

**GRANDPARENTING IN ZAMBIA: PREVALENCE, BELIEFS ABOUT
SENSITIVE CARE AND QUALITY OF GRANDPARENTAL CHILDCARE**

Thesis submitted to Directorate of Graduate studies University of Zambia

Francis Sichimba

Advisors:

Mwiya Imasiku (University of Zambia, School of medicine)

Marinus H. van IJzendoorn (Leiden University)

THESIS SUBMITTED TO THE UNIVERSITY OF ZAMBIA IN FULFILMENT
OF THE REQUIREMENTS FOR THE AWARD OF A DEGREE OF DOCTOR OF
PHILOSOPHY IN PSYCHOLOGY

MAY 2015

DECLARATION

I, **Francis Sichimba** hereby solemnly declare that this thesis and the work presented in it is my own and has been generated by me as a result of my own original work. I confirm that this work was done wholly while in candidature for the Doctoral Degree in Psychology at the University of Zambia and has been submitted to the University of Zambia within the framework of the said Doctoral program. This work has been developed and implemented with cooperation between the University of Zambia, Zambia and Leiden University, the Netherlands. It does not contain any published work or material from another University

Signed:

Date:

COPYRIGHT

All rights reserved. No part of this thesis may be reproduced, stored in any retrieval system or transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise- without prior written permission of the author, the University of Zambia or Leiden University.

CERTIFICATE OF APPROVAL

This Thesis by **FRANCIS SICHIMBA** is approved as fulfilling the requirements for the award of the degree of Doctor of philosophy of the University of Zambia.

Signed: Date:

Signed: Date:

Signed: Date:

ABSTRACT

The main purpose of this study was to investigate the role of grandparents in child care, grandmaternal predictors of intergenerational transmission and quality of care offered by maternal grandparents. Grandparents are an important part of kin relationships participating in care of children. However, to date there have been very few studies that have investigated grandparental involvement in childcare in Zambia, sensitive parenting beliefs and quality of care offered by maternal grandparents. This study was conducted in 3 phases. It was hypothesized that Zambian grandparents provide more care for their grandchildren compared to their Dutch counterparts. Secondly, it was assumed that increased grandparental involvement in child care is associated with more child attachment security to their grandparent. It was also hypothesized that there is a positive relation between the extent to which grandmothers and mothers view the ideal mother as a sensitive mother. Further, it was hypothesized that more favorable socioeconomic characteristics of both the grandmother and the mother predict maternal parenting beliefs favoring sensitive parenting.

Self-report measures, Maternal behaviour Q-sort and observational video data were used to assess grandparental involvement, grandmaternal and maternal beliefs about sensitive parenting, intergenerational transmission and quality of care. Results revealed rather high prevalence of grandparental involvement in childcare in both Zambia and the Netherlands. There were significant differences between the Dutch and Zambian maternal grandparents in terms of total care-giving $t(6.20) = 278, p < .01$. Comparisons in specific care domains revealed that Zambian grandparents performed more of toilet training, protection from accidents, care during illness while

Dutch grandparents did more of playing with their grandchildren. Specifically, grandparental involvement was strongly predicted by attachment. However, socioeconomic status did not predict grandparental involvement in childcare. Secondly, our findings revealed that mothers' description of the ideal mother were closer to criterion descriptions of the sensitive mother when she had fewer siblings and when her mother had a higher socioeconomic position in terms of more home possessions and facilities. The study also found that the intergenerational transmission of sensitivity beliefs was moderated by maternal educational level, revealing a strong positive association between grandmaternal and maternal sensitivity beliefs only in the mothers with a lower educational level. The study also revealed that grandmothers with more children and those who enjoyed the grandparenting tasks more showed more sensitive interactions with their grandchildren.

Unexpectedly, parenting beliefs favoring sensitive parenting predicted lower observed sensitivity in grandmothers. Further, grandmothers with a more individualistic cultural orientation were more intrusive towards their grandchildren. In conclusion, grandparental involvement in childcare existent in both Zambia and the Netherlands. The study also provides evidence that mothers' sensitivity beliefs are predicted by grandmother characteristics. The results further underscore the importance of sensitive parenting among grandmothers.

ACKNOWLEDGEMENTS

First and foremost, I want to thank God, my maker for all the blessings without which this project would not have been possible. To my parents (Festus K Sichimba & Vera Mwambazi) thank you for sending me to school, without which, I would not be who I am. I'm mindful also that this endeavour would not have been possible without the support of my mother and father in-laws Professor Drinah Nyirenda and Dr Lemba D Nyirenda who supported me during the process, sometimes acting as surrogate parents to their grandchildren. Thanks mum and dad for your help. Secondly, this project would not have been possible without the patient, guidance and support of my advisors Prof Marinus van IJzendoorn and Dr Mwiya Imasiku. I am also in great debt to Prof Judi Mesman, Marloes Pape, MSc and other faculty and staff members at the Center of Child Studies, University of Leiden, and in particular Esther Peelene and Gea Gortman. To you all, I say thank you and may the almighty God richly bless you abundantly. This thesis would not have been completed without the generous support of the University of Zambia. I would also like to extend my special and heartfelt thanks to Haatembo Mooya, a friend and brother who inspired me greatly, and rified my spirit when everything seemed unachievable, comforting me during my low points. My pursuits would not have been emotionally, spiritually and physically possible without my dear wife Enelesi Nyirenda Sichimba. You are the unsung hero. No amount of words can describe how grateful I am for your love and support and great sacrifice during the course of my studies. Your love and support provided light to this accomplishment. I am deeply grateful to my children, Wimula Nachimba and Yamikani Sichimba who felt the effects of not having their father whenever I travelled to the Netherlands for supervision.

There are also a number of personal acknowledgements that I would like to make to people, to whom I owe my deepest gratitude, without which this work will not be possible. To Jean Shamende, you are God sent, thanks for the help rendered in recruiting the families and data collection. To my research assistants, Mary Bwalya, Tiwonge Sichinga, Cornelius Phiri, Mbuwa Kachinga and Joan Chongo thanks you for making this work possible, I will always be indebted. To Florence Chamvu, thanks for standing in for me, whenever I travelled. I am mindful that your invaluable support in taking an extra load in lecturing was at a great cost to you personally considering that you are also a PhD student. Finally, I am indebted to the families, grandparents, parents, children and infants who participated in this research study which has taught me so much about parenting. Without your participation this PhD would not have been possible. I also wish to thank Dr. Menon and Mrs Musonda for taking the time to review my work and for the valuable feedback and insights. I thank all my friends and family (Kaulwe Sichimba, Estella Nachimba, Joy Sichimba, Chuma Chuma, Dorothy Nachimba, Twange Nachimba, Idah Nachimba, Hellen Nachimba, Micheal Mwila, Charity Nachimba for their encouragements and support. I am also eternally grateful to Richard Nyirenda for taking the time to review and edit my work. Above all, I remain indebted to Dutch people through the Lolle Nauta Foundation, , in particular the Joke Scholtens Award, for providing the financial support that has made this thesis possible.

TABLE OF CONTENTS

LIST OF FIGURES	x
LIST OF TABLES	x
LIST OF ACRONYMS	xi
DEFINITION OF TERMS.....	xii
CHAPTER 1: INTRODUCTION	1
1.1 Background.....	3
1.2 Grandparent involvement in Childcare in Africa	6
1.3 Statement of the Problem.....	10
1.4 Overview and aims of this thesis	12
1.5 Hypotheses.....	13
CHAPTER 2: LITERATURE REVIEW	14
2.1 Theoretical review	14
2.2 Dominant theories.....	15
2.2.1 Attachment theory	15
2.2.2 Social Learning Theory	16
2.2.3 Evolutionary Grandmother Hypothesis.....	17
2.3 Quality of care and Attachment	18
2.4 Maternal Beliefs and Parenting	23
2.5 Intergenerational transmission.....	25
2.6 Factors Affecting Parenting And Intergenerational Transmission	29
2.7 Grandparenting and Childcare	31
2.8 Conclusion	35
2.8.1 Understanding Grandparenting	35
2.8.2 Rationale of the study.....	36
CHAPTER 3: METHODOLOGY	38
3.1 Research Design	38
3.2 Phase 1	38
3.2.1 Sample	39
3.2.2 Procedure.....	40
3.2.3 Overview of the Measures.....	41
3.3 Phase 2.....	42
3.3.1 Participants	43
3.3.2 Procedure.....	43
3.3.3 Instruments	45
3.4 Phase 3	47

3.4.1	Participants	47
3.4.2	Procedure	48
3.4.3	Instruments	48
3.5	Ethics	53
CHAPTER 4:	RESULTS	54
4.1	Preliminary analyses	54
4.2	Results on grandparental involvement in childcare in the two country comparison	55
4.3	Comparisons Dutch versus Zambia Samples on attachment styles on the ECR Domains.	58
4.4	Attachment and Caregiving	60
4.5	Grandmaternal and maternal ideal beliefs about sensitive parenting	61
4.6	Grandparent Care Activities	66
4.7	Predicting the Quality of Zambian Grandmothers' Interactions with their Grandchildren.....	66
CHAPTER 5:	DISCUSSION	70
5.1	Prevalence of Grandparenting	71
5.2	Maternal beliefs and predictors of intergenerational transmission.....	75
5.3	Quality of childcare by grandparents in Zambia	78
5.4	Limitations and future directions.....	81
CHAPTER 6:	FINDINGS, CONTRIBUTIONS, RECOMMENDATIONS & CONCLUSION.....	85
6.1	Grandparenting research findings.....	85
6.1.1	Prevalence of grandparenting	85
6.1.2	Maternal beliefs and intergenerational transmission.....	86
6.1.3	Quality of grandparental childcare	86
6.2	Grandparenting Research Contributions.....	87
6.2.1	Contribution to parenting	87
6.2.2	Contribution to theory	87
6.3	Recommendations.....	89
6.4	Conclusion	90
REFERENCES.....		92
APPENDIX A:	Questionnaire study 1 English.....	108
APPENDIX B:	Questionnaire study 1 Dutch	116
APPENDIX C:	Questionnaire parenting in diverse cultures	124
APPENDIX D:	Maternal Behavior Q-Sort.....	Error! Bookmark not defined.
APPENDIX E:	Participants inform consent form.....	132

LIST OF FIGURES

Figure 4-1: Comparisons of Dutch versus Zambia Samples on Grandparent Care in Specific Care Domains.....	55
Figure 4-2: Graphic representation mean scores on the ECR-RS – Avoidance and Anxiety scales for the three gender by nation groups	59
Figure 4-3: The Relation between Grandmothers’ and Mothers’ Sensitivity Beliefs is Moderated by Maternal Educational Level.....	65
Figure 5-1: Flow chart detailing the study findings	84

LIST OF TABLES

Table 3-1: Background/Demographic information For Participant Background	40
Table 4-1: Summary descriptive statistics and MANCOVA statistics table showing grandparent caregiving activities	57
Table 4-2: ANOVA table showing the differences domains Anxiety and Avoidance to Parents and Grandparents on the ECR Scale	58
Table 4-3: Hierarchical Regression predicting grandparent caregiving with various background variables and ECR scales	61
Table 4-4: Descriptive statistics for all grandmother and mother variables used in analyses	62
Table 4-5: Maternal and grandmaternal predictors of Mothers' Sensitivity Beliefs ..	63
Table 4-6: Descriptive Statistics showing demographic Study Variables	67
Table 4-7: Bivariate Correlations of Demographic, Socioeconomic, Cultural Predictors of the Quality with Grandmothers’ Interactions with their Grandchildren	68

LIST OF ACRONYMS

- AIDS - Acquired Immune Deficiency Syndrome
- CSO - Central Statistical Office
- EAS - Emotional Availability Scale
- ECR-RS - Experiences In Close Relationships Relationship Structures
- GRZ - Government of the Republic of Zambia
- HIV - Human Immunodeficiency Virus
- ICC - Intra-class Correlation Coefficient
- MBQS - Maternal Behaviour Q-Sort
- PCA - Principal Component Analysis
- SES - Social Economic Status
- UNICEF - United Nations Children's Fund
- ZDHS - Zambia Demographic Health Survey

DEFINITION OF TERMS

Grandparent. It can be grandmother or grandfather who cares for a child with whom he or she has a biological tie either through the child's mother or father or both". Grandparental care might imply caregiving tasks complementary to parental or sib care, or a replacement of such care because of the absence or loss of the parents or sibs

Maternal Responsiveness. Maternal responsiveness are caregiving behaviors that caregivers use to respond to infants behavior. It includes aspects of warmth, affectionate behaviors, , amount of interaction, quality of interaction, and emotional synchrony between caregiver and the infant as well as caregiver response to child distress

Attachment. Attachment refers to a trusting bond between the child and caregiver.

Attachment avoidance: fear of dependence and interpersonal intimacy, an excessive need for self-reliance, and reluctance to self-disclose.

Attachment Anxiety : fear of interpersonal rejection or abandonment, an excessive need for approval from others, and distress when one's caregiver is unavailable or unresponsive.

Intergenerational transmission. the process through which purposely or unintendedly an earlier generation psychologically influences parenting attitudes and behavior of the next generation

Parenting beliefs. Parenting beliefs refer to ideas about how children should be raised.

CHAPTER 1: INTRODUCTION

Intergenerational transmission of parenting is one of the most significant current issues in parenting literature today. When women become mothers they typically turn to their own mothers for support (Apfel & Seitz, 1991, p. 421). Furthermore, it is assumed that patterns of family processes and patterns of childrearing are transmitted across generations (Serbin & Karp, 2003). However, most of the available studies on childcare have been limited to parents with relatively few studies on grandparents, and yet recent studies have challenged the notion of a mother as sole important person in child rearing, noting that contextual variables and culture should be considered (Barni, Knafo, Ben-Arieh, & Haj-Yahia, 2014; Harkness, Super, & Van Tijen, 2000). A critical determinant of parenting behavior is the influence of earlier generations and parental upbringing on their parenting (Serbin & Karp, 2003). Thus, grandparents are an important part in the equation of parenting. Though worldwide there has been considerable research investigating parenting, but little is known about the role of grandparents in child care, grandmaternal predictors of intergenerational transmission of parenting beliefs and behavior, and quality of care offered by maternal grandparents.

The literature on intergenerational transmission suggests that parenting patterns can be transmitted from one generation to the next. For example, a higher-than-chance concordance between two generations of parents has been found for rates of demographic trajectories (Liefbroer & Elzinga, 2012), marriage and divorce (Wolfinger, 1999) number of children (Teachman, 2002; Wolfinger, 1999), religious beliefs (Scourfield, Taylor, Moore, & Gilliat-Ray, 2012), beliefs about parenting

(Simons, Beaman, Conger, & Chao, 1992), family violence and child maltreatment (Berzenski, Yates & Egeland, 2014; Finzi-Dottan & Harel, 2014), and warm sensitive stimulating parenting (Belsky, Jaffee, Sligo, Woodward & Silva, 2005).

Despite the fact that grandparents are involved in grandchild-care, little attention has been devoted to grandparental caregivers. First, grandparents are a heterogeneous group with different beliefs on parenting yet no research to date has investigated their ideal beliefs regarding their ideal parenting style. Secondly, literature on parenting indicates that the type and quality of parenting behavior displayed towards one's own children develops in part through experience with one's own parents in childhood. Thus, it is difficult to ignore the role that maternal grandparents play not only in intergenerational relationships but also in transmitting child rearing beliefs and practices. Chase-Lansdale, Brooks-Gunn, & Zamsky (1994) recognize that grandparents can indirectly impact the child by providing support and assistance to parents. However, in spite of this important insight intergenerational parenting by maternal grandparents remains under studied in parenting literature, yet the intergenerational family continues to be an important context for development of familial relationships and an agent for socialization across the lifespan (Grønhoj & Thøgersen, 2009; Putney & Bengton, 2002).

Research on grandparenting in Zambia is scanty. The goal of this thesis was to investigate prevalence and predictors of grandparental involvement, predictors of intergenerational transmission and quality of childcare by grandparents in Zambia. In order to answer our thesis goal, the study was carried out in three phases. The first phase examined cross-cultural comparison between Zambia and the Netherlands on the prevalence and cross-cultural variations of grandparental care activities that grandparents perform in childcare. Second phase examined associations between

grandmothers' and mothers parenting beliefs as well as socioeconomic characteristics that predicted maternal beliefs about sensitive parenting in Zambia. The study also assessed predictors of intergenerational transmission of parenting ideals. The third phase studied quality of grandmother- grandchild interactions in Zambia.

1.1 Background

Grandparents are an important part of the extended family. In many cultures, grandparents often perform a direct and clear role in childcare. In most traditional societies, for example, in Africa, Asia, Latin America and the Pacific, older women or grandmothers traditionally have considerable influence on maternal and child health matters at the household level (Jonasi, 2007). Studies all over the world have demonstrated that millions of children are being raised by their grandparents (Fuller-Thomson & Minkler, 2001; Glaser & Dessa, 2012; ; Goodman & Silverstein, 2001 Nampanya-Serpell, 2002). However, the literature is silent on the prevalence of grandparental involvement worldwide, and available statistics remain scanty, with most of the available statistics being from the Western world. In the United States, an estimated 5.6 million adults are grandparents with 5.4 million children living in grandparent-headed homes (United States Census Bureau, 2011). In Europe, research shows considerable rates of grandparental care in for example the United Kingdom (63%), Germany (40.3%), Sweden (50.86%), Hungary (55.7%) and the Netherlands (56.9%) a large percentage of the grandparents provide childcare (Glaser & Dessa, 2012). On the African continent, statistics are unavailable, though it is that estimated 40% of adults (aged between 40 and 85 years) in Africa take care of their grandchildren (Weichold, 2010). The estimated numbers however might be far

higher than the actual number due to lack of statistics in most countries. Besides the numbers do not include grandparents who continue to provide complementary care even in the presence of biological parents.

The last two decades have witnessed a significant rise in research on grandparents. However, despite the recent expansion in research, relatively few studies have examined grandparenting and childcare among African families. This situation has created a void in knowledge. It is widely recognized that parenting beliefs vary within and across cultures (Chen & Luster, 2002; Geher, 2011). Based on research, we now know that the parents' physical environment, culture, familial relationships, and economic circumstances bear great influence on parenting (Kotchick & Forehand, 2002; White, Roosa, Weaver, & Nair, 2009). In spite of empirical evidence that culture is important in shaping parenting (Bornstein, Putnick, & Lansford, 2011; Keller & Harwood, 2009), most of the research on parenting has been based on Western samples. Thus, findings generated in Western samples cannot be automatically used to understand parenting in non-Western contexts such as Africa where childcare typically is shared with relatives such as grandparents.

The term grandparent is not a new concept but one that is as old as humankind. Heyslip & Panek (2002) in White (2009, p. 16) define the status of grandparents as "a tenuous role with no clear criteria or role norm; an individual experience; a developmental task of middle or late adulthood". Turner (1982, p. 319) sees grandparenthood as "constituting a status of social position defined by a collection of rights and duties". On the other hand, Wood & Robertson (1976) have described grandparenthood as constituting two dimensions namely the social dimension (related to meeting societal needs), and the personal dimension in which grandparenting fulfills individuals' internal needs. But what is grandparenting?

Clearly the term grandparenting lacks a specific definition in most of the studies. The definitions provided by Heyslip & Panek (2002), Turner (1982) and Wood & Robertson (1976) become problematic when trying to understand grandparenting because they list general attributes rather than define the act of grandparenting. Hence, due to the fact that most definitions are vague, this study uses the term grandparenting in a very limited manner to mean “the interactions and relationships of a parent of a parent with a child of this parent. It can be grandmother or grandfather who cares for a child with whom he or she has a biological tie either through the child’s mother or father or both”. Grandparental care might imply caregiving tasks complementary to parental or sib care, or a replacement of such care because of the absence or loss of the parents or sibs. The dynamics of these different types of grandparenting might be divergent.

Several factors have been cited to explain the large involvement of grandparents in childcare worldwide. Literature attributes parents’ incarceration, unemployment, divorce or death, mental illness, and abuse as some of the reasons that necessitate grandparents’ participation in childcare (Foster, 2000; Kaptijn, Thomese, Liefbroer, & Van Tilburg, 2010; Oburu & Palmerus, 2005). For example in Africa, research attributes the increase in grandparenting to the weakened extended family system especially in areas where the AIDS pandemic is severe (Foster, 2000; Kangethe, 2010; Malinga & Ntshwarang, 2011). In the Western world, increase in grandparental care has been attributed to the increase in healthy longevity, drug abuse by parents, and mothers working outside their homes, among others (Kaptijn, Thomese, Van Tilburg & Liefbroer, 2010). From the reasons cited, literature limits the debate on grandparental involvement in child care as necessitated only by a crises such as death but does not consider culture. Though this line of

thought is justified, it fails to appreciate the traditional caregiver role that grandparents play even in the absence of such calamities such as parental death, incarceration or imprisonment. Thus, existing literature raises several questions about grandparenting as well as their role in complementary care.

