1071: Pillows?

¶1073: *Participant 2B*

¶1074: Mmm, he just throws them everywhere and I put them back and throws them back, the whole day.

¶1076: (Everyone laughing and incoherent chatter)

¶1078: *Participant 2B*

¶1079: The whole day we do that, I put it on, back the pillows, he goes to the room, that room, comes into the living room and pillows are always down everywhere.

Reference 11 - 0,03% Coverage

¶1128: Anything soft

Reference 12 - 0,22% Coverage

¶1139: Ja, just to feel. I think it's the texture.

¶1141: *Interviewees*

¶1142: Mmm.

¶1144: *Participant 2F*

¶1145: They want everything soft

<Files\\FOCUS GROUP 2 - QUESTION 2> - § 17 references coded [13,35% Coverage]

Reference 1 - 0,61% Coverage

¶51: what he's interested in, at this stage is these.

¶53: *Interviewer*

¶54: The cups?

¶56: (Making loud noises – shaking cups against things)

¶58: *Participant 2B*

¶59: He's doing that. But he's interest in doing with the cups and doing that.

¶61: *Interviewer*

¶62: To make the sound?

Reference 2 - 0,23% Coverage

¶77: Mmm, toothbrush joh, that’s one of his favourite things. Always having a toothbrush in his hands.

Reference 3 - 0,89% Coverage

¶84: Most of these things but in his own wat…

¶86: *Interviewer*

¶87: Way.

¶89: *Participant 2B*

¶90: Way, like the cups he’s just play with to make the noise with the cups, and that one with the noise, he would like because it’s making the noise. But he doesn’t want you making the noise, he wants to be the one making the noise. I think, when I look at him as uhm, irritating him or something.

Reference 4 - 0,88% Coverage

¶90: Most of these things we have, the broom, he loves the broom, just go everywhere with it, I don’t know but he doesn’t sweep, sometimes he sweep, sometimes he just carry it. I think, and the mop or something, he’s just going around with the mop everywhere. When he’s tired, he just leaves it there and do something else. Mostly he’s doing the noise, he likes the noise.

Reference 5 - 0,20% Coverage

¶173: The bucket, put all the water, he’ll do like that, open the tap and do it like that.

Reference 6 - 0,39% Coverage

¶195: Me, if [child’s name] was here, the first thing he would do is take this thing (making sounds with a spoon against the floor) in the wall, on the floor, he like it.

Reference 7 - 0,26% Coverage

¶198: This one…

¶200: *Interviewer*

¶201: The broom.

¶203: *Participant 2F*

¶204: (Inaudible) just for a few seconds he’ll go like this.

Reference 8 - 0,37% Coverage

¶265: But at home, they have this and this.

¶267: *Interviewer*

¶268: So, they have blocks. So, at home you’ve got the ball, the tub and the blocks?

¶270: *Translator*

¶271: Yes.

Reference 9 - 0,05% Coverage

¶377: This mop, she loves

Reference 10 - 0,84% Coverage

¶470: empty containers to, I’m imagining your daughter might?

¶472: *Participant 2D*

¶473: Yes.

¶475: *Interviewer*

¶476: Okay.

¶478: *Participant 2D*

¶479: Definitely soil.

¶481: *Interviewer*

¶482: Oh, to scoop up, so the empty uhm…

¶484: *Participant 2D*

¶485: Water.

¶487: *Interviewer*

¶488: Containers that are cut, scoop up soil, scoop up water, more water than anything other?

¶490: *Participant 2D*

¶491: Definitely.

Reference 11 - 0,22% Coverage

¶665: I've got a packet.

¶667: *Participant 2C*

¶668: He loves it, (noises), he makes noises with the packet.

Reference 12 - 1,67% Coverage

¶717: old toilet roll?

¶719: (Incoherent chatter)

¶721: *Participants*

¶722: Yes, yes.

¶724: *Interviewer*

¶725: Would definitely.

¶727: *Participant 2B*

¶728: I don’t keep them.

¶730: *Interviewer*

¶731: You don’t.

¶733: *Participant 2F*

¶734: [Child’s name] says it’s for school.

¶736: (Everyone laughing)

¶738: *Interviewer*

¶739: What does he do with it at school?

¶741: *Participant 2F*

¶742: I don’t know, sometimes it’s like a tree. He would tell me it’s for school.

¶744: *Interviewer*

¶745: So, you throw them.

¶747: *Interviewee female*

¶748: Mmm.

¶750: *Interviewer*

¶751: You also throw them?