Further, scholars have focused on the negative side of grandparent involvement in childcare. Some scholars portray grandparents as highly susceptible to stress, as a source of stress to a parent, as unhelpful and a risk to child survival (Emick & Hayslips, 1999; Glass & Huneycutt, 2002; Neely-Barnes, Graff, & Washington, 2010; Sands, Goldberg-Glen & Thornton, 2005; Strassman & Gerrard, 2011). For example Oburu & Palmerus (2005), in their study focused on the stress that Kenyan grandparents experience as a result of participating in child care. However, recent studies suggest that there are also benefits to grandparent involvement in childcare (Tan, Buchanan, Flouri, Attar-Schwartz, & Griggs, 2010; Attar-Schwartz, Tan, Buchanan, Flouri, & Griggs, 2009; Mahne & Motel-Klingebiel, 2012). Jappen & Bavel (2011, p. 87) report that “some parents prefer grandparents for child care because they perceive them as most trustworthy, providing a safe and emotionally nurturing environment that benefits their children”.

1.2 Grandparent involvement in Childcare in Africa

Multigenerational family ties, particularly grandparents, have traditionally been an important source of childcare in Africa. Nyambedha, Wandibba & Aagard-Hansen (2003) observe that child rearing in most African societies is a collective responsibility for parents, grandparents and other extended family members. Grandparents often have a direct and clear role in relation to care and nature of children (Jonasi, 2007). Grandparent involvement in Africa is gendered with female

grandparents shouldering most of the burden of childcare compared to their male counterparts. According to Mokomane (2013), as females in the extended family, grandmothers do not only provide infant care but they are also expected to nurse mother who has given birth.

In spite of the fact that grandparenting is an age-old tradition in Africa, it is only recently with the advent of the HIV and AIDS pandemic that grandparent involvement has come under scrutiny among parenting researchers. Thus, the advent of the HIV pandemic brought with it increased visibility of grandparental involvement in childcare; grandparental headed households and grandparent involvement in parenting absorb much of the child rearing responsibilities due to many children losing one or both parents (Mpofu, Ruhode, Mhaka-Mutepfa, January, & Mapfumo, 2015; Nampanya-Serpell, 2002). Literature has shown that Sub-Saharan Africa remains the epicenter of HIV and AIDS with an estimated number of orphans well above 12 million children. The HIV and AIDS pandemic has led to dramatic changes in family structure and caregiving, resulting in grandparents taking a pivotal role in child care (Foster, 2004; Oburu, 2005). The absence of a social safety net and organized social institutions to buffer the risks posed by the ever increasing number orphans, has seen grandparents bear the weight of the pandemic by caring for orphans (Beegle, Filmer, Stokes & Tiererova, 2010; Oburu, 2005).

Like the rest of sub-Saharan Africa, Zambia has experienced an increase in the number of grandparents taking care of orphans (Nampanya - Serpell, 2002; Reijer, 2013). This increase is attributable to the HIV and AIDS which has hit hard on families. This situation has threatened the caregiving capacity of families, as communities are often hard-pressed to care for children (Nampanya-Serpell, 2002). Though traditionally Zambian grandparents have always performed a caregiving role

to their grandchildren as well as offering support to mothers (Falola, 2004), however, just like the rest of Africa, it is only recently that grandparents involvement in childcare has become visible due to the advent of the HIV and AIDS pandemic. The HIV pandemic has brought about an increased parental death, thus increasing the number of children under the care of grandparents (Nampanya-Serpell, 2002; Reijer, 2013). It should be noted however, that maternal grandparents have been a long cherished pride not only in sharing their knowledge on childcare but also provision of complementary childcare even before the advent of the HIV and AIDS pandemic. According to Falola (2004), grandparents in Zambia are expected to participate in child care. Though grandparent involvement in childcare is becoming more common in Zambia today given the HIV and AIDS context, there is no research to date done to investigate predictors of intergenerational transmission, grandmaternal beliefs and the quality of care offered by grandparents.

Though individualistic and collectivistic ideas are found to coexist in many cultures (Harkness, Super, & van Tijen, 2000; Raeff, 2006), Zambia is considered a more collectivist country, with a collectivistic culture where parenting is shared responsibility within the family (Falola, 2004). Studies have shown that cultural belief systems on parenting differ between cultural communities. Child rearing in collectivistic settings is associated with obedience, conformity and social responsibility (Kagitcibasi, 2012; Mayer, Trommsdorff, Kagitcibasi, & Mishra, 2012). Studies have found a link between parental beliefs and behaviors (Kiang, Moreno, & Robinson, 2004). For example in one study, it was reported that differences in parenting behavior are due, at least in part, to differences in parental values, and values are related to social class (Luster, Rhoades & Haas, 1989).

Similarly, parenting attitudes have been shown to be related to parenting behaviors and a product of socialization process (Harkness & Super, 2002).

Central to the idea of quality of parenting is maternal sensitivity, which shapes caregiver- infant interaction. Maternal sensitivity is defined as the mother's ability to be aware of and interpret the infant's behavioral cues and respond to the infant in a timely and appropriate manner (Ainsworth, Blehar, Waters, & Wall, 1978). Sensitive parenting has been linked to positive child development across domains, including security of attachment (Van IJzendoorn & Wolff , 1997), social-emotional functioning (Van der Voort, Linting Juffer & Bakermans-Kranenburg, Schoenmaker & Van IJzendoorn 2014), and cognitive development (Dobrova - Krol, Bakermans - Kranenburg, Van IJzendoorn, & Juffer, 2008; Riley, Scaramella & McGoron, 2014). However, studies on sensitivity have always been dominated by mothers and have not included grandparents so far. Because the quality of grandmother-child interactions has rarely been investigated, most of what we know on sensitive caregiving is derived from research on mother-child interactions (Cook & Roggman, 2013; Van IJzendoorn, 1992). Although there is some evidence that caregiver sensitivity is beneficial to child development across cultures (e.g., Mesman, Van IJzendoorn, & Bakermans - Kranenburg, 2012), almost all studies in this area have been conducted in Western countries and very few in African countries. This however is against the backdrop of the fact that the notion of sensitive caregiving partly originated from Mary Ainsworth's extensive field work in Uganda (Ainsworth, 1967). In addition to sensitivity, quality of caregiving is affected by attachment- the way the caregiver relates to the child. The quality of the attachment relationship between children and their caregiver is important for children's social-emotional development (Van der Voort et al., 2014). Although there is reason to

assume that attachment is a universally relevant construct research to date has not assessed the extent to which grandparental involvement is predicted by attachment.

Research also provides strong evidence that the quality of caregiver-child interactions is influenced by socio-economic variables such as parental education, income, and other factors that are indicative of resource availability (Herbst & Tekin, 2008; Mesman et al., 2012; Mistry, Biesanz, Chien, Howes, & Benner, 2008). According to the Family Stress Model economic hardship within families has severe adverse consequences not only for general family functioning but also for the quality of parent-child interactions, which may lead to child neglect, prosocial and problematic children (Conger, Elder, Lorenz, Simons & Whitbeck, 1992). It could be the case that within the ambits of the family process model, SES, as a stress factor, influences not only sensitivity beliefs but also sensitive behaviors of the grandparents.

1.3 Statement of the Problem

Though traditionally grandparents play a pivotal role in child care in Zambia, it is a well-known fact that the influence of globalization and modernization has changed the traditional landscape (Vahakangas, 2004). Globalization and modernization have led to changes in social values and cultural fusion due to greater connectivity between people in many parts of the world, and this has also led to differences between generations in terms of values and beliefs (Coquery - Vidrovitch, 2014). Hence, because of globalization, family processes and particularly parenting and parenting beliefs have been rendered susceptible to change. Thus, studying childcare, sensitivity beliefs, and predictors of intergenerational transmission among grandparents in Zambia is especially interesting given the global

environment we are living in, but also the specific culture which traditionally promotes multi-parenting.

Also, there is no denying that the young generation in Zambia today is more educated and more urbanized compared to the older generation. Studies have shown that in the year 1964 when Zambia attained her independence, Zambia had fewer than a 100 people with Bachelor's degree and only a 1,000 with secondary education (Lungu, 1985; Masaiti & Chita, 2014). Today, according to the Central Statistical Office (CSO) census report of 2010, out of 13 million Zambians 47.8 percent had completed primary level, 37.3 percent had completed secondary and 14.5 percent have completed tertiary education. Similarly, most of the population in today's Zambia is urbanized (Coquery - Vidrovitch, 2014) signifying a cultural transformation from traditional village to urbanized living (Keith, 2014). Given this background it is interesting to compare grandparents' and mothers' sensitivity beliefs.

Quality of care is an important ingredient of caregiver-infant interactions. Caregivers who provide consistent, sensitive, and positive care, especially prompt and comforting responses to distress tend to have securely attached children, while caregivers who are inconsistent, insensitive, and negative tend to have insecurely attached children. While quality of care has been examined in mother-infant interactions, grandparent quality of care is yet to be fully explored as it is supposed to contribute to child development.

Further, despite widespread research on grandparents, very little is known about cross-cultural differences, complementary care offered by grandparents, grandparental predictors of intergenerational transmission of parenting, and about the quality of care among grandparents. In fact no research to our knowledge has

examined intergenerational transmission of parenting ideals in Africa. Noteworthy, the majority of prior studies that have investigated grandparenting have been conducted in the United States, Europe, Australia, and Asia. It should be noted, that research evidence from the developed world cannot be extrapolated to Zambia given the differences in family constellation, culture and context. This study has a relevance to the larger developmental agenda of not only bridging a cultural gap in attachment research but also understanding the generational linkages in caregiving practices.

1.4 Overview and aims of this thesis

The overall aim of this thesis was to investigate prevalence and predictors of grandparental involvement, predictors of intergenerational transmission and quality of childcare by grandparents in Zambia. In particular, the specific objectives of this study were to:

1. Investigate the prevalence of grandparenting in Zambia and the Netherlands.
2. Establish the care activities that grandparents perform in Zambia and the Netherlands.
3. Examine social variables (SES, family constellation, number of siblings) associated with grandparental involvement in childcare between Zambia and the Netherlands
4. Investigate and compare ideas about ideal parenting beliefs between mothers and grandmothers in Zambia
5. Examine predictors of intergenerational transmission of parenting beliefs among grandmothers in Zambia
6. Determine grandmothers sensitivity to grandchildren in their care.

1.5 Hypotheses

The following hypotheses were tested in this thesis

1. Zambian grandparents provide more care for their grandchildren compared to their Dutch counterparts.
2. Increased grandparental involvement in child care is associated with more child attachment security to their grandparent.
3. There is a positive relation between the extent to which grandmothers and mothers view the ideal mother as a sensitive mother.
4. More favorable socioeconomic characteristics of both the grandmother and the mother predict maternal parenting beliefs favoring sensitive parenting.
5. Grandmothers' sensitivity, non-intrusiveness and structuring abilities in interactions with their grandchildren are associated with more favorable socio-economic circumstances and fewer children.
6. Grandmothers' sensitivity, non-intrusiveness and structuring abilities in interactions with their grandchildren are associated with higher levels of individualism and lower levels of collectivism.
7. Grandmothers' sensitivity and non-intrusiveness are associated with more favorable attitudes towards sensitive parenting, and more enjoyment of the grandparental role.

CHAPTER 2: LITERATURE REVIEW

This chapter provides the theoretical background to this study. First, the study's theoretical foundation and concepts are outlined and how these theories relate to the role of grandparenting is elucidated. Second, studies on quality of care, maternal beliefs, and intergenerational transmission with regards to parenting are reviewed. In addition, empirical research on grandparenting is presented. Lastly, an overview of the current study including rationale based on identified gaps in the literature are presented.

2.1 Theoretical review

Grandparenting has been studied from a number of disciplines including Psychology, Sociology, Anthropology and Social Work (Belsky, Hancox, Sligo, & Poulton, 2012; Huber & Breedlove, 2007; Jamison, Cornell, Jamison, & Nakazato, 2002; Sands, Goldberg-Glen & Thornton, 2005; Swartz, 2009). Research across disciplines has grown and a variety of theories have been used to study grandparental involvement in childcare. (Jamison, Cornell, Jamison & Nakazato, 2002; Patterson, 1997; Stressman & Gerrad, 2011). While a variety of theories have informed grandparenting research, the present study uses three dominant theories that are relevant in explaining grandparent involvement in childcare, maternal beliefs and intergenerational transmission. These are attachment theory, social learning theory and the evolutionary grandmother hypothesis and are covered in the following sections.

2.2 Dominant theories

2.2.1 Attachment theory

Attachment theory holds that attachment develops within the context of early infant-mother interaction (Bowlby, 1969). The theory contends that infants are biologically predisposed to use their caregivers as havens of safety to provide comfort and protection when they are distressed and as a secure base from which to explore the world (Ainsworth in Weinfield, Sroufe, Egeland and Carlson, 2008). During the first years of life the child develops attachment relationships with specific individuals, such as parents or caregivers, who interact with the child on a regular basis (Bowlby, 1982). The theory postulates that the capacity of the caregiver (often the parent) to properly grasp, interpret, and respond to the child's emotions within a short time period contributes to the child's emotional security and acquired ability to use self-regulating behaviors to cope with distress, anxiety, and fear (Ainsworth, Blehar, Waters, and Wall, 1978). Bowlby argues that infants are motivated to engage in an organized behavioral system that ensures preferred others, usually the primary caregivers, to remain close, provide support, and function as a secure base. He proposed that the roots of psychological disorder lay in the unavailability of protective attachment figures.

Ainsworth (1967) contributed to Bowlby's theory in a naturalistic observation study of mother-infant dyads in Uganda and helped to establish both the importance of individual differences in maternal behavior and also the applicability of attachment theory across diverse cultures. Whereas a child's parents are usually the main objects of attachment, children can also become attached to grandparents. Thus, this study uses attachment theory to find out if one's attachment to the grandparent predicts grandparental care.

Attachment theory also accounts for the development of internal working models which shapes beliefs and behavior in child rearing. In the attachment framework, children's experiences with their own parents are thought to serve as a blueprint or internal working model for their view of themselves and their relations with others, and these in turn will shape the nature of their own future parenting endeavors (Bretherton & Munholland, 2008). Thus, theoretical interests in parenting motivation system (caregiving behavioral system) have led to empirical attempt to assess parent's views and internal world regarding parenting. Accordingly, this study further uses attachment theory to investigate grandmothers' and mother's parenting beliefs, intergenerational transmission as well as predictors of maternal beliefs about sensitive parenting in Zambia. Studies have shown that mothers' recollection of her own attachment experiences predicts her own attachment relationships (Cook & Roggman, 2010).

2.2.2 Social Learning Theory

In addition to attachment, the family environment is also crucial for passing on parenting to mothers. The recognition of the importance of the family environment has led to researchers to examine the role of learning in parenting. Social learning perspective is fundamentally rooted in the primacy of family socialization for the successful transmission of parenting ideals and behavior. From a social learning perspective, the development of behavior in general and parenting behaviors in particular are influenced by an individual's role models (Bandura, 1977). As observed by Berlin (2005), the most enduring model of how to parent is one's own parent. Thus, social learning theory is an important source for understanding beliefs, behavior and emotional reaction related to parenting. In a specification of the social learning perspective aimed at explaining violence, this

process is described in terms of imitation and (vicarious) reinforcement that increase the likelihood that children will adopt their parents' attitudes and behavioral patterns that are then carried forward into their own lives as parents (Wareham, Boots & Chavez, 2009). Attachment theory also explicitly describes processes of intergenerational transmission, but in a less direct manner than found in social learning theories (Bowlby, 1968). The main process here is not imitation but internalization.

2.2.3 Evolutionary Grandmother Hypothesis

Another major theory on the role of grandparenting in human development is the evolutionary grandmother hypothesis. This theory was developed based on an empirical study among the Hadza of Tanzania and evolutionary premises (Hawkes, O'Connell & Blurton Jones, 1997). The theory posits that grandmothers who are past the reproductive age invest their time and energy to support their daughter's fertility and improve their grandchildren chances of survival (Hrdy, 1999; Kachel, Premo & Hublin, 2011). According to this hypothesis, the presence of the grandmother can increase the survival chances not only of the infant but also decrease weaning age of her daughters' infant (so that mother can have another baby) by providing nutrition (Kachel et al., 2011). Several studies provide support for the grandmother hypothesis for beneficial effects that grandparental childcare has on social emotional wellbeing, positive growth among grandchildren with frequent contact with their grandparents (Sear and Coall, 2011; Tanskanen & Danielsbacka, 2012). For example, Thomese & Liefbroer (2013) found that grandparental involvement in childcare increased the probability of parents to have additional children. In the same vein, another study used evolutionary theory to show that child care support from grandparents in the

Netherlands increased the probability of parents to have additional children (Kaptijn, Thomese, Van Tilburg, & Liefbroer, 2010).

However, despite its merits, the grandmother hypothesis is limited in that it reduces grandmothers and mothers to fertility vessels and thus fails to take into account changes in the current modernized world where females are breadwinners, are no longer exclusively home makers, have fewer children, and have access to reliable nutritional resources, but still make extensive use of grandmothers for care. The theory also emphasizes nutrition and neglects the fact that social-emotional investment and the quality of caregiver-child interactions is important to children's healthy development (Eshel, Daelmans, Mello & Martines, 2006; Richter, 2004; Van den Dries, Juffer, Van IJzendoorn, & Bakermans-Kranenburg, 2009). Nevertheless, the grandmother hypothesis theory provides a useful framework to understand grandparental childcare involvement and what this care looks like.

2.3 Quality of care and Attachment

Quality of care is a well-researched construct that is often of interest when attempting to account for differences in child outcomes. To date, several studies have found that quality of care between caregivers and the child is crucial for social and emotional development of children (Bakermans- Kranenburg, Van IJzendoorn, & Juffer, 2003; Bakermans- Kranenburg, Van IJzendoorn, & Kroonenberg, 2004; Mesman et al., 2012). Positive quality of care has been linked with cognitive and language development, social and emotional development while negative quality of care is associated with poor language development and incompetency in the areas of social and emotional development (Bakermans- Kranenburg, Van IJzendoorn, & Juffer, 2008; Belskey et al., 2014). Quality of care includes constructs such as

caregiver sensitivity, responsiveness and non-intrusiveness (Mesman et al., 2012). Maternal sensitivity involves caregivers' ability to be aware of and interpret the infants' behavioral cues and respond to the infant in a timely and appropriate manner (Ainsworth, Bell, & Stayton, 1974). Parental responsiveness which is a part of maternal sensitivity includes aspects of warmth, amount of interaction as well as quality of interaction and caregiver responses to child distress and cues (Evan, Boxhill & Pinkava, 2008). Across cultures, sensitivity and caregiver responsiveness have been found to predict positive development in children. Recent evidence supports the notion that maternal sensitivity is the strongest predictor of child development. For example, in a recent study, Hastings & colleagues (2008) found that mothers and fathers who were observed to be more sensitive, supportive and less controlling with preschoolers, had children with fewer internalizing behaviors. Although research has shown strong links between caregiver responsiveness and child behavior, there is dearth research that has assessed quality of childcare among grandparents. In one of the rare studies conducted with grandparents on maternal sensitivity, Myers, Jarvis & Creasey (1987) examined infants' behavior with mother and grandmothers, using the Strange Situation Procedure. The study found that infants behaved similarly towards their maternal grandmothers as to their mothers. In this study, infants used grandmothers and mothers as a base for exploration and play (Myer et al., 1987). It should be noted that though the cited study did not study quality of care in detail, this studies however provide insight on attachment and importance of grandparental childcare.

Another important aspect of quality of care is non-intrusiveness. Research has shown that non-intrusive parenting positively influences several aspects of child development, such as secure attachment (Bakermans-Kranenburg et al.,

2008). Intrusiveness is said to involve a constellation of insensitive parenting which disregards the infant's autonomy for the adult's own sake (Ainsworth et al, 1978, Ispa et al., 2004). One study conducted among middle-class Anglo and Puerto Rican mothers found that emotional intimacy guides emotional support in their parenting of children (Harwood, Schoelmerich, & Schulze, 1999).

Attachment plays a key role in child development, their perception of relatedness, their concept of self and their life experiences. Weinfield, Sroufe, Egeland, & Carlson (2008), assert that "when seeking comfort or reassurance, infants direct behaviors towards their caregivers such as approaching, crying, seeking contact and maintaining contact"(p. 79). Recent studies suggest a strong relationship between quality of care and attachment. Bakermans-Kranenburg et al. (2003) conducted a meta- analysis of on seventy studies assessing sensitive parenting and attachment behavior. The study found that improved maternal responsiveness and warmth increased child attachment security. Though, attachment theory recognizes the possibility of a child having a number of attachment figures including alternate carers such as grandparents. However, over the past few decades, non-parental care has raised questions about child attachment outcomes (Caldera & Hart, 2004; Bonoit, 2004; Van IJzendoorn, Schuengel & Bakermans-Kranenburg, 1999). Vermeer & Bakermans - Kranenburg (2008) suggest that child care experiences matter more in some contexts and that the impact of childcare and attachment on non-maternal caregivers may be larger for children who live in less optimal family environments.

Empirical research based on attachment theory has shown that infants may form different patterns of attachment (secure, ambivalent, avoidant, and disorganized) and that the nature of the affective tie and the effectiveness with which the caregiver can be used as a source of comfort in the face of danger differs across

infant-caregiver dyads (Main, Kaplan & Cassidy, 1985). For example, Patterson (1997) examined the involvement of maternal grandmothers with their children of adolescent and child-grandmother attachment. The sample involved 32 triads grandmothers, children and mothers. The study revealed a significant relationship between attachment security and the time spent with grandmothers. The results also showed 44% of children were securely attached to their mothers and 72% were securely attached to their grandmother (Patterson, 1997). The study supports that notion that children form attachment with alternate carers such as grandparents.

Security of attachment ensures good social and emotional development of the child. Literature indicates that “attachment security shapes emergent personality processes in infancy, which, as they mature and become consolidated, exert a continuing influence on personality growth” (Thompson, 2008, p. 351). Secure attachment to the caregiver also liberates the child to explore his or her world with the confidence that the caregiver is available when needed (Agrawal, Gunderson, Holmes, & Lyons-Ruth , 2004). The most important factor in the development of attachment security is the attunement and quality of care.

On the other hand, insecure attachment to the caregiver during infancy has been found to lead to poor child outcomes such as poor peer relations, anger and poor behavioral self-control (Carlson & Sroufe, 1995). In other words, insecure types of attachment are not optimal for development and a wealth of research has amassed evidence to this effect. Cross-cultural research has shown that the distribution of insecure attachment patterns (avoidant and resistant) differs across cultures (Van IJzendoorn & Kroonenberg, 1988). According to Van IJzendoorn & Sagi (2008) “avoidant, secure and resistant attachments have been observed in Africa, Chinese, Indonesian, and Japanese studies” (p. 897). Literature has shown that insensitivity in

caregiving leads to an insecure attachment, and working models of caregiver as unavailable and untrustworthy (Howes & Spieker, 2008). According to Bowlby (1951), “mother love in infancy is as important for mental health as are vitamins and proteins for physical health” (p. 240). He further suggests that an emotionally available caregiver is crucial for infants’ development and mental health (Bowlby, 1951). However, a common feature of child-care, evident from studies conducted in different countries, is the lack of stable, long-term relationships with consistent caregivers (Bowlby 1951; Sloutsky, 1997). Thus, given that grandparents are consistent caregivers in most parts of Africa, it becomes vital to assess the quality of grandparental childcare.

It should be noted however, as previously stated, there is strong evidence suggesting that the quality of caregiver-child interactions is influenced by socio-economic variables such as parental education, income, and other factors that are indicative of resource availability (Mesman et al., 2012). Research on mothers suggests that demographic, socioeconomic, and cultural variables predict emotional availability however, little is known about what predicts emotional availability of grandparent-infant interactions. Literature has shown that when families are under stress for example, living in poverty children more likely to develop insecure/anxious attachment relationships (Cook and Roggman, 2013; Diener, Nievar, & Wright, 2003). Poverty has also been associated with negative influence on caregiver-child relationship.

In summary, most of the research has examined mothers caregiver quality and has not assessed grandparental caregiver quality. Despite these limitations, results have shown that positive, sensitive, responsive and non-intrusive parenting is associated with children positive growth.

2.4 Maternal Beliefs and Parenting

Child rearing beliefs are crucial to understanding quality of childcare and caregiver child relationship. Literature however suggests that caregiver attitudes towards child rearing are multidimensional, complex and open due to differences in psychological and sociocultural influences (Rubin et al., 2006). Parenting beliefs refer to ideas about how children should be raised and the role of caregivers in this process, which have been found to vary within and across cultures (Chen & Luster, 2002; Geher, 2011). These beliefs in turn are known to guide parents' actual caregiving behavior (e.g., Coplan, Hastings, Lagacé - Séguin, & Moulton, 2002; Kiang, Moreno, & Robinson, 2004; Kochanska, Kuczynski, & Radke-Yarrow, 1989), and as such may provide useful information about the origins of positive and negative parenting patterns.

A relationship exists between parental beliefs and behaviors (Kiang, Moreno, & Robinson, 2004). For example in one study, it was reported that differences in parenting behavior are due, at least in part, to differences in parental values, and values are related to social class (Luster, Rhoades, & Haas, 1989). Similarly, parenting attitudes have been shown to be related to parenting behaviors and are a product of the socialization process (Harkness & Super, 1999). However studies on the link between beliefs and sensitive parenting remain scarce.

In a recent study conducted in the Netherlands, strong convergence was found on sensitivity beliefs between Dutch, Turkish-Dutch and Moroccan-Dutch mothers and academic experts on parenting (Emmen, Malda, Mesman, Ekmekci, & Van IJzendoorn, 2012). Further analysis revealed strong convergence of this sample with mothers of different countries (for example Chile, Zambia and Turkey) on sensitivity

beliefs. The findings of the study underscores importance of child and maternal behavior as valued across different groups (Emmen et al, 2012).

With regards to culture and beliefs, research has shown that cultural values influence both parenting beliefs and behavior. Bornstein (1991) observed that parenting and culture are intertwined and that parenting beliefs are culturally shared values that are constructed within the broader cultural system. It should be noted that parenting is always evolving as times change, cultural practices and social norms and tradition changes. Within cross- cultural research, individualist and collectivist constructs have been found to useful in accounting for differences in people's beliefs and practices (Cote & Bornstein, 2003). As already stated, caregivers with a non-Western cultural background tend to value child obedience more than caregivers from Western cultural background (Kagitcibasi, 2007). However, regardless of culture, children worldwide have needs that can only be fulfilled by positive caregiver behavior and a positive caregiver-child relationship. Though literature has shown that beliefs about secure- base behavior of children converge across groups of mothers and experts from different cultures, no study to date has ascertained if grandmaternal beliefs would related with those of mothers and experts. The current study used the cultural concepts of individualism and collectivisms to examine if these are predictors of intergenerational transmission of maternal belief and assesses how these relate to quality of grandparental childcare.

2.5 Intergenerational transmission

Much of the growing body of literature acknowledges that family systems are critically important sources of support for young parents and their children (Borcherding et al., 2005; Tsai, Telzer, Gonzales, & Fuligni, 2015). Grandmothers are shown to be pivotal in the provision of both tangible and emotional support to young mothers (Borcherding et al., 2005) and also integral in the transmission of knowledge on parenting. For example, in one study, Raby, Lawler, Shlafer, Hesemeyer, Collins, & Sroufe (2015), used longitudinal data to demonstrate that intergenerational transmission of positive parenting is mediated by competence in subsequent relationships with peers and romantic partners. Interview-based ratings of supportive parenting were completed with a sample of 113 individuals (46% male) followed from birth to age 32. The study found that supportive parenting during adulthood was predicted by observed maternal sensitivity during the first 3 years of life, even after controlling for adults' age at first childbirth and adults' socioeconomic status and educational attainment at the time of the second generation parenting assessments (Raby et al., 2015). Moreover, the intergenerational association in parenting was mediated by later competence in relationships with peers and romantic partners. In particular, sensitive caregiving in infancy and early childhood predicted teachers' rankings of children's social competence with peers during childhood and adolescence. The study also showed that sensitive caregiving in infancy predicted supportive parenting in adulthood (Raby et al., 2015).

Similarly, in another study, Kretchmar & Jacobvitz (2002), examined mothers' current relationships with their own mothers (grandmother) in their relationships with their infants. The study sample included maternal grandmothers, mothers, and infants drawn from middle white-class families (N= 55). This study

found that mothers who enjoyed highly balanced relationships with own mothers and remembered being accepted by their mothers as children were more sensitive and less intrusive with their 9 months old infants (Kretchmar & Jacobvitz, 2002).

Regarding cultural socialization and behavior in parenting, studies have shown significant positive relations. In their study, Tsai, Telzer, Gonzales, & Fuligni, (2015) used survey and diary methodologies to examine how parents' cultural socialization efforts contribute to adolescents' family obligation values and behaviors and how these processes may depend upon the relational climate at home. The study involved 428 Mexican-American adolescents (50% males; *Mean age* = 15 years) and their parents (83% mothers; *Mean age* = 42 years). Results of this study showed that parental cultural socialization was associated with adolescents' family obligation values and behaviors when parent-child relationships were low in conflict and high in support (Tsai et al., 2015). Furthermore, transmission of cultural values and practices was found to be best facilitated through positive parent-child relationships.

Similarly, Schofield, Conger, & Neppl (2014) found that personal resources and one's own history (background) of positive parenting appear to play a part in promoting a positive parenting environment for the next generation of children. This study used multigenerational data set involving 290 families, and evaluated two potential moderators of intergenerational continuity in positive parenting. Results indicated that personal resources of the second-generation (G2) parent interacted with G1 positive parenting to predict G2 parenting behavior. Another important finding was that beliefs about parental efficacy and active coping both compensated for low levels of G1 positive parenting by promoting G2 positive parenting when G1 parents were comparatively low on positive parenting (Schofield et al., 2014).

One recent study on intergenerational transmission of parenting found strong intergenerational linkages (Klarin, Proroković, & Šimunić, 2014). The purpose of this study was to explore intergenerational continuity of parenting through three generations and its influence on the social relationships of male and female adolescents. The study analyzed data of 898 adolescents (378 male and 520 female) from Croatia, Bosnia and Macedonia obtained via self-report measures. In order to measure intergenerational transmission, data was collected on the relationship of mother/father with grandparents, the Perception of Family Interactions Scale, the Friendship Quality Scale, and the Social Loneliness Scale. Results showed that mother's parental style has a greater impact on friendship quality and social loneliness for girls than for boys (Klarin et al., 2014).

In another study, Belsky, Hancox, Sligo, & Poulton, (2012) tested the hypothesis that deferring parenting would weaken links between rearing experiences in the family of origin and parenting in the family of procreation. To test this assumption the study repeated analyses reported by Belsky, Jaffee, Sligo, Woodward, & Silva (2005) on 227 parents averaging 23 years of age linking rearing experiences repeatedly measured from 3 to 15 years of age with observed parenting in adulthood. In addition to this earlier sample, they added 273 participants who became parents at older ages than did those in the original sample. This study showed that rearing history predicted mothering practices. Further, the study showed that parental age generally failed to moderate the intergenerational transmission of parenting (Belsky et al., 2012).

In the same vein, Hofferth, Pleck, & Vesely (2012) examined extent to which parenting practices of fathers and mothers are associated with their sons' parenting behaviors as young adults, and whether adolescents' behavior explains this

association. 409 young men were interviewed in this study. The study found a direct effect association with men whose fathers were positively involved with them when growing up reporting more positive parenting of their own children. This study concluded with a call for more studies to examine mediation mechanisms for intergenerational transmission of parenting (Hofferth et al., 2012).

In another three- generation study 57 single mothers, 21 co-resident grandmothers and infants were studied. Chase-Lansdale, Brooks-Gunn, & Zamsky (1994) assessed mothers parenting behaviors and children's secure base behavior. The study revealed that infant attachment is influenced by mother's responsiveness, which in turn, was thought to be based on her own history of attachment. Mothers and grandmothers did not differ in terms of quality of care (Chase-Lansdale et al., 1994).

It is clear from literature cited, that grandparents are a significant part of the equation of parenting and intergenerational transmission. Ironically, despite the significance of grandparents very few studies to date have examined their role in intergeneration transmission of parenting beliefs. In particular, there is a dearth of knowledge on intergenerational transmission of parenting beliefs in Zambia. Besides very few studies have examined association in sensitivity beliefs of grandmothers with those of their biological daughters using the Maternal Behavior Q Sort (MBQS). As noted by Mead (1974) , “...somehow we have to get the older people, grandparents...back close to growing children if we are to restore a sense of community, a knowledge of the past, and a sense of the future to today's children” (p. 245). Similarly, Bengtson (2001) predicts that multigenerational bonds will rise to importance within families during the 21st century and in some cases may even replace the nuclear family structure as the primary emotional support system. Thus,

given understanding, the study of attachment, maternal sensitivity and parenting beliefs would be incomplete without studying the role that maternal grandparents in influencing parenting beliefs, perceptions and practices.

2.6 Factors Affecting Parenting And Intergenerational Transmission

Socio-economic status has been shown to be associated with quality of childcare and child outcomes. It should also be noted, that in addition to the direct intergenerational transmission of parenting beliefs, an individual's beliefs can also be shaped by intergenerational aspects of the socio-economic context in terms of income, material wealth, and educational level. Research indeed shows clear links between socio-economic status and parenting, with poverty and disadvantage relating to less optimal parenting beliefs (Clément & Chamberland, 2009; Emmen et al., 2012; Pinderhughes, Bates, Dodge, Pettit, & Zelli, 2000), and behaviors (e.g., Jansen et al., 2012; Mesman et al., 2012; Mistry, Biesanz, Chien, Hoews, & Benner, 2008).

Socio-economic status has also been found to affect intergenerational transmission of attachment. Cook and Roggman (2013) observe that grandmother's influence is not limited only to transmission through mothers' attachment or parenting but may influence child's security of attachment as well. The unfavorable parenting outcomes of low socio-economic status have also been confirmed in several non-Western cultural contexts (e.g, Cárcamo, Vermeer, van der Veer & van IJzendoorn, 2014; Mesman et al., 2012). Given evidence of correlations between these variables and parenting, this study assessed the influence of background variables such as socio-economic status on grandparenting, their parenting belief and quality of childcare.

Another factor often associated with lower socio-economic status is family size, as a higher number of children generally poses an increased strain on financial and material resources and is known to increase parental stress (Furman & Lanthier, 2002). Indeed, having more children has been found to relate to less favorable parenting patterns (Euser, Van IJzendoorn, Prinzie, & Bakermans - Kranenburg, 2009; Stith et al., 2009). Considering that family units are much larger in Zambia than families in Western countries (Falola, 2004) and Zambia being a Christian nation (Cheyeka, Hinfelaar & Udelhoven, 2014), it is cardinal to assess how family size and religiosity influence parenting sensitivity beliefs and intergenerational transmission. From an intergenerational transmission perspective, it is important to not only examine the socio-economic context of current family life, but to also look at the socio-economic characteristics of the previous generation. For example, having grown up in a large family and having a mother with few socio-economic resources may also influence beliefs about parenting in that these factors relate to childhood experiences that are relevant to parenting. These then reflect intergenerational predictors of parenting beliefs.

Although the intergenerational transmission and predictors of parenting has received considerable research attention, very few studies have focused on populations outside of the Western cultural context. This is especially surprising given that multi-generational parenting is far more common in non-Western contexts than in Western contexts. Thus, the sample for the current study was selected in Zambia so as to test the predictors of intergenerational transmission. Zambia represents an interdependent cultural context where extended family ties are important in child care. Traditionally, intergenerational networks have been the glue in child rearing in Zambia, and grandparents have always performed a caregiving

role to their grandchildren as well as offering support to the grandchildren's parents (Falola, 2004).

2.7 Grandparenting and Childcare

It is a well-established fact, that grandparenting existent and occupies a significant part in childcare globally. Though grandparenting is a universal feature of human societies (Euler, 2011), there has been very few systematic cross cultural studies on grandparents' involvement in childcare. Research indicates differences in grandparental investment between countries and cultures (Huber & Breedlove, 2007). Kornbacher and Woodward (1981) identified several roles that grandparents play such as historian, role model, nurture/great parent, hero and spiritual guide to their grandchildren. Similarly, Falola (2004) saw grandparents as teachers. This finding is also supported by Davies (2002) who found that in the United States of America, grandparents shared child rearing roles with children's parents. These roles included but were not limited to teaching children values, family history, entertaining them and listening to their problems. In another study, Beise & Volland (2002) analyzed data from the historic population of the Krummhörn in Germany, to assess the effects of grandparents in general and grandmothers in particular on child mortality. Multilevel event-history models were used to test how the survival of grandparents in general influenced the survival of the children. The results of the study revealed that maternal grandmothers improved child's survival (Beise & Volland, 2002). Similarly, Tan, Buchanan, Flouri, Attar-Schwartz, & Griggs (2010) highlighted the importance of grandparents in the lives of adolescents in England and South Wales. This study was based on a representative sample of 1478 students aged 11-16. Results showed wider ecology factors of children, their parents, grandparents

and the community influenced grandparent involvement. The study also recommended greater recognition of grandparental childcare based on its finding that grandparents were fulfilling the parenting gap for hard working parents (Tan et al., 2010).

Theories of kin selection predict stronger involvement in childcare by maternal grandparents (Tanskanen & Jokela, 2011). Scholars in this field of research widely argue that paternity uncertainty make paternal grandparents less involved in childcare. Consistent with this argument, in one study, Eular and Meitzel (1996) found that maternal grandmothers were more involved in childcare, followed by maternal grandfathers while paternal grandparents were least involved in childcare. In the Netherlands, Thomese & Liefbroer (2013) found that maternal grandparents were more likely to provide care than paternal grandparents

Though the influence of gender on grandparental involvement in childcare has been a subject of great research in Psychology, Sociology, Anthropology and Biology, research however, has centered on who is most beneficial between grandmaternal and grandpaternal grandparents. Gibson & Mace (2005) study conducted in Ethiopia, found that maternal grandmothers had a more beneficial effect on child height, while paternal grandmothers were less beneficial (Gibson & Mace, 2005). This study also showed that grandmothers continued to visit their daughter's households, irrespective of the post marital residence, where they relieved their daughters of heavy domestic tasks rather than helping with direct grandchild care (Gibson & Mace, 2005). Leonetti, Nath, Hemam,& Neill (2005) conducted a study among the Khasi in North-east India, showed that children whose maternal grandmothers were alive but not co-resident with them had lower chances of dying before the age of 10.

In contrast, other studies have documented negative effects of grandparental involvement in childcare. Strassman (2011) conducted a study among the Dogon people of Mali, West Africa. In this study Strassman discounted the importance of grandparents and instead underscored the importance of the mother in child survival. Her study found that children were four times likely to die by the age of five if the mother died. A meta-analysis showed that grandparents who lived with their grandchildren did not have a beneficial effect on child's survival (Strassman & Gerrard, 2011). However, grandparents who did not live with the grandchildren sometimes did have a positive effect because they were not competing for scarce resources (Strassman & Gerrard, 2011). Similarly, in Malawi, Sear (2006) found little evidence that matrilineal kin are beneficial to children. Results showed that child mortality rates appeared to be higher in the presence of maternal grandmothers and maternal aunts.

As previously observed, literature attributes grandparental involvement in childcare to increased life expectancy and crisis such as parental death however, the exact mechanisms that dictate grandparental involvement in childcare are not clear. Research has shown that emotional closeness, psychological and physiological resemblance (Tanskanen & Jokela, 2011), geographical distance between grandparent and grandchild (Hank & Buber, 2004), number of children and grandchildren that the grandparent has (Smith, 1996) influence grandparental involvement in childcare. In addition, age, health and educational level might also influence grandparent involvement in childcare. For example, in a cross-national study of 10 European countries, Hank & Bank (2004) found strong involvement of grandparents in childcare across all countries however, with notable differences in prevalence and intensity among geographic line. In another study, Grouts (2009)

examined the relationship between grand children and their grandparents across early childhood in the Netherlands. The study found that contact between grandparents and grandchildren was not affected by parents' employment status, partner and parenthood status (Gourts, 2009). In yet another study, Coall, Meier, Hertwig, Wänke, & Höpflinger (2009) used data from 658 Swiss grandchildren and 591 of their grandparents to investigate whether grandparents' reproductive scheduling and family size influence the amount of investment grandparents make in a focal grandchild. Results showed that having more children or grandchildren was associated with reduced levels of grandparental investment. On the other hand, Oburu (2005) compared levels of caregiving stress among 115 biological mothers and 134 Kenyan grandmothers raising their orphaned grandchildren. The study found that full-time caregiving grandmothers reported elevated levels of stress more than did the biological mothers. Caregivers' experienced stress was linked to advanced age and extensive, new adoptive roles now occupied by grandmothers (Oburu, 2005).

Interestingly, in spite of grandparental involvement in child care being very prominent, very few studies have not examined grandparental involvement in complementary childcare Africa. Although previous studies have examined grandparental care in Africa, these studies have concentrated on grandparents taking care of orphaned children (Freeman & Nkomo, 2006; Seeley et al., 2009; Skovdal, 2010). For example, Reijer (2013) found that, in Zambia, studies on grandparenting limited their attention on grandparental headed households. Moreover, few studies have assessed grandparenting cross-culturally and the majority of available studies have neglected the examination of cross-cultural differences.

2.8 Conclusion

2.8.1 Understanding Grandparenting

As can be noted from the literature review, there are several reasons why grandparenting needs attention. First, the majority of parenting literature on grandparenting focuses on individuals in the Western world, with few studies conducted in other cultural contexts especially context that engage in multiple caregiver context such as Zambia. It has also been observed that even when parenting research has been conducted in multiple caregiver contexts, the influence of grandparents on mothers has been disregarded; and hypotheses have not been contextually based despite the realization that parenting is deeply rooted within a social, familial and cultural context.

Secondly, the most common methods of assessing childcare quality, intergenerational transmission among grandparents have been surveys, and questionnaires. To date very few studies as evidenced in the literature review have used observational methods and no study to date has used the Maternal Behavior Q-Sort (MBQS) to assess grandparental parenting beliefs about ideal mothering. The inclusion of observational measures in this study helped to overcome the disadvantages associated with using only self-report measures.

Thirdly, though cross-cultural research has revealed differences in parenting across cultures, little is known about parenting in Zambia and relatively little is known about parenting beliefs of grandmothers and their daughters (mothers). Thus the extent to which grandmothers and mothers agree or disagree about sensitive parenting is relatively unknown.

Further, there is limited research in attachment literature examining grandparent involvement in childcare. As noted by Ochiltree (2006), there is a great

deal of significance attached to the bonding of mother and child but little attention is paid to grandmothers. Lastly, the contribution of grandparents to childcare is often overlooked due to the emphasis on health consequences that come with childcare responsibilities.