¶753: *Interviewee female*

¶754: Yes.

¶756: (Everyone laughing)

¶758: *Participant 2A*

¶759: You know, I throw them away, not my boy.

¶761: *Interviewer*

¶762: Not your boy.

¶764: *Participant 2A*

¶765: Mmm.

¶767: *Participant 2D*

¶768: I throw it away.

Reference 13 - 0,49% Coverage

¶855: I don’t know what they learn at school…

¶857: (Everyone laughing)

¶859: *Participant 2F*

¶860: [Child’s name] is busy doing something with the straw, (inaudible) soap in the water and to blow to (making bubble noises).

Reference 14 - 0,98% Coverage

¶1110: Some stones.

¶1112: *Participant 2F*

¶1113: No, they’ll break the window.

¶1115: *Interviewer*

¶1116: So, keep them away.

¶1118: *Interviewer*

¶1119: Your child will play?

¶1121: *Participant 2C*

¶1122: He loves them.

¶1124: *Interviewer*

¶1125: Loves the stones. Does he collect stones?

¶1127: *Participant 2C*

¶1128: Mmm.

¶1130: (Incoherent chatter and laughing)

¶1132: *Interviewer*

¶1133: So he makes the rows with stones. Participant 2A, not, Participant 2E, not.

¶1135: *Participant 2D*

¶1136: Loves it.

Reference 15 - 1,33% Coverage

¶1176: Some string?

¶1179: *Participant 2F*

¶1180: Ja.

¶1182: *Participant 2C*

¶1183: Yes, [child's name] likes that.

¶1185: *Interviewer*

¶1186: Participant 2A, your son would like that?

¶1188: *Participant 2A*

¶1189: Yes.

¶1191: *Interviewer*

¶1192: The string?

¶1194: Participant 2A

¶1197: *Interviewer*

¶1198: What would he do with the string?

¶1200: *Participant 2A*

¶1201: Let’s say he will cut it and then he will do like this.

¶1203: *Interviewer*

¶1204: Oh so, he would shake the string?

¶1206: *Participant 2A*

¶1207: Mmm.

¶1209: (Everyone laughing)

¶1214: *Interviewer*

¶1215: Okay, so he’ll shake it and make movement?

¶1217: *Participant 2A*

¶1218: Mmm.

Reference 16 - 3,06% Coverage

¶1221: sticks?

¶1223: *Participant 2F*

¶1224: Too much.

¶1226: *Interviewer*

¶1227: Your son would like the sticks?

¶1229: *Participant 2F*

¶1230: Too much, too much. From the garden to the living room put it up, put it back, sometime on the bed.

¶1232: *Interviewer*

¶1233: So, he'll gather the sticks and move them around wherever he wants to? Okay.

¶1235: *Participant 2B*

¶1236: I try to keep him away from these sticks.

¶1238: *Interviewer*

¶1239: But does he, is he drawn to it, does he like…?

¶1241: *Participant 2B*

¶1242: I think he would like it.

¶1244: *Interviewer*

¶1245: He would like it.

¶1247: *Participant 2B*

¶1248: But I keep it away from him.

¶1250: *Interviewer*

¶1251: Why?

¶1253: (Everyone laughing)

¶1254: *Participant 2B*

¶1255: I think the hazards for him because he’s still young. I keep him away from things like this. I keep him where I can watch him because mostly on weekends, I have to do the household, I do the washing. So, I keep him closer to me where I can keep an eye on him all the time.

¶1257: *Participant 2D*

¶1258: Even mine, sometimes they might poke.

¶1260: *Interviewer*

¶1261: Ja.

¶1263: *Participant 2B*

¶1264: The eyes also.

¶1266: *Interviewer*

¶1267: So, perhaps something he would be drawn to, to use it, so it might be something, but with supervision.

¶1269: *Participant 2B*

¶1270: With supervision. I think some of the things I’m try them out because some of the things I’ve been thinking, hazards, so let’s not try them out.

<u>Reference 17 - 0,87% Coverage</u>

¶1343: Maybe it was not the finger paint, but he took my foundation…

¶1345: *Interviewer*

¶1346: Your make-up, so he made his own finger paint?

¶1348: *Participant 2F*

¶1349: Ja.

¶1351: (Everyone laughing)

¶1353: *Participant 2F*

¶1354: They were supposed to clean.

¶1356: *Interviewer*

¶1357: Is that something that your child would play with, the paint?

¶1358: *Participant 2C*

¶1359: The paint, he knows the colours, all the colours.