2.8.2 Rationale of the study

A gap in literature exists in understanding grandparenting. Though the increase in life expectancy has heightened research on grandparenting, the majority of the literature focuses on grandparenting in Western European and North American industrialised societies, with few studies conducted in other cultural contexts. Available research on grandparental childcare in Zambia has predominantly been conducted on grandparents taking care of orphans. Besides, there are very few systematic comparative studies on grandparental involvement in childcare. In addition, no study to date has investigated grandmaternal beliefs on parenting, intergenerational predictors of parenting transmission and quality of childcare by grandparents. Thus, given these limitations in the literature, the present study contributes to existing research in the following ways.

First, unlike previous studies that have limited their attention to grandparents caring for orphans in a context of the HIV and AIDS pandemic, this study assessed grandparental involvement childcare as complementary to parental care. The study also provides insights on cross-cultural variation and the extent to which attachment predicts grandparental involvement in childcare. As observed by Howes and Spieker (2008, p. 317) although “attachment theory recognizes alternative attachment figures, attachment research has largely been conducted on child-mother attachment relationships”. According to Kornhaber (1996) grandparent - grandchild bond is

separate from the parent-child bond. Thus assessing attachment and its influence on grandparental involvement in childcare informed and expand attachment theory.

Second, parenting beliefs of grandmothers and mothers were examined and association examined with a view to finding out predictors of intergenerational transmission of parenting ideals. In addition, while the topic of grandparenting has found its way in many researches, the assessment of particular cultural contexts, especially non Western settings, seems to lack consistency and reliability. Thus, continued cultural studies, such as this study which focused on Zambia, are very relevant due to the increasing amount of literature suggesting the contextual nature of parenting construct.

Third, literature has observed that “attachment occurs within warm, intimate and continuous relationships based on sensitivity and responsiveness of the adult to the child” (Ochiltree, 2006, p. 11). Whereas past research has focused on biological parents in assessing quality of care as well as observed sensitivity. This study assessed grandparents in a collectivistic context. It should be noted that grandparents have been neglected in parenting discourse and research yet they play a significant role in parenting in many collectivistic contexts in Africa, Asia and South America.

CHAPTER 3: METHODOLOGY

The study was carried out in 3 phases in order to answer the research objectives. Thus, the methodology is divided into three phases in line with the study.

3.1 Research Design

In order to answer the central questions, the study employed an explorative retrospective design in the first wave of the study. The first wave of data collection involved university students who responded to survey questionnaires on grandparental involvement in childcare. Following the testing of the initial propositions on grandparental involvement in childcare, the second and third wave of the study employed a cross-sectional non- experimental design using observational measures.

3.2 Phase 1

Prevalence, cross-cultural differences and predictors of grandparental involvement in childcare was assessed in this study involving university students from the University of Zambia and Leiden University, Netherlands as respondents. Self-report measures were used to collect data for this study. The rationale of this study was to find out the scale of grandparenting in two different contexts. Thus, the study was conducted in Zambia and the Netherlands because the two countries differ rather drastically, socially and culturally. Zambia represents an interdependent context where traditionally extended family ties are important in child care, while the Netherlands represents a more independent context with emphasis on the nuclear family as a primary domain of child care (Harkness, Super, & Van Tijen, 2000).

3.2.1 Sample

The study sample consisted of 411 undergraduate students (age range 17 to 37 years, $M = 20.21$, $SD = 1.70$) from the University of Zambia and University of Leiden. Of the 411 respondents, a total of 174 were Dutch students from the Centre of Child and Family Studies, 160 females and 14 male. Two hundred and thirty-seven Zambian students were included, of whom 158 were female and 78 Males. The minimum age for Dutch students was 17 years and the maximum age was 37 years, while for the Zambian sample the minimum age was 18 and maximum age was 30 respectively. The mean age was not significantly different across the two nationalities: mean age of the Zambian sample was $M = 20.30$ ($SD = 1.66$) and of the Dutch sample ($M = 20.10$; $SD = 1.75$): $t(408) = 1.17$; $p = .24$ (two tailed). Out of 411 students 44 students reported having no grandparents, 90 had one grandparent; 122 had two grandparents, 76 had three grandparents and 68 reported having four grandparents while 11 students did not indicate whether or not their grandparents were alive when they were growing up.

Dutch Sample: In the Dutch sample, out of the 174 participants 173 (94.4%) reported that their *grandparent were alive* at the time when they were children. On the question whom of the grandparents was most involved in their care, of the 174 participants 95 (54.6%) reported that *maternal grandparents* were most involved in their care while 45 (25.9%) reported that *paternal grandparents* were the most involved. 25 (14.4%) reported that both maternal and paternal grandparents were involved in their care. On the question 'do you still have contact with your grandparents' 4 (2.3%) reported no contact while 146 (84.4%) reported having contact, and 23(13.3%) did not indicate whether or not they were in contact with their grandparents.

Zambian Sample: The Zambian sample consisted of 237 participants. Of these 227 (95.8%) reported that their grandparents were alive while the remaining 10 (4.2%) participants did not indicate whether their grandparents were alive or not. In terms of contact with their grandparents 53 (22.7%) reported that they did not have contact while 170 (73%) reported having contact with their grandparents. As opposed to the Dutch questionnaire which asked participants to indicate which grandparent (maternal or paternal) is most involved in child care, the Zambian students were not asked this question. Table 3.1 shows participants demographic information.

Table 3-1: Background/Demographic information For Participant Background

	Zambian		Dutch		t	df	P
	N	%	N	%			
Mother	184	79.00	171	99.40	-7.47	253.66	<.01
Father	157	67.70	164	94.80	-7.72	349.10	<.01
Mother Working	142	61.20	142	81.00	-4.53	401.95	<.01
Father Working	193	82.20	172	98.90	-6.05	279.45	<.01
Contact G.P	170	73.00	146	84.40	-6.83	402.91	<.01
G.P Alive					-4.19	398	<.01
0	30	13.20	14	8.10			
1	64	28.20	26	15.00			
2	73	32.20	49	28.30			
3	27	11.90	49	28.30			
4	33	14.50	35	20.20			
# G.P growing-up					-4.92	405	<.01
0	7	3.00	2	1.10			
1	84	36.10	19	10.90			
2	109	46.80	116	66.70			
3	18	7.70	14	8.00			
4	15	6.40	23	13.20			

NOTE: G.P= GRANDPARENTS

3.2.2 Procedure

For the Zambian sample, questionnaires were distributed to students during tutorial hours. A cover letter was attached to the questionnaire explaining the purpose of the study. For the Dutch sample the questionnaire was completed by second year students of child and family studies at Leiden University. The Zambian sample

completed the English version (See appendix A) of the questionnaire while the Dutch sample completed an equivalent version of the questionnaire translated into Dutch (See appendix B). The Dutch questionnaire was translated from English into the Dutch, and then back-translated and checked for accuracy. After handing out the questionnaire, the researcher reminded the students not to fill in their names to ensure the participants' anonymity. In both cases, the questionnaire took between 20 to 25 minutes to complete

3.2.3 Overview of the Measures

The four questionnaire included questions on grandparental care activities, family composition and the ECR Scales adopted from Fraley, Heffernan, Vicary, & Brumbaugh (2011).

Demographic data: In order to assess participants' childhood context several socio-demographic variables as well as family composition during childhood were asked. Participants were asked about their *age*; *gender*; *nationality*, and number of *grandparents* who are alive, number of *grandparents* while growing up and family *composition* respectively.

Socio-economic status (SES) for the Zambian sample was assessed using the *Home Possessions Index* (HPI). This scale has 11 items scale and it contains items like “*Do you have electricity at your home; Do you have a flushable toilet at home?; Do you have a car at home?*”. Participants respond either ‘yes’ (1) or ‘no’ (0) to the items. Two items were deleted on account of a ceiling effect as almost all of the respondents answered these items affirmatively (*do you have at least 2 sets of clothes* and *do you have at least a bed/mat to sleep on*). SES for the Dutch sample was assessed using parental educational level. A global SES measure was computed by

standardizing, averaging and merging both the items on the Zambian and the Dutch SES measures, Cronbach's $\alpha = .83$

Grandparent care-giving was assessed using the Grandparent-Care Checklist (GCC). The checklist asked participants whether or not their grandparents participated in a range of child-caregiving activities including *feeding, playing with, bathing, comforting, transporting, carrying the baby, toilet training, protection, setting limits and discipline*. A total caregiving scale was developed from the items of the scale. The coefficient alpha reliability was Cronbach's $\alpha = .77$.

Attachment style was assessed by having participants complete the *Experiences in Close Relationships – Relationship Structures (ECR-RS)* questionnaire (Fraley et. al., 2011). This ECR-RS is a self-report instrument designed to assess individual differences with respect to attachment related anxiety and attachment related avoidance in a variety of close relationships. Based on the ECR-RS eight sub-scales were created ECR mother anxiety scale (Cronbach's $\alpha = .71$); ECR mother avoidance scale (Cronbach's $\alpha = .76$); ECR father anxiety scale (Cronbach's $\alpha = .82$); ECR mother avoidance scale (Cronbach's $\alpha = .84$); ECR grandmother anxiety scale (Cronbach's $\alpha = .73$); ECR grandmother avoidance scale (Cronbach's $\alpha = .79$); ECR grandfather anxiety scale (Cronbach's $\alpha = .79$); and ECR grandfather avoidance scale (Cronbach's $\alpha = .60$).

3.3 Phase 2

Studies on intergenerational transmission of parenting and parenting beliefs rarely include non-Western countries and especially African countries. Thus the objective of the second phase of the study was to fill that gap by examining grandmothers' parenting beliefs as well as socioeconomic characteristics as predictors of maternal

beliefs about sensitive parenting in Zambia. In phase 2, we extended the methodological approach of Phase 1 by not only including experimental observations to investigate grandparenting but by also including grandmothers themselves and mothers and infants as respondents and subjects.

3.3.1 Participants

The sample was recruited in the context of a study on multi-generational caregiving of young children in Zambia, and based on the following inclusion criteria:(1) mother has a biological child aged between 12 months and 16 months at first enrolment; (2) mother's biological mother (infant grandmother) participates in caregiving towards the target child; (3) neither mother or child have a severe mental or physical disability. The sample consisted of 68 dyads of grandmothers and mothers (daughters of the grandmothers), who were both caregivers to the same infant. The age range was 40 to 81 years for grandmothers ($M= 53.16$, $SD = 8.20$), mother ($M= 29.75$, $SD = 5.01$), and 12 to 24 months for infants ($M = 17.82$, $SD = 4.06$). Participants were drawn from low-income areas of Ng'ombe and Chazanga townships in Lusaka, Zambia. In terms of ethnicity the sample consisted of Bemba's (23.8%), Chewe's (18.1%), Ngoni, (10.5%) Nsanga (10.5%), Tumbuka (4.8%), Tonga (7.6%) , Soli (3.8%), Lamba (1%) and Lozi, Mambwe, Namwanga (each 1.9%).

3.3.2 Procedure

Community leaders in the Community centers in Lusaka (the capital city of Zambia) were contacted to help in the recruitment of the participants. Brochures with information about the study and eligibility criteria were distributed to all the

recruiters. The researchers also organized meetings with all recruiters to answer questions they had about the study and its procedures. Zambia is a multi-lingual society in which an individual will normally speak more than one language fluently, mostly including English (Benson, 2014; Serpell, 2014). All the research assistants were fluent in English and at least two local languages including Bemba and Nyanja – two of the languages that are widely spoken within the local context. Mothers and grandmothers could speak at least one of the languages fluently and in most times spoke more than one language fluently.

Because we anticipated that some participants would be illiterate, research assistants helped with completing the questionnaires for every participant, regardless of their literacy level. These assistants were thoroughly trained by the researcher, prior to the data collection, in anticipation of any questions and field challenges. The data collection process was piloted in a community similar to the target community and the outcomes of a process evaluation proved satisfactory.

The study procedure comprised of three home visits. During the first visit to the participants' homes, families were screened for eligibility by the researchers. If the family met the criteria, families were informed about the study procedures and asked to participate and written consent was obtained from all mothers and grandmothers. During this visit, mothers and grandmothers filled in questionnaires with the help of research assistants about background variables and family characteristics (e.g. age, education, ethnicity etc.). During the second visit to the home, the Maternal Behavior Q-Sort was administered. The third visit involved 10 minutes video recording of grandmother- infant interactions to assess quality of grandmother-infant interactions.

3.3.3 Instruments

Grandmothers and mothers completed the same questionnaires, assessing demographic and socio-economic characteristics and parenting beliefs (See appendix C).

Demographic and socio-economic characteristics: Mothers and grandmothers self-reported on background variables like age, ethnicity and number of children that they have. Grandmother and mothers' educational level was assessed on a 4-point scale from 0 to 3: *none* (0); *Primary school* (1); *Secondary school* (2); and *Tertiary education* (3). Annual income for the family was measured on a continuous scale. Annual Income was assessed by asking grandmothers and mothers on their monthly income in *Zambian Kwacha* (with 6.34 ZMK = 1USD). In addition to assessing educational level and income, participants filled in the *Home Possessions Index* (HPI), assessing the availability of basic facilities in the household. This scale has 11 items scale and it contains items like "*Do you have electricity at your home?; Do you have a flushable toilet at home?; Do you have a car at home?*". Participants respond either 'yes' (1) or 'no' (0) to the items. Two items were deleted on account of a ceiling effect as almost all of the respondents answered these items affirmatively (*do you have at least 2 sets of clothes and do you have at least a bed/mat to sleep on*). The seven remaining items were used to create the two scales, HPI grandparent (Cronbach's $\alpha = .63$) and HPI Mother (Cronbach's $\alpha = .80$).

Maternal sensitivity beliefs. Maternal sensitivity beliefs were measured with the *Maternal Behavior Q-Sort* (MBQS; Pederson, Moran, & Bento, 1999). The MBQS was originally designed to observe maternal sensitivity and has been used cross-culturally (Mesman et al., 2013). The MBQS is a set of 90 cards, with

descriptions of maternal interactive behavior founded on the Q- sorting technique (For the sorts see appendix D). It comprises of descriptions about child care, maternal affect, attentiveness, interaction styles and communication skills of the mother. The MBQS consists of 90 cards with statements about maternal behaviors that the mothers and grandmothers sorted into 9 stacks from ‘*least descriptive*’ (1) to ‘*most descriptive*’ (9) of the ideal mother. About half of the items refer to behaviors that relate to (in) sensitive parenting (i.e., signal perception, appropriate responding) and attachment-related parenting (i.e., behaviors related to exploration and proximity). Other items refer to (lack of) positive affect, cognitive stimulation, social stimulation, and the home environment. Because the original items were designed to be evaluated by professionals rather than mothers, the behavioral descriptions were simplified for the present study to make them more understandable for (low educated) mothers. For example, the item “Provides B with little opportunity to contribute to the interaction” was simplified into “Gives her child little opportunity to play along or to respond”.

Participants were first asked to sort the cards into 3 stacks from ‘do not fit the ideal mother at all’ to ‘fit the ideal mother really well’ (Mesman et al., 2012). Both mothers and grandmothers were explicitly told that there are no correct or wrong answers and that it is not about their own parenting behavior, but about what the ideal mother should or should not do. Any question they had concerning the meaning of an item was answered according to the item explanations in the protocol. When the participants distributed the cards across the three stacks, they were asked to sort each stack into 3 smaller stacks. After they distributed all cards across 9 stacks, they were asked to evenly distribute the cards across the stacks until each stack consisted of 10 cards. *Sensitivity belief scores* were derived by correlating the resulting profiles

with the criterion sort reflecting the highly sensitive mother provided by the authors of the MBQS (Pederson, et al., 1999), because this is the standard criterion sort that has been used in previous research.

Religion in child rearing. To measure the extent to which participants used religion as a guide in child rearing (Emmen, et al., 2012). On a five-point scale participants rated their agreement or disagreement with four statements on a Likert scale ranging from (0) totally disagree to (4) totally agree. An example of an item in this scale is “My religion helps me to rear my child”. The Cronbach’s α were .80 for grandmother and .90 for mothers.

3.4 Phase 3

The rationale of this study was to investigate quality of care as well as predictors of the quality of grandmother-grandchild interactions in Zambia. In phase 3, quality of grandparental childcare was tested experimentally using observational methods by video recording free play interaction between the grandmothers and their grandchildren.

3.4.1 Participants

The sample was drawn from low-income areas of the Ng’ombe and Chazanga townships in Lusaka (the capital of Zambia) and recruited in the context of a study on multi-generational caregiving of young children in Zambia, and based on the following inclusion criteria: (1) mother has her own biologically child aged between 12 months and 6 years at first enrolment; (2) mothers’ biological mother (the infant’s maternal grandmother) participates in caregiving towards the target child; (3) neither grandmother, mother or child have a severe mental or physical disability. The full

sample consists of 80 grandmothers. Video data were available from 46 grandmothers aged between 41 and 80 years ($M = 54.30$, $SD = 8.59$). The grandchildren were aged of 12 months and 24($M = 17.68$ months, $SD = 3.91$). Table 3.7 shows the demographic characteristics of the sample. The majority of the grandmothers (69%) had completed no more than primary formal education. According to the 2010 Zambian Census Report (CSO, 2010) pattern educational attainment in Lusaka are Primary level (27.2%); Secondary level (41.6%) and Tertiary level (23.2%). This trend is also evident in other urban areas (CSO, 2010). A comparison of the 46 grandmothers with video data for this study and the other grandmothers from the total data set showed that non-response was not selective with regard to the study variables, including age, $t(78) = 1.83$, $p = .08$, number of children, $t(78) = 0.98$, $p = .33$, income $t(77) = 0.99$, $p = .34$, Home Possessions Index, $t(78) = 0.87$, $p = .39$.

3.4.2 Procedure

In Phase 3, the same procedure as described in phase 2 applied in the recruitment, administration of data collection measures.

3.4.3 Instruments

The quality of grandmother-infant interactions was assessed during a 10-minute session of free play using the Sensitivity, Non-intrusiveness, and Structuring scales of the fourth edition of the Emotional Availability Scales (EAS; Biringen, 2008). Sensitivity refers to the grandmother's ability to be warm and appropriately responsive to the child, and includes the expression and appropriateness of positive affect, and clarity in perception of child signals and the ability and willingness to respond appropriately to such signals. Non-intrusiveness refers to the grandmother's ability to give the child space to explore and to refrain from intrusions on the child's

activities. Important aspects are whether the parent follows the child's lead and finds non-interruptive ports of entry into the interaction. Structuring refers to grandmother's ability to provide clear and appropriate guidance during play in a way that is helpful to the child. The scale includes behaviors such as scaffolding, taking on a guiding adult role, and setting clear boundaries. Each dimension is divided into seven subscales; the first two subscales are coded on a 7-point Likert scale and the other subscales are coded using a 3-point Likert scale (potential score range 7-29). For every subscale a global rating was given for the entire free play session.

An expert coder, who is an experienced coder of parent-child interactions, completed the online training provided by Zeneyp Biringen and then trained a team of coders. During the team training, some subscales led to persistent interpretation problems and some alterations were made to improve inter-coder agreement. Three types of alterations were made. First, subjective criteria were removed, for example 'a healthy and secure connection' was removed from the subscale Affect of the Sensitivity dimension. Second, the scoring of some subscales was changed to make them more linear. For example, on the subscale Affect of the Sensitivity dimension the difference in behavioral descriptions between scores 6 (bland, neutral affect most of the time) and 7 (balanced, genuine, congruent, relaxed, low-keyed, gentle, soft spoken OR animated in appropriate ways, clear enjoyment of child) was much bigger than the differences between other scores on this subscale. We changed the descriptions so that score 6 refers to behavior that is similar as for score 7, but somewhat more neutral or less positive. Third, overlap between the dimensions was removed to improve their independence. For example, we dropped the criterion that a high score on Non-intrusiveness could only be given when the adult let the child lead

and followed the child, because this suggests both non-intrusiveness and sensitivity, whereas a very passive parent can be highly nonintrusive while not very sensitive.

Three Zambian coders were trained by an expert coder and coded the videotapes on the EAS dimensions, and the expert coder double-coded all of the videotapes. Coder reliabilities for the three Zambian coders with the expert coder were calculated using the mean intra class correlation coefficient (ICC absolute agreement). The ICC for Sensitivity was .67 (range .62 to .71), for Structuring .62 (range .50 to .70), and for Non-intrusiveness .51 (.23 - .70). If there was more than a 3-point difference between the Zambian coder and the expert coder on a rating, the videotape was discussed by the three coders and a consensus score was established. The final database consists of the scores provided by the Zambian coders, and for cases with discrepancies the consensus scores.

Grandmothers' socioeconomic characteristics. Grandmothers reported on background variables like age, ethnicity and number of children. Grandmothers' educational level was assessed on a 4-point scale from 0 to 3: (0) *None* ;(1) *Primary school*; (2) *Secondary school* ; and (3) *Tertiary education*. Annual income for the grandmother was categorized into four categories: (1) 0 – 2, 000 ; (2) 2, 001 – 5, 000; (3) 5, 001 – 8, 000 and (4) above 8, 000 (with 6.34 ZMK = 1USD). In addition to measuring educational level and income as indicators of participants' social-economic status, grandmothers also filled in the *Home Possessions Index* (HPI), which is an 11 item scale with questions that assess the availability of basic facilities/services in the household. The HPI has been shown to display a higher discriminant validity among low SES samples compared to middle and high SES samples and has been used in low-income samples in Zambia (ZDHS, 2013). Participants respond either 'yes' (1) or 'no' (0) to the items. An example of items on

the HPI include ‘*do you have a television in your home?*’ or ‘*do you have a stove in your home?*’. A total score was computed by summing item scores for all the items, except two (*do you have at least 2 sets of clothes; do you have at least a bed/mat to sleep on*) to which all participants responded to the affirmative. The Cronbach’s alpha for this scale for grandmothers was (Cronbach’s $\alpha = .63$).

Participation in and feelings about grandparenting. *Grandmaternal caregiving activities and associated affect* was assessed by having participants complete the grandparental-care checklist. The checklist asked participants whether or not they participated in a range of infant-caregiving activities which included *feeding, playing with, bathing, comforting, transporting, carrying the baby, toilet training, protection, setting limits and discipline* and how they *felt* in performing those activities. Grandmothers responded ‘yes’ or ‘no’ to indicate which activities they most active in and also rated their emotion positive negative or neutral. The ten items were used to create two scales Sum care scale (Cronbach’s alpha .64) and Sum affect scale (Cronbach’s alpha .74).

The cultural values of individualism and collectivism were assessed with a 16-item short version of the Cultural Value Scale (Singelis et al., 1995; Triandis & Gelfand, 1998), a questionnaire reflecting the dimensions collectivism versus individualism (See Appendix C). These dimensions emphasize a specific cultural orientation. Individualism emphasizes uniqueness and being distinct from the group and distinction in the hierarchy, in the form of status. Collectivism focuses on similarities and common goals with others and sacrificing personal goals for the group. The items were rated on a 7-point Likert scale ranging from strongly disagree (0) to strongly agree (6). Preliminary analyses revealed that some of the items on the scales affected the reliability of the scale. Therefore, a Principal Component Analysis

(PCA) was conducted and summed those items that loaded highly on the two dimensions which could be labeled collectivism and individualism. The final collectivism scale includes the following 5 items: I feel good when I cooperate with others; parents and children must stay together as much as possible; it is my duty to take care of my family, even when I have to sacrifice what I want; family members should always stick together, no matter what sacrifices are required; and it is important to me that I respect the decisions made by my groups. These items were standardized and summed, with Cronbach's alpha = .71. There were four items that were used in the final individualism scale and these included items: I'd rather depend on myself than others; I rely on myself most of the time; I rarely rely on others; I often do "my own thing"; and winning is everything. Cronbach's alpha for the Individualism scale was .60.

Religion in child rearing. To measure the extent to which participants used religion as a guide in child rearing (Emmen, et al., 2012). On a five-point scale participants rated their agreement or disagreement with four statements on a Likert scale ranging from (0) totally disagree to (4) totally agree. An example of an item in this scale is "My religion helps me to rear my grandchild". Cronbach's $\alpha = .80$ for grandmother.

Grandmothers' beliefs about sensitive parenting were measured with the Maternal Behavior Q-Sort (MBQS; Pederson, Moran, & Bento, 1999). The MBQS was originally designed to observe maternal sensitivity and has been used cross-culturally (Mesman et al, 2013). For a more comprehensive explanation regarding this measure please refer to phase 2 above.

3.5 Ethics

The study was conducted in accordance with ethical standards as approved by the University of Zambia, School of Humanities Research Ethics committee. The ethical approval number IBR 00006464 and IORG: 000376 respectively. Consent forms, approved by the School of Humanities Research Ethics committee were signed by participants prior to participation (See appendix E). Written and oral information about the study were given to the individuals before they agreed to participate, including the possibility to withdraw from the study without giving any reasons. Before a participant's inclusion, informed consent was obtained and confidentiality was guaranteed. In case of minor (infants) the consent forms were signed by their parents. For video observations, all the participants were informed prior to the study that interactions between grandmother and the infant were to be recorded. Participants were asked to provide consent and indicate that they understood and agree to be recorded. To ensure confidentiality and privacy, participant were also informed that only the research team will have access to the videos.

CHAPTER 4: RESULTS

The results are presented in three parts. First, results on Zambia & Netherlands comparison in terms of grandparental involvement in childcare are presented. Gender differences as well as predictors of grandparental involvement are presented. Second, results on maternal beliefs are presented. Associations between grandmaternal and maternal beliefs to examine intergenerational transmission are also presented. Finally, results on quality of care of grandmothers are presented

4.1 Preliminary analyses

Preliminary analysis of data involved examination for missing data, kurtosis, skewness and outliers. The examination of the ECR scales revealed skewness on the ECR anxiety scales. The scales were later log transformed. Further analyses also revealed outliers ($z > |3.29|$, $p = .001$, cf. Tabachnick & Fidell, 1996) on maternal MBQ sensitivity belief score (in total 3 cases), collectivism grandmaternal (2 cases), and maternal religion in parenting (2 cases). These values were winsorized to bring these values closer to the rest of the distribution within the relevant groups (Tabachnick & Fidell, 1996). Missing values were present on some of the predictor variables, and were replaced with the within-group means for income (5 cases), number of children grandmaternal and maternal (5 cases each missing values), grandmaternal and maternal age (5 cases each missing values), and religion in parenting (3 cases).

4.2 Results on grandparental involvement in childcare in the two country comparison

In order to find out the prevalence of grandparental involvement in childcare in the two countries, preliminary analysis were performed using grandparental care activities as a measure. All the participants reported that their grandparents had provided some kind of care to them when they were children. The care-giving activity performed included *playing, bathing, transporting baby, toilet training, protection from accidents, discipline and setting limits*.

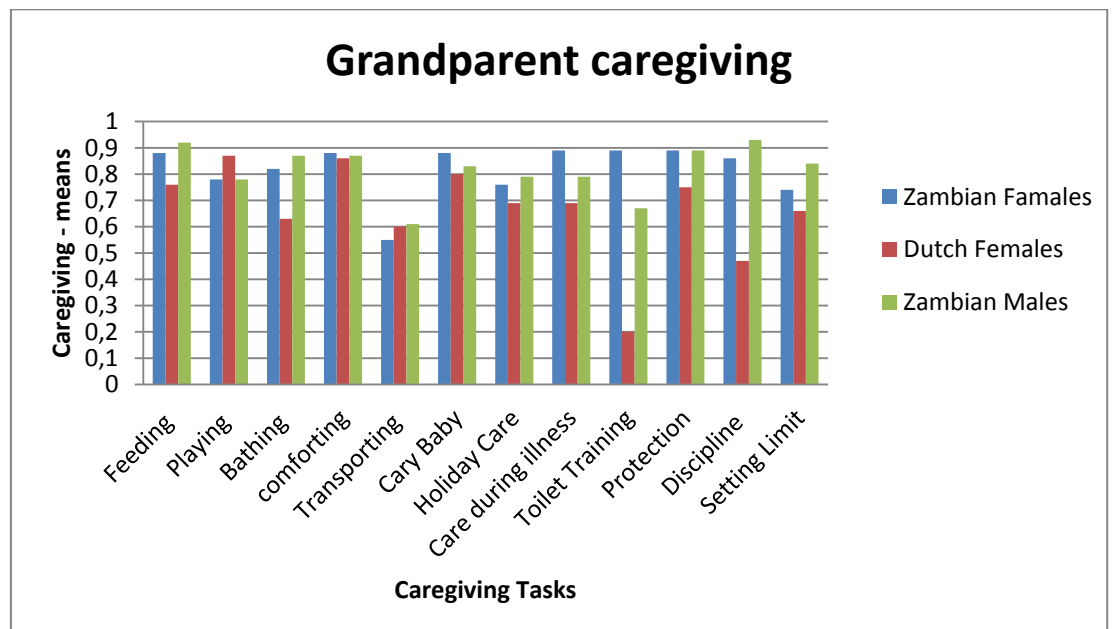


Figure 4-1: Comparisons of Dutch versus Zambia Samples on Grandparent Care in Specific Care Domains

To test the hypothesized differences between the two cultural samples, an independent samples t-test was performed comparing nationality and the sum score of care-giving activities between Zambian and Dutch grandparents. As predicted Zambian grandparents scored a much higher mean ($M = 9.69$; $SD=2.40$) compared to their Dutch counterparts ($M = 7.80$; $SD=3.31$). The results revealed statistically

significant differences between the Dutch and Zambian maternal grandparents in terms of total care-giving $t(6.20) = 278, p < .01$ (2-tailed.)

To test the differences between *gender* and grandparent sum caregiving, four groups of gender by nationality were created (*Zambian females, Zambian males, Dutch females and Dutch males*). However, the number of *Dutch males* ($n=14$) was too low to warrant comparison with other groups. Thus, only three groups were created for analysis (*Zambian females, Zambian males, Dutch females*). A one way ANOVA also revealed a statistically significant difference in sum caregiving provided by grandparents among the three groups $F(2,374) = 21,38, p < .01$. Tamhane's post-hoc test showed that Zambian grandparents seemed to perform significantly more caregiving than the Dutch grandparents in specific caregiving domains like *feeding, bathing, toilet training, holiday care, caring during illness, protection and limit setting*

Based on literature review, it was assumed that perhaps Zambian grandparents performed more tasks because some of the participant's parents were not alive at the time when they were growing up. So we controlled for parents being alive and tested if the differences could be a result of Zambian respondents having no parents (being orphaned). We tested the influence of parents being alive on sum caregiving by running a MANCOVA. When we controlled for the covariate there was no significant effect of the covariate on the amount of care provided by grandparents, *Wilks' $\lambda = .91, F(12,360) = 1.20; p = .28$* . The results suggest that grandparental involvement in childcare is not dictated by the presence or absence of the parents.

It was also hypothesized that perhaps the differences between the 3 groups could have been due to the fact that parents were working. The MANCOVA revealed

a non-significant main effect for parents working, $Wilks' \lambda = .91$, $F(12,360)=1.28$; $p = .23$. The covariate was not significant. However, the MANCOVA revealed a significant multivariate main effect of gender in the three groups, $Wilks' \lambda = .61$, $F(24,742) P < .01$ even after controlling for *parents being alive*. *Zambian grandparents* did generally more care giving compared to their Dutch counterparts. As can be noted from Table 4-1, *Zambian grandparents* did more of *feeding, bathing, holiday care, caring during illness, toilet training, protection and limit setting*. However, the Dutch grandparents did more in the specific domain of *playing* with their grandchildren compared to their *Zambian counterparts*. Interestingly, there were no significant differences on *comforting, transporting child and pushing baby/carrying baby* on the back.

Table 4-1: Summary descriptive statistics and MANCOVA statistics table showing grandparent caregiving activities

Activity	Zambian (Females)	Dutch (Females)	Zambian (Male)	MANCOVA		
	M (SD)	M (SD)	M (SD)	df	F	p
Feeding	.88 (.32) ^a	.76 (.43) ^b	.93 (.26) ^a	2,377	6.48**	<.01
Playing	.78 (.41) ^a	.88 (.33) ^b	.79 (.41) ^a	2,377	3.83**	.02
Bathing	.82 (.39) ^a	.63 (.48) ^b	.88 (.33) ^a	2,377	8.43**	<.01
Comforting	.88 (.33)	.86 (.35)	.86 (.35)	2,377	.34	.71
Transporting	.55 (.49)	.60 (.49)	.63 (.49)	2,377	.65	.52
Carrying baby	.87 (.38)	.82 (.43)	.85 (.46)	2,377	.49	.62
Holiday care	.76 (.43)	.69 (.46)	.81 (.40)	2,377	1.53	.22
Caring during illness	.89 (.31) ^a	.51 (.50) ^b	.93 (.26) ^a	2,377	39.66**	<.01
Toilet training	.60(.49) ^a	.19 (.39) ^b	.67 (.47) ^a	2,377	31.92**	<.01
Protection	.89(.31) ^a	.75 (.43) ^b	.89 (.31) ^a	2,377	5.98**	<.01
Discipline	.87(.33) ^a	.48 (.50) ^b	.93 (.26) ^a	2,377	29.60**	<.01
Setting Limits	.75(.44) ^a	.66 (.47) ^b	.85 (.36) ^c	2,377	3.13	.04

Note: ** $p < .01$; * $p < .05$; 372 < n < 394

To test the differences between 3 groups (*Zambian female, Zambian males, Dutch females*) on attachment to grandparent, a one way ANOVA was conducted. The results as evident in the Table 4-2, revealed significant differences between the

three groups on attachment. The three groups showed significant differences on the ECR Mother avoidance $F(2,385) = 13.44, p < .01$; ECR Father Avoidance $F(2,386) = 10.32, p < .01$, and the ECR Anxiety grandfather $F(2,371) = 3.77, p < .05$ respectively.

4.3 Comparisons Dutch versus Zambia Samples on attachment styles on the ECR Domains.

We conducted post hoc tests to see where the overall difference among the three groups was coming from. Post hoc tests showed no significant differences on ECR Father avoidance between Zambian males and Zambian females as shown in Table 4-2. However, there was a significant differences between Zambian females and Dutch females on ECR father avoidance $t(305) = 3.25, p < .01$. Similarly, on ECR mother avoidance, no significant difference was found between Zambian females and Dutch females. However, there was a significant difference between Zambian females and Zambian males $t(385) = -3.42, p < .01$. On the ECR anxiety scale for grandfather, post hoc

Table 4-2: ANOVA table showing the differences domains Anxiety and Avoidance to Parents and Grandparents on the ECR Scale

		Zambian Females		Dutch Females		Zambian Males		MANCOVA		
		M	(SD)	M	(SD)	M	(SD)	df	F	P
Mother	Avoidance	2.25 ^a	1.22	1.97 ^a	0.96	2.79 ^b	1.25	2,385	13.44**	<.01
	AnxietyLG	1.58	1.21	1.68	0.97	1.95	1.66	2,386	2.10	.18
Father	Avoidance	3.24 ^a	1.51	2.71 ^b	1.35	3.56 ^a	1.46	2,386	10.32**	<.01
	AnxietyLG	1.98 ^a	1.67	1.71 ^a	1.09	2.28 ^a	1.92	2,386	1.63	.20
Grandmother	Avoidance	3.55	1.57	3.30	1.19	3.25	1.36	2,392	1.76	.17
	AnxietyLG	1.95	1.27	1.69	0.80	1.87	1.35	2,391	.67	.51
Grandfather	Avoidance	3.91	1.45	3.85	1.37	3.66	1.37	2,370	0.80	.45
	AnxietyLG	2.29 ^a	1.54	1.97 ^a	1.02	2.69 ^b	1.72	2,371	3.77*	.02

Note: ** $p < .01$; * $p < .05$; 372 < n < 394; LG = log transformed variable

results revealed a significant difference between *Zambian males* and *Dutch females* $t(371) = -2.64, p < .01$.

Comparing *Zambian females* and *Dutch females*, means show that *Zambian students* generally reported higher levels of *avoidance* and *anxiety* on the ECR compared to their *Dutch peers* on seven domains of the ECR. However, post hoc results revealed that *Zambian males* generally recorded higher means on all the ECR domains compared to *Zambian females*.

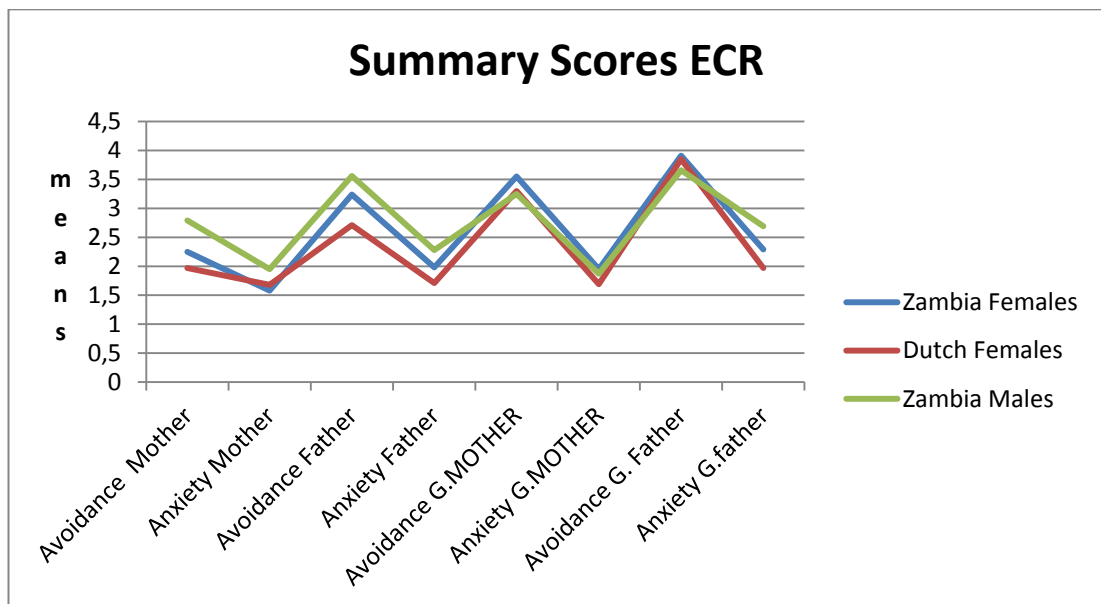


Figure 4-2: Graphic representation mean scores on the ECR-RS – Avoidance and Anxiety scales for the three gender by nation groups

As can be noted from Figure 4-2 above, On the ECR scale the *Dutch female sample* was lower on *avoidance mother*, *avoidance father*, *anxiety father*, *avoidance grand mother*, *anxiety grandmother* , *avoidance grandfather* and *anxiety grandfather*. In contrast the *Zambian females* were lower on the *mother anxiety* domain only.

A one way ANOVA was used to test differences among the 3 groups on the ECR Scale. The ANOVA model showed significant differences between the three groups on *mother avoidance*, *father avoidance* ,*father anxiety* and *grandfather anxiety*

domain of the ECR. However, there was no differences among the three groups on the mother anxiety, grandmother avoidance, grandmother anxiety and grandfather avoidance respectively. Comparisons between Zambian males and Zambian females showed that Zambian males scored higher on the 7 domains of the ECR Scale with the exception of the avoidance mother scale where the Zambian females score relatively higher.

4.4 Attachment and Caregiving

A hierarchical regression analysis was used to find out predictors of grandparental involvement in child care. In the first step of the hierarchical regression, two predictors *gender* and *SES* were entered. This model was statistically significant $F(2,339) = 3.93, p < .05$ and accounted for $R^2 = 2.3\%$ of the variation in sum caregiving. Gender contributed significantly to the regression model. After entry of background variables *nationality*, *family size*, *number of grandparents* and *parents working* in the second model the total variance in sum caregiving among grandparents predicted was 10.8%. The introduction of *nationality*, *family size* and *number of grandparents* explained an additional 8.5% of the variation and the change in $F(6,335) = 6.77, p < .01$. In the final model, only three predictors (*nationality*, *ECR grandmother avoidance* and *ECR grandfather avoidance*) out of the 13 were statistically significant, as shown in Table 4-3. The addition of the ECR scales explained an additional 13.4% of the variation and this change in R^2 square was significant at $F(14,327) = 7.79, p < .01$. Together the 14 independent variables accounted for 25% of the variation in sum caregiving with nationality recording a high beta value ($\beta = -.36$) followed by ECR grandmother avoidance ($\beta = -.31$) and ECR grandfather avoidance ($\beta = -.13$). Consistent with our second hypothesis

increased grandparental involvement in childcare was associated with more child attachment security.

Table 4-3: Hierarchical Regression predicting grandparent caregiving with various background variables and ECR scales

Variables	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Gender	1.06	.40	.14*	.58	.40	.08	.34	.38	.05
SES	.30	.21	.07	.17	.21	.05	.18	.20	.05
Nationality				-1.85	.34	-.32**	-2.09	.32	-.36**
Family Size				-.01	.08	-.00	-.03	.08	-.02
Number of Grandparents				.26	.18	.08	.18	.17	.05
Parents Working				.18	.30	.03	.50	.29	.10
ECR Avoidance (M)							-.01	.15	-.00
ECR AnxietyLG (M)							.86	.82	.07
ECR Avoidance (F)							.13	.12	.07
ECR AnxietyLG (F)							-.60	.75	-.05
ECR Avoidance (GM)							-.64	.13	-.31**
ECR AnxietyLG (GM)							-.58	.80	-.04
ECR Avoidance (GF)							-.27	.12	-.13*
ECR AnxietyLG (GF)							-.03	.73	-.00
R ²		.023			.108*			.250**	
		*			*				
ΔR^2		.023			.086			.142	
F for change R ²		3.92			8.031			7.731	

Note: * $p < .05$; ** $p < .01$. β = standardized regression coefficient. SES = Socio-economic Status; LG = log transformed variable; M = Mother; F = Father; GM = Grandmother; GF = Grandfather

4.5 Grandmaternal and maternal ideal beliefs about sensitive parenting

The purpose of the second study was to examine grandmaternal and maternal ideal beliefs on sensitive parenting. In order to examine this, paired sample t-tests were performed to assess mean-level differences between grandmaternal and maternal demographic and socioeconomic characteristics, as well as cultural values and maternal sensitivity beliefs. Results showed significant differences in the two groups on educational level $t(67) = -6.05$, $p < .01$ (mothers higher than grandmothers), number of children $t(67) = -10.40$, $p < .01$ (mothers lower than grandmothers). No significant differences were found between grandmothers' and mothers' regarding collectivism, *individualism*, and *religion* in child rearing and *maternal sensitivity*, as shown in Table 4-4.