Appendix N: Sample of Reflective Diary

01/07/2020

I have spent a month searching for research on some of the key terms to assess what international or local literature exists. At the beginning, the key term combinations were yielding no results. I was unsure whether I was searching the terms correctly, but it was a frustrating process. I am interested in exploring the *socio-cultural* influences on *child play*. I'm finding very few articles and none of them seem relevant.

06/08/2020

I spent time watching online lectures on conducting literature searches and reviews. I looked up my "keywords" to see if they are registered on various databases. I also designed keyword table to guide my searches. A search of *"play in children with developmental delay"* on ISI Web of Science brought up a few good abstracts that I can explore further. I'm feeling more positive and realised that spending time on developing skills, watching online lectures and videos is certainly worth the time and energy.

Population		Phenomenological **I**nterest		**Co**ntext
CHILDREN	DEVELOPMENTAL DELAY	PLAY	ECOCULTURAL	LOW MIDDLE-INCOME COUNTRIES
child* OR **child, preschool** OR **toddler*** OR **Children with disabilities** OR **children** OR **preschool children** OR **preschool children** OR infan* OR youth OR pediatric* OR paediatric* OR preschool* child* OR toddler* OR preschool* OR young child*	**developmental delay** OR **developmental disab*** OR "**special needs**" OR **Autistic disorder** OR **Autism Spectrum Disorder** OR developmental disorder OR disab* OR impairment OR mental health conditions OR longterm health condition*	**Play and playthings** OR **role playing** OR **pretend play** OR **imaginative play** OR **play environments** OR **Symbolic play** OR **play equipment** OR **play—social aspects** OR **childhood play development** OR **playfulness** OR **childhood play behavior** object play OR toy play OR functional play OR play interact* OR social play OR play material* OR play skill* OR play partner* OR approach to play OR play participation OR play engagement OR play involvement OR natural environment OR play NEAR culture OR ecocultural NEAR play OR indigenous play OR play object preferences or spontaneous play behavio* OR toy-play OR skills	**Cultural diversity** OR **cultural characteristics** OR ethnic OR cultur* OR ecocultural OR sociocultur* OR "cultural construction" OR "cultural variations" OR ethnograph* OR **cross-cultural differences** OR **ethnography**	**Developing Countr** OR **Low income countr*** OR **Middle income countr*** OR **Poverty** OR low resourced countr* OR poor countr* OR limited resourced countr* OR Third world OR Underdeveloped countr* OR Africa* OR rural

17/04/2021

After many months of preparation, planning, and researching, I conducted my first focus group discussion today. With the Covid-19 lockdowns and restrictions, it was so uncertain when this day would come. The venue worked perfectly, all of the participants found the venue easily, and it was well suited to conducting the focus group discussions safely.

I was moved emotionally by the caregivers. I could not always understand the words that they spoke as they shared their stories in their mother-tongue language, Sesotho, but I was acutely aware of the emotion in the room as they shared, supported, and connected with each other. I underestimated the value of the "Introductory Session". Caregivers shared their stories of where they come from, the challenges they've experienced and continue to experience as caregivers of children with developmental delays. This session was critical for developing the rapport and trust in each other for further conversations. For the next focus group, the "Introductory session" needs to be allocated an hour.

It was so evident that these caregivers love their children deeply, and are saddened by the lack of understanding and support within their communities for their children's needs. I was saddened to witness the caregivers sharing how their children have been victim to physical abuse and neglect from the care centres and schools because their children cannot communicate verbally. Even within their own families, these caregivers are often the only advocates and voices that their children have to get them the support that they need. The cultural structures and beliefs seem to isolate the caregivers and their children with developmental delays. They are "hidden" from society and the cultural beliefs about disabilities maintain the isolation. The daily circumstances also demand that the caregivers take responsibility for their housework, cooking, cleaning, and caring for their family, which takes an emotional toll on the caregivers. These factors influence the play opportunities that their children have.

I was surprised by the caregivers sharing that their children's preference for play things are the real things and objects around the house, such as the real vehicle and brooms. Their children have no or very few toys because they break them. Sometimes they break them out of curiosity. They are creative in finding things to make toys, such as home-made rattles with empty bottles or tins with stones in. Some of their preferred things to play with that stand out for me are cars, string, blocks (to build a garage), and rice bags (exposed to by occupational therapy).

At the end of the session, I felt a deep need to support these caregivers. I notice their emotional exhaustion and would like to facilitate or support the development of a support group. They are resilient and strong individuals who are able to offer support to each other but their daily circumstances maintain an isolation which impacts their emotional well-being.