Table 4-4: Descriptive statistics for all grandmother and mother variables used in analyses

Values and Parenting Beliefs for Grandmothers and Mothers (*N*= 68)

	Grandmothers		Mothers		GM vs M
	M	(SD)	M	(SD)	
Education level	1.10	(.60)	1.63	(.60)	GM < M**
Income	5.15	(4.79)	9.00	(21.79)	GM = M
HPI	5.60	(1.76)	5.80	(1.87)	GM = M
Number of children	6.60	(2.10)	3.40	(1.52)	GM > M**
Religion in childrearing	14.75	(1.67)	14.18	(2.37)	GM = M
Collectivism	27.56	2.50	27.42	(2.08)	GM = M
Individualism	18.44	4.34	17.43	(4.3)	GM =M
Sensitivity beliefs	.53	(.10)	.56	(.11)	GM = M

Note: * $p < .05$; ** $p < .01$. Income in Zambian Kwacha (ZMK ,000) [6.34 ZMK = 1USD]

In order to examine maternal and grandmaternal predictors of mothers sensitivity beliefs a multiple regression analysis was conducted. . Further, each of the EA scales were significantly interrelated: sensitivity with structuring, $r(46) = .76, p < .01$, sensitivity with nonintrusiveness, $r(46) = .30, p < .05$, and structuring with nonintrusiveness, $r(46) = .34, p < .05$. Table 4-5 shows the maternal and grandmaternal correlates of maternal sensitivity beliefs.

Table 4-5: Maternal and grandmaternal predictors of Mothers' Sensitivity Beliefs

	Maternal sensitivity beliefs	
<i>Block 1: Maternal predictors</i>	(<i>r</i>)	β
Maternal education	.11	.19
Maternal income	.07	-.00
Maternal HPI	.04	-.17
Number children	.02	.14
<i>Block 2: Grandmaternal predictors</i>	(<i>r</i>)	β
Grandmothers' Education	.13	.15
Grandmothers' income	-.08	-.07
Grandmothers' HPI	.23+	.32*
Grandmothers' Number children	-.36**	-.43**
Grandmaternal Sensitivity beliefs	.01	-.46**
<i>Block 3:</i>		
Criterion_C_GM_CenteredMBQS*GM'	_	-.59**
Education LH		-.61*
		$R^2 = .30^*$

Note: + = $p < .10$, * $p < .05$; ** $p < .01$.

In order to test the two hypotheses that grandmothers and mothers view the ideal mother as a sensitive mother and that favorable socio-economic characteristics predict maternal parenting beliefs, a hierarchical linear regression was conducted to investigate the independent contribution of the predictors of maternal sensitivity beliefs. For this analysis, three blocks of independent variables were entered into the equation as predictors of maternal sensitivity beliefs. In block one, none of the maternal variables were significantly related to maternal sensitivity beliefs. A higher number of grandmothers' children (i.e., mother and her siblings) was related to lower

levels of maternal sensitivity beliefs in block 2. Further, there was a non-significant trend of higher grandmaternal HPI scores relating to higher maternal sensitivity beliefs. The final model was statistically significant and accounted for 30% of the variation. Grandmother HPI ($\beta = -.42, p < .05$) and number of children ($\beta = .31, p < .05$) contributed significantly to the prediction of maternal sensitivity beliefs.

Surprisingly, there was no significant relations between maternal sensitivity and grandmaternal sensitivity beliefs. However, dividing the sample into groups based on maternal educational level showed that maternal and grandmaternal sensitivity beliefs were significantly related in the lower-educated group with no or only primary education, $r(28) = .50, p = .01$, but not the higher educated group with secondary or tertiary education, $r(45) = -.16, p = .29$. To formally test moderation, a multiple linear regression model was conducted with grandmaternal sensitivity beliefs and maternal education as main effects in the first block and their interaction (multiplication of centered main effects) in the second block, predicting maternal sensitivity beliefs. The model showed a significant interaction between maternal education and grandmaternal sensitivity beliefs ($\beta = .59, p < .05$). Figure 4-3 illustrates this interaction effect.

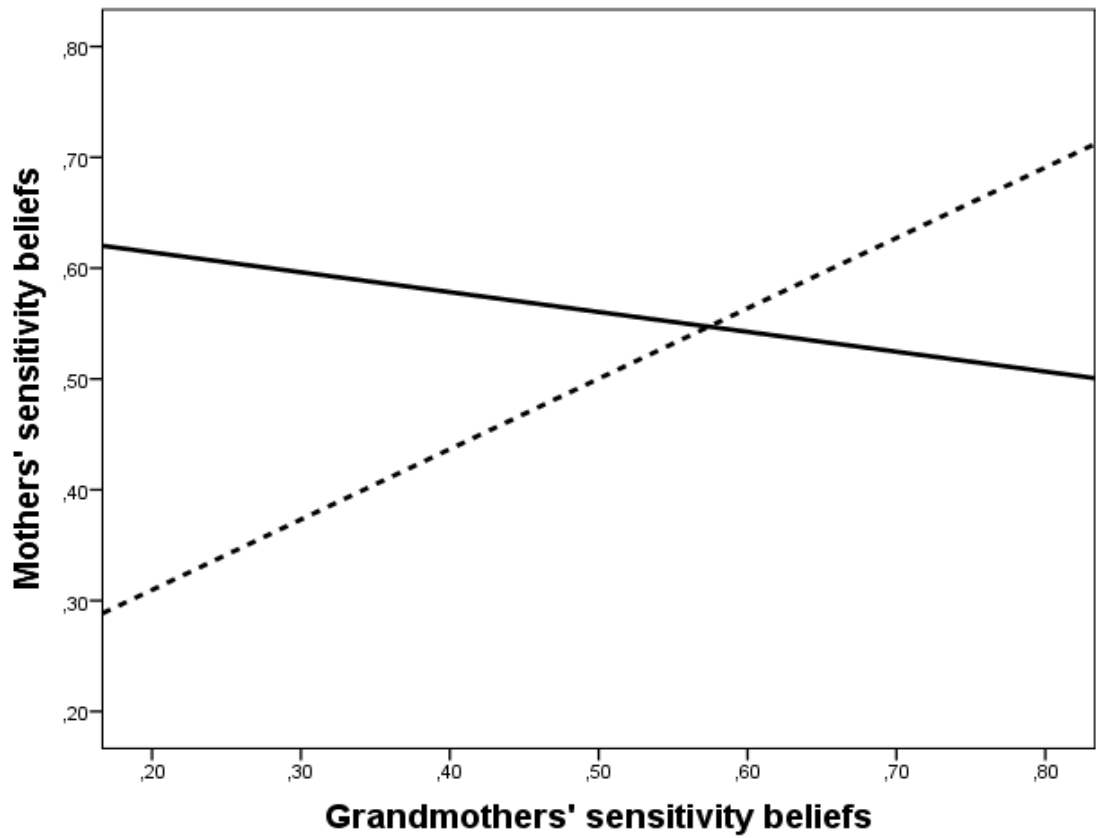


Figure 4-3: The Relation between Grandmothers' and Mothers' Sensitivity Beliefs is Moderated by Maternal Educational Level.

4.6 Grandparent Care Activities

In order to examine grandparental care activities, simple descriptive statistics were conducted. The child care activities performed by almost all grandparents included *playing, feeding, dressing, toilet training, disciplining, protection from accidents* and *comforting* their grandchild when distressed. However, 97.6% of the grandparents reported *bathing* their grandchild; 95.2% reported *carrying their grandchild on their back*; 97.6 % reported that they provide *care during illness* while 78.9% reported *setting limits* respectively. Further descriptive analysis was conducted to determine which of grandparents was mostly involved in their care. Out of the 80 mothers, 55 (68.8%) reported that maternal grandparents were most involved in childcare while 3 (3.8%) reported that paternal grandparents were the mostly involved. Six (7.5%) reported that both maternal and paternal grandparents were involved in childcare. On the question frequency of contact between grandparents and their grandchildren 64 (80%) of the mothers reported their children had more than four times in a month contact with their grandparents.

4.7 Predicting the Quality of Zambian Grandmothers' Interactions with their Grandchildren

In order to ascertain the validity of the EA scales , correlations were computed for the EA scales with each other. As expected each of the EA scales were significantly interrelated: sensitivity with structuring, $r(46) = .76, p < .01$, sensitivity with non-intrusiveness, $r(46) = .30, p < .05$, and structuring with non-intrusiveness, $r(46) = .34, p < .05$.

Table 4-6: Descriptive Statistics showing demographic Study Variables

	M	(SD)	Range
Age	54.23	(8.66)	40-80
Number of children	6.89	(2.30)	2-13
Income (4-point scale)	5.60	(5.50)	0.2-28.8
Education	1.14	(0.60)	0-2
Home Possessions Index	5.70	(1.82)	2-10
Involvement in childcare	5.70	(1.82)	1-3
Positive feelings about childcare	8.46	(9.96)	1-3
Collectivist cultural values	27.35	(2.36)	21-30
Individualistic cultural values	18.00	(4.40)	9-24
Religion in childrearing	14.74	(1.54)	11-16
Sensitivity beliefs	0.56	(0.10)	.26-.71
Observed sensitivity	20.46	(4.00)	11-28
Observed structuring	19.33	(5.21)	8-29
Observed Nonintrusiveness	16.33	(5.61)	8-27

Note: * $p < .05$; ** $p < .01$. Income in Zambian Kwacha (ZMK ,000)

Table 4-6 shows the bivariate correlations between predictors and the three grandmaternal EA scales (sensitivity, structuring, and non-intrusiveness). More sensitive grandmaternal behaviors towards the grandchild was significantly and positively related to number of children and positive feelings about their tasks as a grandparent. Further, more sensitive grandparenting was related to grandmaternal beliefs about the ideal mother that converged less with the notion of a sensitive mother. Non-intrusiveness was only significantly correlated with individualistic

values: less individualism was associated with more non-intrusiveness. None of the predictor variables were significantly related to grandmaternal structuring, as shown in Table 4-7.

Table 4-7: Bivariate Correlations of Demographic, Socioeconomic, Cultural Predictors of the Quality with Grandmothers' Interactions with their Grandchildren

	Sensitivity	Structuring	Non- intrusiveness
	<i>r</i>	<i>r</i>	<i>r</i>
Age	.14	.06	-.12
Number of children	-.31*	-.15	-.10
Income	-.08	-.07	.13
Education	-.15	.10	.07
Home Possessions Index	-.13	-.08	-.06
Involvement in childcare	.13	-.10	-.18
Positive feelings about childcare	.33*	.07	.07
Collectivist cultural values	.13	-.01	.16
Individualistic cultural values	-.00	-.01	-.36
Religion in childrearing	.06	-.04	-.13
Sensitivity beliefs	-.32*	..26	-.17

Note: * $p < .05$; ** $p < .01$. $N = 41 - 44$.

To examine whether the significant bivariate correlations would survive a multivariate test we conducted regression analyses with backward elimination of variables. Backward regression starts with inclusion of all variables in the equation

and successively removes non-significant predictors from the equation. The advantage above stepwise or forward regression is that a sub-set of variables might be significant whereas individual variables remain below threshold. The multiple regression on EAS sensitivity resulted in a significant overall equation, $F(3, 37) = 6.13, p < .01, R^2 = .28$. Three predictors survived the backward elimination procedure, supporting the bivariate analysis. Significant beta weights were found for grandmother's number of children ($\beta = -.32, p < .05$), their positive feelings about grandparenting ($\beta = .34, p < .05$), and the extent to which grandmaternal beliefs about the ideal mother converge with the notion of the sensitive mother ($\beta = -.39, p < .01$). The final model of the multiple regression for non-intrusiveness was also significant, $F(1, 39) = 5.89, p < .05, R^2 = .11$. Only individualism remained as a significant predictor ($\beta = -.36, p < .05$). For structuring none of the variables entered were significant predictors in the multivariate selection procedure.

CHAPTER 5: DISCUSSION

The current study had three major aims: The thesis investigated prevalence and predictors of grandparental involvement, predictors of intergenerational transmission of parenting and quality of childcare by grandparents in Zambia. The first wave of the study examined the prevalence and cross-cultural variations of grandparent involvement in childcare in Zambia and the Netherlands. As predicted, Zambian grandparents provide more care for their grandchildren compared to their Dutch counterparts. The results also showed that social variables (parental employment, presence of parents, social economic status) did not predict grandparent involvement in child care in either country. Similarly, family size was also found not associated with grandparent involvement in child care. Lastly, this study revealed that attachment was a predictor of grandparent involvement in childcare. Avoidance to grandmother was associated with less grandparental care as reported by the participants and the same was true for feelings of avoidance to the grandfather.

The second wave of the study investigated the intergenerational transmission and predictors of parenting beliefs in Zambia. Contrary to our hypothesis, the current study did not reveal a significant relation between grandmothers' and mothers' beliefs about sensitive parenting. However, the intergenerational relation between sensitivity beliefs was moderated by maternal educational level, revealing a strong positive association between grandmaternal and maternal sensitivity beliefs only in the mothers with a lower educational level.

The third phase of the study investigated predictors of the quality of grandmother-grandchild interactions in Zambia. The findings revealed that grandmothers with more children and those who enjoyed the grandparenting tasks

more also showed more sensitive interactions with their grandchildren. Unexpectedly, parenting beliefs favoring sensitive parenting predicted lower observed sensitivity in grandmothers. Further, grandmothers with a more individualistic cultural orientation were more intrusive towards their grandchildren. The study did not find any significant predictors of grandmaternal structuring. In the current chapter, these findings and their theoretical and practical implications are discussed, and limitations of the studies and suggestions for future research are addressed.

5.1 Prevalence of Grandparenting

Clearly, from the results above, grandparenting was prominent in both Zambia and the Netherlands. . Grandparents may play an important role in childcare regardless of country or cultural background. As evident from the results, grandparents provided care in several important child care domains such as playing, bathing, feeding, protection, toilet training, being carried, transporting, discipline and limit setting respectively. In addition, these findings clearly attest to the fact that grandparenting is neither a western phenomenon nor an African phenomenon but a universal phenomenon. Secondly, this consolidates the findings in other studies that grandparenting is very prevalent (Fergusson et al., 2008; Mahne & Klingebiel, 2011; Tan et al., 2010). The results of this study also support evolutionary grandmother hypothesis (Hawkes, O'Connell & Blurton Jones, 1997) on the importance of kin support and the role of grandparents in childcare.

However, although grandparenting was found to be a common feature in both countries, this study also confirmed differences in the type of activities performed between Zambian grandparents and Dutch grandparents. There were significant

differences between the two nationalities in grandparental involvement in childcare with Zambian grandparents generally performing more care than their Dutch counterparts. As can be noted from the results above, Zambian grandparents did more of feeding, bathing, holiday care, caring during illness, toilet training, protection and limit setting. In contrast, the Dutch grandparents did more in the specific domain of playing with their grandchildren compared to their Zambian counterparts. These findings highlight the variations between the two countries. Similarities were also noted, as there were no significant differences in comforting, transporting the baby and pushing or carrying the baby. This finding provides clear evidence that grandparenting supplements the parenting in both countries. They are consistent with previous research that found that grandparents play an important part in childcare. These results also challenge the findings of Strassman (2011) that grandparents are inimical to the development of the grandchild. Clearly, the Strassman finding limits the debate on grandparenting to a struggle for very scarce resources in extreme poverty but is unable to explain why grandparenting is visible in high- and low-resource settings and in the face of resource availability as well as scarcity. It could well be that there are many sociocultural underpinnings beyond material resources that account for grandparental presence in childcare. Social cultural variables such as sense of family, cultural patterns and beliefs on child rearing may also account for grandparental involvement in childcare.

Based on the literature, it was assumed that perhaps Zambian grandparents performed more tasks because many of the children may have been orphans at the time when they were growing up. So we controlled for parents being alive and tested if these differences could be because in the Zambian sample most participants may have to care for orphans. However, even after controlling for this, it was found that

Zambian grandparents did generally more caregiving than their Dutch counterparts. The finding that Zambian grandparents performed more tasks in specific domains such as holidays is consistent with the Zambian cultural attitudes that promote participation of grandparents in child care. As noted by Falola (2004, p.292) “Zambian parents pressurize their children to visit their grandparents hence this helps maintain important connections to Zambian traditions, local language, culture and family heritage”.

Evidence from the literature also shows that social variables such as parental employment, SES and parent presence are associated with grandparenting. In line with this understanding, this study examined whether social variables were associated with grandparenting. However, social variables were found not to be significant predictors of grandparenting. Thus, it was concluded based on the findings, that it could perhaps be the case that it did not matter whether the parents were working or alive or the SES of the family for grandparents to provide childcare. This finding is important because it attests to the fact that grandparenting is not always predicted by a scarce resources (SES), crisis or a challenge such as death of a parent as alluded to in the literature. These findings also show that socioeconomic status and demographic factors do not play a role in influencing grandparental involvement in childcare. The fact that SES was not a significant predictive of grandparenting could point to the fact that perhaps grandparenting knows no economic stratum. It permeates social economic hierarchy and knows no context- both resourceful and resource deprived contexts benefit from grandparenting. Clearly, in our study the Netherlands can be assumed to be a rich context considering that it has child care facilities but yet grandparenting is prevalent as evident in our findings. Nevertheless, from this study it remains difficult to imply a cause- effect

relationship between grandparenting and social variables. It might well be that other social factors than parental working, parental absence or SES dictate grandparent involvement in child care.

These results also point to the complementary nature of grandparenting. It reminds us that grandparenting does not substitute parental parenting but is rather an adjunct to it. Unfortunately, most of available literature on grandparenting in Africa ignores the complementarity of grandparent care. Most of the studies concentrate more on grandparent headed households where a grandparent is the head of the household in absence of a parent either through incarceration or death as is the case in HIV and AIDS research in Africa where grandparents take up or replace the parent due to death or sickness.

In this study, it was also hypothesized that increased grandparental involvement in child care is associated with child attachment security to their grandparent. In order to examine this we tested the association of different attachment dimensions on grandparenting. We examined gender, SES, parents being alive, nationality, parental employment and attachment as predictors for grandparent care. The study found that besides nationality only attachment avoidance grandmother and attachment avoidance grandfather were significant. Thus, attachment was found to be a predictor of grandparent care. This means that the more avoidance to grandmother the less care the participants reported to have received and the same was true for the grandfather. It appears based on this finding that avoidant individuals may feel uncomfortable about being close to their grandparent and on receiving care from them. Thus, it can be concluded that attachment avoidance to grandparents is associated with the amount of grandparenting. However, less

caregiving might also lead to more avoidance, or to the report of more avoidance. Additional investigations on attachment patterns of grandchildren to their grandmother are needed, preferably with independent assessment of attachment and grandparental caregiving.

Another important finding is the impact of nationality as a predictor of grandparenting. Even after controlling for parents being alive, SES and family constellation, nationality still emerged as a strong predictor of grandparenting. Thus, this finding might point at cross-cultural differences between the two countries. There is something about culture that could actually account for the systematic differences in grandparenting observed between Zambia and the Netherlands. Thus since we are not sure exactly what is within the Zambian culture that is not in the Dutch culture which can account for this difference, we can only speculate that the strong extended family ties in Zambian culture might be responsible for the differences observed between the two countries. In Zambia the extended family is very strong hence it is not uncommon for families to ask grandparents to help in the care of grandchildren whereas in the Netherlands the nuclear family is important. However, future research is needed to see what cultural variables may account for the differences between the two countries.

5.2 Maternal beliefs and predictors of intergenerational transmission

Research on intergenerational continuity of parenting has shown that parents tend to use similar parenting of their parents (Van IJzendoorn, 1992). What we know from existing research on parenting is grounded in cultural patterns and beliefs. These cultural patterns and beliefs are transmitted through generations (Chen& Kaplan, 2001) and acquired by learning, imitating, other form of interaction

(Klarin, Proroković & Šimunić , 2014), observations and participation. In exploring intergenerational transmission between mothers and grandmothers, the study found no relations between maternal sensitivity and grandmaternal sensitivity beliefs contrary to our prediction of a match. A possible reason for not finding a match between mothers' and grandmothers' ideals may reflect the differences in roles of mothers and grandmothers. Culturally, grandparents are advisors (Wood & Robertson, 1976), storytellers (Jimenez, 2002), caregivers and nurtures (Barnett, 2008). This culturally embedded expectation on the part of grandmothers may provide some insights into how they view the role versus parents which in a way can account for the observed absence of a relation in terms ideals.

The finding that intergenerational transmission of parenting beliefs was only present in mothers with a low educational level adds to previous reports on the link between education and intergeneration transmission (Scourfield et al., 2012). This finding suggests that mothers with a lower educational level depend more on their mothers in their parenting ideas than mothers with higher educational levels. Lower educational levels tend to be associated with conservatism, which relates to more contact with and deference to the older generation as role models, which in turn could explain the strong intergenerational transmission of parenting beliefs in this group. Conversely, higher educated individuals have bigger networks and more sources of information to get their ideas from hence rely less on their mothers as sources of parenting ideas and therefore less intergenerational transmission. In addition, higher educated individuals may have less contact with the older generation, or at least see them less as role models. Further, grandmothers may feel less motivated or even less welcome to transmit their parenting values to daughters who are clearly leading a different lifestyle than they themselves led when they were

active parents. This finding supports literature assertions that mothers with higher education were more likely to change their ideals.

In line with the literature, we argued that home possessions and number of children on the part of grandmother were strong predictors of ideal maternal parenting beliefs. Mothers' description of the ideal parent were closer to criterion descriptions of the sensitive mother when she had fewer siblings and when her mother had a higher socio-economic status in terms of material home possessions and facilities. This finding shows that material possessions and number of siblings are important determinants of intergenerational transmission of ideal parenting beliefs. Our results also reveal that the daughters of grandmothers with more material possessions and facilities had beliefs about ideal parenting that were closer to the notion of sensitive parenting than daughters of grandmothers with fewer material resources. We can speculate from this finding that less material resources imply higher stress levels on grandmothers which is related to decreased transmission and less ideal maternal beliefs. Further, another proxy for stressful rearing circumstances is number of siblings. Our findings indicate that a higher number of siblings is not only related to less intergenerational transmission but is also indicative of less sensitivity parenting beliefs. This finding is consistent with studies that found that large family size is associated with low emotional support (Euser, Van IJzendoorn, Prinzie, & Bakermans-Kranenburg, 2009). The negative relationship for the number of children substantiates the hypothesis that the higher the number of children for grandmother, the lower is the transmission of beliefs hence the bigger the differences between grandmothers and mothers. The fact that mothers' sensitivity beliefs are predicted by grandmother characteristics says something about the potential stressfulness of their mother's home environment. Perhaps this finding points to the

fact that the higher the number of children grandmothers experienced higher stress levels and showed lower maternal sensitivity beliefs than mothers.

The study also investigated the involvement of both paternal and maternal in childcare. We found that maternal grandparents are more involved grandparents in childcare compared to paternal grandparents. This finding suggests that care of children in Zambia follows the matrilineal line, mostly undertaken by maternal grandparents. This is consistent with previous studies that maternal grandparents were more likely to provide care than paternal grandparents. This finding is also supports evolutionary theory which argues that maternal grandparents are mostly involved in childcare. However, this finding is contrary to the finding in Northern Malawi where paternal grandparents have a more powerful role in childcare.

5.3 Quality of childcare by grandparents in Zambia

Our fifth hypothesis that the quality of grandmother-grandchild interactions would be higher when grandmothers had a higher socio-economic status and fewer children was only supported for the latter predictor, and only in relation to sensitivity. This finding indicates that grandmothers who had many children showed less sensitivity in response to the needs of their grandchild during free play, whereas those with fewer children were generally more responsive to their grandchildren's signals and needs during free play. We speculate that the number of children is a proxy measure for grandmothers' past and potentially also current stress levels. There is evidence that larger family size is related to more stress in parents, and in a cultural context in which grandmaternal care is common, having more children potentially also means more (grand)parental responsibilities when all the children are adults. The Family Stress Model focuses on caregiver stress due to economic strains

(Conger et al., 1992; Conger & Donellan, 2007), but it could be that having more children (and potentially more grandchildren to take care of) is also a strain on an individual's resources, both material and psychological, that may in turn adversely influence their ability to show positive caregiving.

Contrary to our fifth hypothesis, grandmothers' socio-economic circumstances in terms of educational level, income, and home possessions was not related to the quality of their interactions with their grandchildren. This may be due in part to low variability, at least in educational level, with the majority of grandmothers having completed either no education, or only primary education. Further, in Zambia educational level is not necessarily an indicator of socio-economic status, especially not in the older generation, whose educational careers were influenced by need for human resources and not educational level.

Our hypothesis that the quality of grandmothers' interactions with their grandchildren would be predicted by their cultural orientation was only confirmed for non-intrusiveness, and in the opposite direction. The findings show that individualism was negatively related to non-intrusiveness, implying that less individualism was associated with more non-intrusiveness. Thus grandmothers who scored high on individualism tended to overwhelm their grandchild by either interrupting the child's initiative or failing to give the grandchild space to explore or they provided excessive stimulation while grandparents who were high on individualism tended to give the child space to play and provided balanced stimulation. Perhaps these finding points maybe to individualism in this sample related to (individual) achievement orientation. It could well be that maybe these grandmothers want their grandchildren to perform' and are therefore intrusive to make that happen.

Our seventh hypothesis that the quality of grandmothers' interactions with their grandchildren would be predicted by more favorable attitudes towards sensitive parenting and more enjoyment of their grandmaternal tasks was partly confirmed. Grandmothers who enjoyed their task more showed sensitivity towards their grandchild during the play sessions than those grandmothers who did not enjoy their task. Contrary to the seventh hypothesis, grandmothers' more favorable attitudes towards sensitivity predicted *lower* sensitivity in interactions with their grandchildren. The relation between sensitivity beliefs and sensitive behaviors was such that grandmothers who scored highly on sensitivity beliefs showed lower levels of actual sensitivity in their interactions with their grandchildren. Ideally, we would expect grandmaternal who scored highly on sensitivity beliefs to show higher levels of actual sensitivity in their interactions. Previous research on the link between attitudes and behaviors has shown contradictory results. A weak relationship has been found between attitudes and behaviors in parenting in most of the studies (Dagget, O'Brien, Zanolli, & Peyton, 2000; Kiang et al., 2004). In contrast, Van Zeijl et al., 2006 found no relationship between attitudes and behavior. Surprisingly our study showed attitude- behavior gap among grandmothers whose description of the ideal mother were closer to criterion descriptions of the sensitive mother were negatively related to observed sensitivity during play. Meaning that those grandmothers whose beliefs were closer to criterion descriptions of the sensitive mother showed less sensitivity during play. A possible reason for this finding could be that sensitivity beliefs and behaviors are two different constructs. Beliefs are based on thought while behaviors are based practice thus, in reality though grandmothers understand who a sensitive ideal parent is, behaviorally it was difficult

to behave sensitively considering that parenting is difficult to self-monitor. Secondly, the sensitivity beliefs measure asks about the ideal mother, not the ideal grandmother. It is possible that grandmothers believe that mothers and grandmothers have different roles in children's lives, and that their attitudes about sensitive mothering does not map onto their attitudes about sensitive grandmothering. Relatedly, when sorting the Q-set grandmothers may also have thought back to when they themselves were active parents with young children, which would be a very different experience from their current situations as grandparents.

Contrary to our expectations, we found no predictors of structuring, which may be attributed to the fact that this study we used a free play activity rather than a more structured task like a puzzle or problem-solving activity. This, teaching and guidance were not necessarily required or part of the observed interactions, which may have hampered the appraisal of grandmothers' abilities to structure their grandchildren's activities.

5.4 Limitations and future directions

Despite the interesting patterns and insights regarding grandparenting, maternal beliefs and quality of grandparental childcare, some limitations of this study should be noted. The first is that in order to examine cross-cultural differences in grandparental childcare, the study used undergraduate students drawn from one university in each country. Thus, the findings of the study might not be generalizable to all individuals or even to all same-age peers. However, in order to find out the prevalence and cross cultural variations in grandparenting we felt that college students were most comparable across countries. It should be noted also that many cross cultural studies have compared low status rural African communities with

urban middle class populations from the Western world. Thus, to avoid this pitfall evident in previous research we felt that the student samples were a better choice.

Secondly, the study on quality of grandparental care is limited by a relatively small sample size, which may have decreased statistical power to detect significant predictors of caregiving quality. In addition, the sample was drawn from an urban densely populated low social economic setting, thereby limiting the generalizability of the study findings to the general population particularly to grandmothers-grandchild dyads from the middle and higher socio-economic bracket. Thus, further research is warranted to determine if these findings from a sample of 46 grandmaternal-grandchild dyads would be present within a larger sample. Also, replication with larger samples drawn from a wide array of socio-economic brackets and contexts is needed to ascertain the quality of care and maternal sensitivity of grandparents. It should be noted however, considering the inclusion criteria for this study, that our sampling method was the best suited to ensure that only mothers of mothers (grandmother) and mothers with infants were included in the study. As a result only lower SES group met our criteria on account that the majority grandmothers and mothers within this socio-economic bracket live within the same neighborhood or within reasonable distances of 40km if they lived in a different locality. Further, this study only measured the current socio-economic status and parenting beliefs of grandmothers, which do not map onto their status and beliefs when they themselves were active mothers and their daughters were children growing up. Especially parenting beliefs may change over time when women move from a mother role into a grandmother role with fewer primary responsibilities in caregiving. However, there is reason to believe that the socio-economic

characteristics of the grandmothers would not change so much in the span between being an active parent and being a grandparent within this sample.

Thirdly, though the MBQS measure has been used cross-culturally to measure ideal parenting beliefs of sensitive mothering, there is a question of whether MBQS can clearly tap into grandparental beliefs and does it contain all relevant items for different cultures? In this study, this was never tested thus this is still a big question. As observed in the discussion, the sensitivity beliefs measure asks about the ideal mother, not the ideal grandmother. Perhaps future research should validate the MBQS by doing more studies with grandparents in different cultures and with items specifically addressing grandparental roles and tasks.

Lastly, more proximal predictors of caregiving quality in grandmothers may be important to investigate in the future, such as grandmothers' daily stress levels, the quality of their relationship with the grandchild's parents, and the extent of her responsibilities towards potential other grandchildren. Such factors may help us to understand more about individual variations in the quality of grandmothers' caregiving patterns and ultimately her potential influence on children's development. Figure 5-1 is a flow chart detailing the study's findings.

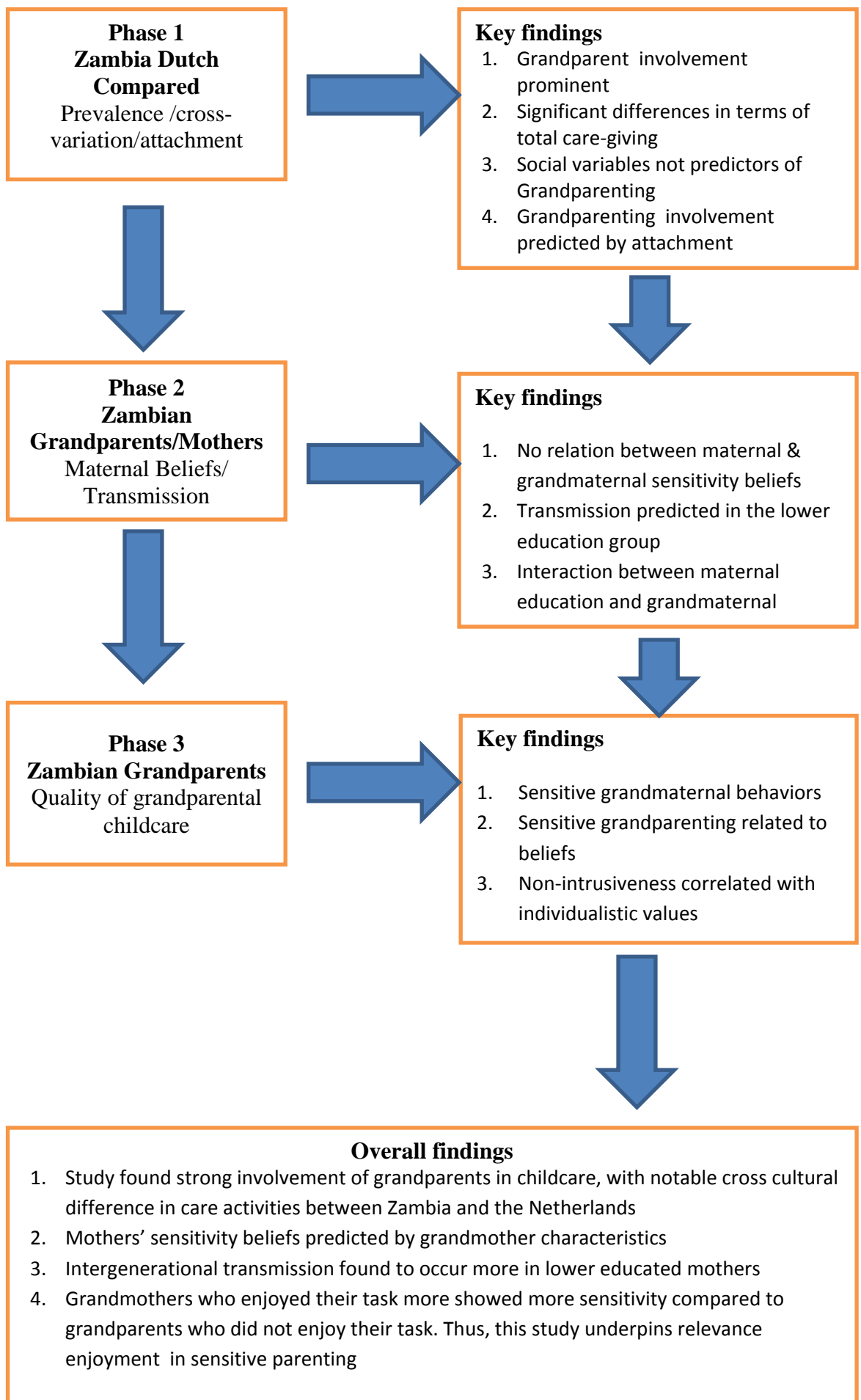


Figure 5-1: Flow chart detailing the study findings

CHAPTER 6: FINDINGS, CONTRIBUTIONS, RECOMMENDATIONS & CONCLUSION

The main objective of this thesis was to investigate the prevalence and predictors of grandparental involvement in childcare, predictors of intergenerational transmission and quality of childcare by grandparents in Zambia. There have been many grandparent focused investigations that have examined grandparental involvement in childcare, fewer studies have attempted to examine grandparental involvement in complementary childcare, sensitivity parenting beliefs, intergenerational transmission of parenting and quality of childcare among African grandparents. Furthermore, most of the studies have concentrated more on grandparental involvement in childcare in the era of the HIV and AIDS pandemic thus the findings of these studies give an impression that grandparenting is only prevalent in a crisis situation. Therefore, in line with the three main objectives this study presents the following findings, contributions, recommendations and conclusion.

6.1 Grandparenting research findings

6.1.1 Prevalence of grandparenting

This study makes a number of important contributions to our understanding of the prevalence and cross cultural variations of grandparenting between Zambia and the Netherlands. First of all, this study addresses a number of limitations of previous studies in the area of grandparenting by focusing on complementarity of grandparent childcare rather than on replacement as is the case with many studies carried out so far. Secondly, this study bridges the gap in grandparent research by bringing out caregiving tasks performed by grandparents in the course of providing

care to their grandchildren. Zambia represents an interdependent context where extended family ties are important in childcare, while the Netherlands represents a more independent context with emphasis on the nuclear family as primary domain of childcare. Overall these findings add to the theoretical conceptualization of grandparenting in a novel way by adding to the literature data on Zambia and comparisons with the Netherlands.

6.1.2 Maternal beliefs and intergenerational transmission

This study also provides evidence that mothers' sensitivity beliefs are predicted by grandmother characteristics. Further, intergenerational transmission of parenting beliefs was found to occur more in lower educated mothers, suggesting more conservatism and less influence of outside sources on the development of maternal beliefs about parenting in this group. Our findings suggest ideal parenting beliefs are transmissible between generations, and thus this study provides evidence into intergenerational parenting in Zambia.

6.1.3 Quality of grandparental childcare

In the past two decades grandparenting has become an important policy agenda especially in Africa because of the HIV pandemic. This study underpins the relevance of sensitive parenting. This is the first study to conduct standardized observations of grandmother-grandchild interactions in an African country, and uncovered meaningful, albeit few predictors of the quality of these interactions in the context of normative grandmaternal care that is a salient part of children's daily experiences. Further, the fact that this study was conducted in Zambia is an important strength given the paucity of empirical research on childcare in Zambia in general.

6.2 Grandparenting Research Contributions

6.2.1 Contribution to parenting

No study to date has examined grandparental quality of care in a Zambian context. This study provided a more detailed assessment of grandparental involvement in childcare, by assessing not only their care activities but also assessing sensitivity, non-intrusiveness and structuring. Also cross-cultural differences in caregiving domain are highlighted between Zambia and the Netherlands. In addition, demographic variables and family size and the influence on grandparental involvement, maternal beliefs and quality of care were assessed.

Secondly, the current study is unique as it provides insight on intergenerational parenting processes in a developing country like Zambia, that represents a region and cultural group that is very much underrepresented in the literature, whereas the topic may be particularly salient given the customs of multigenerational parenting.

6.2.2 Contribution to theory

Firstly, this study makes theoretical and empirical contributions to research on grandparenting, parenting and attachment. The current study was grounded in three theoretical perspectives namely: attachment theory, social learning theory and the evolutionary grandmother hypothesis. Consistent with the attachment theory, in the current study, attachment was found to be a predictor of grandparental involvement in childcare. Bowlby's attachment theory emphasizes attachment as an important ingredient in childcare and underscores the importance attachment relationships between caregivers and child. The theory also talks of the development of internal working models. The finding that attachment influences grandparental

involvement is important to parenting researchers, attachment researchers and parents themselves considering that attachment styles of children might be influenced by one's attachment to their caregiver. Further, by assessing parenting ideals of mothers and grandmothers the study taps into the internal working models as suggested by attachment theory.

Secondly, the study also provides support consistent with social learning theory. The social learning theory, suggests that the development of behavior in general and parenting behaviors in particular are formed by an individual's role models and family socialization. Thus, the fact that study results revealed a strong positive association between grandmaternal and maternal sensitivity beliefs only in the mothers with a lower educational level suggests that mothers depend more on their mothers (grandmaternal mothers as role models) in their parenting ideas. This finding also may signify an aspect of learning through modeling between the two generations thus this can in part explain the strong intergenerational transmission of parenting beliefs in this group.

Thirdly, as evident from the results, grandparents provided care in several important child care domains such as playing, bathing, feeding, protection, toilet training, being carried, transporting, discipline and limit setting respectively. This finding is consistent with the evolutionary grandmother hypothesis. In addition, the finding that that maternal grandparents are more involved in childcare compared to paternal counterparts provides further support to this hypothesis. According to the grandmother hypothesis, grandmothers who are past the reproductive age invest their time and energy to support their daughter's fertility and improve their grandchildren chances of survival if they are sure of their biological ties. Clearly, by performing childcare activities such as care during illness, feeding, protection and bathing,

grandparents indeed support their daughters' fertility and improve their grandchildren chances of survival in line with the evolutionary grandmother hypothesis.

6.3 Recommendations

First, given the prevalence of grandparenting, communities members, grandparents and parents should be helped to understand the importance and benefits of quality of grandparental care. It is the considered view of the author, that it is only when people understand the benefits associated with quality of care (sensitive, non-intrusive, and structured care) will they be in a position to invest more in the quality of interaction but also act in the best interest of the child when placing children under kin support.

Second, given that in today's Zambia, the Social Welfare Department emphasis is more on kin support rather than institutional care, it is recommended that the Government through the Social Welfare Department should provide training and sensitization on the various aspects of caregiving and parenting with the view to improving the quality of care, attachment patterns and development of children under kin care. Early parenting interventions focused on enhancing sensitivity might be successful in improving quality of childcare among grandparents.

Third, in order to bridge the gap between ideals and behavior as evidenced in our results, it is recommended that research on ideals and practice of parenting and be conducted consistently to examine actual sensitivity of grandparents and other kin carers. Perhaps an implication for practice is that parenting interventions need to move beyond emphasis on nutrition and meeting physical needs of children by promoting sensitive parenting. Rather than concentrate more on whether

grandparents meet physical and nutritional needs of children under their care, government, policy makers, and researchers should emphasize more quality of care. This will help ensure healthy development of children. As evidenced in the literature most of the studies on grandparental involvement in childcare have concentrated on negative health outcomes on the part of grandparents rather than scrutinize the quality of care offered to their grandchildren.

6.4 Conclusion

The main goal of this thesis was to investigate prevalence and predictors of grandparental involvement, predictors of intergenerational transmission and quality of childcare by grandparents in Zambia and has been achieved successfully.

Results revealed that grandparents are an important part of childcare in Zambia and the Netherlands. The importance of grandparents can be contextualized in a quote of Senegalese proverb that says “ the things that grandmothers can see while sitting on the ground, younger people cannot see even if they climb to the top of the tree” (Aubel, 2006).

No evidence was found for an association between grandmothers’ and mothers’ beliefs about sensitive parenting. However, the intergenerational relation between sensitivity beliefs was moderated by maternal educational level. Contrary to the study’s predicted expectation, parenting beliefs favouring sensitive parenting predicted lower observed sensitivity in grandparents.

Overall the current thesis contributes to literature on cross-cultural research on grandparenting, attachment research and parenting in general. Research on complementary childcare by grandparents, their ideal beliefs about parenting and

quality of care should be taken more seriously in order to understand parenting and its effect on child development in a global world.

REFERENCES

- Ainsworth, M. D. S. (1967). Infancy in Uganda: Infant care and the growth of love.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). Patterns of attachment. Hills-dale. *NJ Erlbaum*.
- Ainsworth, M. D. S., Bell, S. M., & Stayton, D. J.(1974). Infant-mother attachment and social development: 'Socialization' as a product of reciprocal responsiveness to signals. *The Integration of the Child into a Social World ed. Richards, M. Cambridge: Cambridge University Press*99-135.
- Agrawal, H. R., Gunderson, J., Holmes, B. M., & Lyons-Ruth, K. (2004). Attachment studies with borderline patients: A review. *Harvard review of psychiatry*, 12(2), 94-104.
- Apfel, N. H., & Seitz, V. (1991). Four models of adolescent mother-grandmother relationships in Black inner-city families. *Family Relations*, 421-429.
- Attar-Schwartz, S., Tan, J. P., Buchanan, A., Flouri, E., & Griggs, J. (2009). Grandparenting & adolescent adjustment in two biological, lone-parent, and step families. *Journal family Psychology*, 23(1), 67-75.
- Bakermans-Kranenburg, M. J., Van IJzendoorn, M. H., & Juffer, F. (2003). Less is more: meta-analyses of sensitivity and attachment interventions in early childhood. *Psychological bulletin*, 129(2), 195.
- Bakermans-Kranenburg, M. J., van IJzendoorn, M. H., & Kroonenberg, P. M. (2004). Differences in attachment security between African-American and white children: Ethnicity or socio-economic status?. *Infant Behavior and Development*, 27(3), 417-433.
- Bakermans-Kranenburg, M. J., Van IJzendoorn, M. H., & Juffer, F. (2008). Earlier is better: A meta-analysis of 70 years of intervention improving cognitive development in institutionalized children. *Monographs of the Society for Research in Child Development*, 73(3), 279-293.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, 84(2), 191.
- Barni, D., Knafo, A., Ben-Arieh, A., & Haj-Yahia, M. M. (2014). Parent–Child Value Similarity Across and Within Cultures. *Journal of Cross-Cultural Psychology*, 0022022114530494.

- Beegle, K., Filmer, D., Stokes, A., & Tiererova, L. (2010). Orphanhood and the living arrangements of children in sub-Saharan Africa. *World Development*, 38(12), 1727-1746.
- Beise, J., & Volland, E. (2002). A multilevel event history analysis of the effects of grandmothers on child mortality in a historical German population (Krummhörn, Ostfriesland, 1720-1874). *Demographic Research*, 7(13), 469-497.
- Belsky, J., Jaffee, S. R., Sligo, J., Woodward, L., & Silva, P. A. (2005). Intergenerational Transmission of Warm-Sensitive-Stimulating Parenting: A Prospective Study of Mothers and Fathers of 3-Year-Olds. *Child development*, 76(2), 384-396.
- Belsky, J., Hancox, R. J., Sligo, J., & Poulton, R. (2012). Does being an older parent attenuate the intergenerational transmission of parenting? *Developmental psychology*, 48(6), 1570.
- Bengtson, V. L. (2001). Beyond the nuclear family: The increasing importance of multigenerational bonds. *Journal of Marriage and Family*, 63(1), 1-16.
- Benoit, D. (2004). Infant-parent attachment: Definition, types, antecedents, measurement, & outcome. *Pediatric Child Health*, 9(8), 541-545.
- Benson, C. (2014). Possibilities for educational language choice in multilingual Guinea-Bissau. *Transcending Monolingualism: Linguistic Revitalization in Education*, 67.
- Berlin, L. J. (2005). Interventions to enhance early attachments: The state of the field today. In L. J. Berlin, Y. Ziv, L. Amaya-Jackson, & M. T. Greenberg (Eds.), *Enhancing early attachments: Theory, research, intervention, and policy* (pp. 3-33). New York: Guilford.
- Berzenski, S. R., Yates, T. M., & Egeland, B. (2014). A Multidimensional View of Continuity in Intergenerational Transmission of Child Maltreatment. In *Handbook of Child Maltreatment* (pp. 115-129). Springer Netherlands.
- Biringen, Z. (2008). Emotional availability (EA) scales manual. *Unpublished manual*. Boulder: Colorado State University.
- Biringen, Z., & Easterbrooks, A. (2008). Child care and relationships: Understanding relationships and relationship interventions. *Journal of Early Childhood and Infant Psychology*, 4, 1.
- Borcherding, K., Smith Battle, L., & Schneider, J. K. (2005). A preliminary investigation of the grandparent support scale for teenage mothers. *Journal of family nursing*, 11(3), 289-306.

- Bornstein, M. H. (Ed.). (1991). *Cultural approaches to parenting*. Psychology Press.
- Bornstein, M. H. (Ed.). (2005). *Handbook of Parenting: Volume 4 Social Conditions and Applied Parenting*. Psychology Press.
- Bornstein, M. H., & Cheah, C. S. (2006). The place of “culture and parenting” in the ecological contextual perspective on developmental science. *Parenting beliefs, behaviors, and parent-child relations: A cross-cultural perspective*, 3-33.
- Bornstein, M. H., Putnick, D. L., & Lansford, J. E. (2011). Parenting attributions and attitudes in cross-cultural perspective. *Parenting*, 11(2-3), 214-237.
- Bowlby, J. (1951). Maternal care and mental health. *Bulletin of the World Health Organization*.
- Bowlby, J. (1969). *Attachment and loss, volume i: Attachment*.
- Bowlby, J. (1982). *Attachment & loss: Volume 3. Attachment*. New York: Basic Books.
- Bretherton, I., & Munholland, K. A. (2008). Internal working models in attachment relationships: Elaborating a central construct in attachment theory. *Handbook of attachment: Theory, research, and clinical applications*, 102-127.
- Caldera, Y. M., & Hart, S. (2004). Exposure to child care, parenting style & attachment security. *Infant & Child Development*, 13, 21-33
- Cárcamo, R. A., Vermeer, H. J., van der Veer, R., & van IJzendoorn, M. H. (2014). Childcare in Mapuche and Non-Mapuche Families in Chile: The Importance of Socio-economic Inequality. *Journal of Child and Family Studies*, 1-12.
- Carlson, E. A., & Sroufe, L. A. (1995). Contribution of attachment theory to developmental psychopathology.
- Central Statistics Office. (2010), Census of population and housing. Lusaka: Central Statistics Office; 2010. [Online] Available from: <http://www.zamstats.gov.zm/>.
- Chase-Lansdale, P. L., Brooks-Gunn, J., & Zamsky, E. S. (1994). Young African-American Multigenerational Families in Poverty: Quality of Mothering and Grandmothering. *Child development*, 65(2), 373-393.
- Chase-Lansdale, P. L., Wakschlag, L. S., & Brooks-Gunn, J. (1995). A psychological perspective on the development of caring in children and youth: The role of the family. *Journal of Adolescence*, 18(5), 515-556.

- Chen, F. M., & Luster, T. (2002). Factors related to parenting practices in Taiwan. *Early Child Development and Care*, 172(5), 413-430.
- Chen, Z. Y., & Kaplan, H. B. (2001). Intergenerational transmission of constructive parenting. *Journal of Marriage and Family*, 63(1), 17-31.
- Cheyeka, A., Hinfelaar, M., & Udelhoven, B. (2014). The Changing Face of Zambia's Christianity and its Implications for the Public Sphere: A Case Study of Bauleni Township, Lusaka. *Journal of Southern African Studies*, 40(5), 1031-1045
- Clément, M. È., & Chamberland, C. (2009). The role of parental stress, mother's childhood abuse and perceived consequences of violence in predicting attitudes and attribution in favor of corporal punishment. *Journal of Child and Family Studies*, 18(2), 163-171.
- Coall, D. A., Meier, M., Hertwig, R., Wänke, M., & Höpflinger, F. (2009). Grandparental investment: the influence of reproductive timing and family size. *American Journal of Human Biology*, 21(4), 455-463.
- Conger, R. D., Conger, K. J., Elder, G. H., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1992). A family process model of economic hardship and adjustment of early adolescent boys. *Child development*, 63(3), 526-541.
- Cook, G. A., & Roggman, L. A. (2010). Three-generation attachment: How grandmothers and mothers contribute to children's attachment security. *Family Science*, 1(2), 112-122.
- Coplan, R. J., Hastings, P. D., Lagacé-Séguin, D. G., & Moulton, C. E. (2002). Authoritative and authoritarian mothers' parenting goals, attributions, and emotions across different childrearing contexts. *Parenting*, 2(1), 1-26.
- Coquery-Vidrovitch, C. (2014). From residential segregation to African urban centres: city planning and the modalities of change in Africa south of the Sahara. *Journal of Contemporary African Studies*, 32(1), 1-12.
- Cote, L. R., & Bornstein, M. H. (2003). Cultural and parenting cognitions in acculturating cultures 1. Cultural comparisons and developmental continuity and stability. *Journal of Cross-Cultural Psychology*, 34(3), 323-349.
- Daggett, J., O'Brien, M., Zanolli, K., & Peyton, V. (2000). Parents' attitudes about children: Associations with parental life histories and child-rearing quality. *Journal of Family Psychology*, 14(2), 187.
- Davies, C. (2002). *The Grandparent Study 2002 report*, AARP, US, (www.aarp.org/research/family/grandparenting/aresearch-import-481.html).

- Diener, M. L., Casady, M. A., & Wright, C. (2003). Attachment security among mothers and their young children living in poverty: Associations with maternal, child, and contextual characteristics. *Merrill-Palmer Quarterly*, *49*(2), 154-182.
- Dobrova-Krol, N. A., Bakermans-Kranenburg, M. J., Van IJzendoorn, M. H., & Juffer, F. (2010). The importance of quality of care: Effects of perinatal HIV infection and early institutional rearing on preschoolers' attachment and indiscriminate friendliness. *Journal of Child Psychology and Psychiatry*, *51*(12), 1368-1376.
- Emick, M. A., & Hayslip, B. (1999). Custodial grandparenting: Stresses, coping skills, and relationships with grandchildren. *International Journal of Aging & Human Development*, *48*(1), 35-61.
- Emmen, R. A., Malda, M., Mesman, J., Ekmekci, H., & van IJzendoorn, M. H. (2012). Sensitive parenting as a cross-cultural ideal: sensitivity beliefs of Dutch, Moroccan, and Turkish mothers in the Netherlands. *Attachment & human development*, *14*(6), 601-619.
- Eshel, N., Daelmans, B., Mello, M. C. D., & Martines, J. (2006). Responsive parenting: interventions and outcomes. *Bulletin of the World Health Organization*, *84*(12), 991-998.
- Euler, H. A., and Weitzel, B. (1996). Discriminative grandparental solicitude as reproductive strategy. *Human Nature*, *7*, 39-59.
- Euler, H. A. (2011). Grandparents and extended kin. *The Oxford handbook of evolutionary family psychology*. Oxford University Press, New York, 181-210.
- Euser, E. M., van IJzendoorn, M., Prinzie, P., & Bakermans-Kranenburg, M. J. (2009). The prevalence of child maltreatment in the Netherlands. *Child Maltreatment*.
- Evans, G. W., Boxhill, L., & Pinkava, M. (2008). Poverty and maternal responsiveness: The role of maternal stress and social resources. *International Journal of Behavioral Development*, *32*(3), 232-237.
- Falola, T. (2004). *"Zambia" in teen life in Africa*. Westport: Greenwood Press.
- Fergusson, E., Maughan, B., & Golding, J. (2008). Which children receive grandparental care and what effect does it have?, *Journal of Child Psychology and Psychiatry*, *49*, 2,161-169.
- Finzi-Dottan, R., & Harel, G. (2014). Parents' Potential for Child Abuse: An Intergenerational Perspective. *Journal of Family Violence*, *29*(4), 397-408.
- Foster, G. (2004). Safety nets for children affected by HIV/AIDS in Southern Africa. *A generation at risk*, 65-92.

- Foster, G. (2000). The capacity of the extended safety net for orphans in Africa. *Psychology, Health & Medicine*, 5(1), 55-63.
- Fraley, R. C., Heffernan, M. E., Vicary, A. M., & Brumbaugh, C. C. (2011). The experiences in close relationships-relationship structures questionnaire: A method for assessing attachment orientations across relationships. *Psychological Assessment*, 23, 615-625.
- Freeman, M., & Nkomo, N. (2006) Assistance needed for the integration of orphaned and vulnerable children views of South African family and community members. *Journal of Social Aspects of HIV/AIDS Research Alliance*, 3(3),503–509.
- Fuller-Thomson, E., & Minkler, M. (2001). American grandparents providing extensive child care to their grandchildren prevalence and profile. *The Gerontologist*, 41(2), 201-209.
- Furman, W., & Lanthier, R. (2002). Handbook of parenting.
- Gamble, W. C., & Yu, J. J. (2014). Young Children's Sibling Relationship Interactional Types: Associations with Family Characteristics, Parenting, and Child Characteristics. *Early Education and Development*, 25(2), 223-239.
- Geher, G. (2011). Evolutionarily informed parenting: A ripe area for scholarship in evolutionary studies. *EvoS Journal: The Journal of the Evolutionary Studies Consortium*, 3(2), 26-36.
- Geurts, T., Poortman, A.R., and van Tilburg, T.G. (2012). Older Parents Providing Child Care for Adult Children: Does It Pay Off?, *Journal of Marriage and Family* 74(2): 239–250.
- Gibson, M. A., & Mace, R. (2005). Helpful grandmothers in rural Ethiopia: A study of the effect of kin on child survival and growth. *Evolution and Human Behavior*, 26(6), 469-482.
- Glaser, K. & Di Gessa, G. (2012) *Grandparenting in Europe: Main study preliminary findings briefing*. London: Grandparents Plus Glass, J.C., & Huneycutt, T.(2002). Grandparents parenting grandchildren: Extent of situation, issues involved, and educational implications. *Educational Gerontology*, 28(2), 139-161.
- Goodman, C. C., & Silverstein, M. (2001). Grandmothers Who Parent Their Grandchildren An Exploratory Study of Close Relations Across Three Generations. *Journal of Family Issues*, 22(5), 557-578.
- Grønhøj, A., & Thøgersen, J. (2009). Like father, like son? Intergenerational transmission of values, attitudes, and behaviours in the environmental domain. *Journal of Environmental Psychology*, 29(4), 414-421.
- Gross, R., & Kinnison, N. (2014). *Psychology for Nurses and Allied Health*

Professionals: Applying Theory to Practice. Routledge.

- Gunnoe, M. L., Hetherington, E. M., & Reiss, D. (1999). Parental religiosity, parenting style, and adolescent social responsibility. *The Journal of Early Adolescence*, 19(2), 199-225.
- Hank, K., & Buber, I. (2009). Grandparents caring for their grandchildren findings from the 2004 Survey of Health, Ageing, and Retirement in Europe. *Journal of Family Issues*, 30(1), 53-73.
- Harkness, S., & Super, C. M. (1999). The environment as culture in developmental research.
- Harkness, S., Super, C. M., & Tijen, N. V. (2000). Individualism and the “Western mind” reconsidered: American and Dutch parents' ethnotheories of the child. *New directions for child and adolescent development*, 2000(87), 23-39.
- Harkness, S., & Super, C. M. (2002). Culture and parenting. *Handbook of parenting*, 2, 253-280.
- Harwood, R. L., Schoelmerich, A., Schulze, P. A., & Gonzalez, Z. (1999). Cultural Differences in Maternal Beliefs and Behaviors: A Study of Middle-Class Anglo and Puerto Rican Mother-Infant Pairs in Four Everyday Situations. *Child Development*, 70(4), 1005-1016.
- Hastings, P. D., Nuselovici, J. N., Rubin, K. H., & Cheah, C. S. (2010). Shyness, parenting, and parent-child relationships. *The development of shyness and social withdrawal*, 107-130.
- Hawkes, K., O'Connell, J. F., & Blurton Jones, N. G. (1997). Hadza women's time allocation, offspring provisioning, and the evolution of long postmenopausal life spans. *Current Anthropology*, 38(4), 551-577.
- Hayslip, B.H., & Panek, P.E.(2002). *Adult Development & Aging*. Malabar: Krieger Publishing.
- Herbst, C. M., & Tekin, E. (2008). Child Care Subsidies and Child Development. NBER Working Paper No. 14474. *National Bureau of Economic Research*.
- Hofferth, S. L., Pleck, J. H., & Vesely, C. K. (2012). The transmission of parenting from fathers to sons. *Parenting*, 12(4), 282-305.
- Hooper, P. L., Gurven, M., Winking, J., & Kaplan, H. S. (2015). Inclusive fitness and differential productivity across the life course determine intergenerational transfers in a small-scale human society. *Proceedings of the Royal Society of London B: Biological Sciences*, 282(1803), 20142808.
- Howes, C., & Spieker, S. (2008). Attachment relationships in the context of multiple caregivers. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp. 317-332).

- Hrdy, S. B. (1999). *Mother nature: A history of mothers, infants, and natural selection*. New York.
- Huber, B. R., & Breedlove, W. L. (2007). Evolutionary theory, kinship, and childbirth in cross-cultural perspective. *Cross-Cultural Research*, 41(2), 196-219.
- Ispa, J. M., Fine, M. A., Halgunseth, L. C., Harper, S., Robinson, J., Boyce, L., ... & Brady-Smith, C. (2004). Maternal intrusiveness, maternal warmth, and mother-toddler relationship outcomes: variations across low-income ethnic and acculturation groups. *Child development*, 75(6), 1613-1631.
- Jamison, C. S., Cornell, L. L., Jamison, P. L., & Nakazato, H. (2002). Are all grandmothers equal? A review and a preliminary test of the "grandmother hypothesis" in Tokugawa Japan. *American Journal of Physical Anthropology*, 119(1), 67-76.
- Jappens, M., & Van Bavel, J. (2012). Regional family norms and childcare by grandparents Europe. *Demographic research*, 27, 85-120.
- Jonasi, S. (2007). What is the role of a Grandmother in a Malawian society and how can we as health care workers support her?. *Malawi Medical Journal*, 19(3), 126-127.
- Kachel, A. F., Premo, L. S., & Hublin, J. J. (2011). Grandmothering and natural selection. *Proceedings of the Royal Society B: Biological Sciences*, 278(1704), 384-391.
- Kagiticibasi, C. (2012). Sociocultural Change and Integrative Syntheses in Human Development: Autonomous-Related Self and Social-Cognitive Competence. *Child Development Perspectives*, 6(1), 5-11.
- Kang'ethe, S.M. (2010). The perdify of stigma experienced by the palliative community home based care (CHBC) caregivers in Botswana. *Indian Journal of Palliative Care*, 16(1): 29-35.
- Kaptijn, R., Thomese, F., Van Tilburg, T. G., & Liefbroer, A. C. (2010). How grandparents matter: Support for the cooperative breeding hypothesis in a contemporary Dutch population. *Human Nature*, 21(4), 393-405.
- Keith, M. (2014). The great migration: urban aspirations. *World Bank Policy Research Working Paper*, (6879).
- Keller, H., & Harwood, R. (2009). Culture and developmental pathways of relationship formation1. *Perspectives on Human Development, Family, and Culture*, 157.
- Kiang, L., Moreno, A. J., & Robinson, J. L. (2004). Maternal preconceptions about parenting predict child temperament, maternal sensitivity, and children's empathy. *Developmental Psychology*, 40(6), 1081.

- Klarin, M., Proroković, A., & Šimunić, A. (2014). The Role of Intergenerational Transmission of Parenting in Close Relationships of Male and Female Adolescents. *Mediterranean Journal of Social Sciences*, 5(20), 1821.
- Kochanska, G., Kuczynski, L., & Radke-Yarrow, M. (1989). Correspondence between mothers' self-reported and observed child-rearing practices. *Child development*, 56-63.
- Kornhaber, A., & Woodward, K L. (1981). *Grandparents/grandchildren: The vital connection*. Garden City, NY: Anchor Press/Doubleday.
- Kotchick, B. A., & Forehand, R. (2002). Putting parenting in perspective: A discussion of the contextual factors that shape parenting practices. *Journal of child and family studies*, 11(3), 255-269.
- Kretchmar, M. D., & Jacobvitz, D. B. (2002). Observing Mother-Child Relationships Across Generations: Boundary Patterns, Attachment, and the Transmission of Caregiving*. *Family process*, 41(3), 351-374.
- Leonetti, D. L., D. C. Nath, N. S. Hemam, and D. B. Neill. 2005. Kinship organization and the impact of grandmothers on reproductive success among matrilineal Khasi and patrilineal Bengali of Northeast India, in E. Voland, A. Chasiotis, and W. Schiefenovel (eds.), *Grandmotherhood: The Evolutionary Significance of the Second Half of Female Life*. New Brunswick, NJ: Rutgers University Press, pp. 194-214.
- Licata, M., Paulus, M., Thoermer, C., Kristen, S., Woodward, A. L., & Sodian, B. (2014). Mother–infant Interaction Quality and Infants' Ability to Encode Actions as Goal-directed. *Social Development*, 23(2), 340-356.
- Liefbroer, A. C., & Elzinga, C. H. (2012). Intergenerational transmission of behavioural patterns: How similar are parents' and children's demographic trajectories?. *Advances in Life Course*
- Lungu, G. F. (1985). Elites, Incrementalism and Educational Policy-making in Post-independence Zambia. *Comparative Education*, 21(3), 287-296.
- Lussier, G., Deater-Deckard, K., Dunn, J., & Davies, L. (2002). Support across two generations: Children's closeness to grandparents following parental divorce and remarriage. *Journal of Family Psychology*, 16(3), 363.
- Luster, T., Rhoades, K., & Haas, B. (1989). The relation between parental values and parenting behavior: A test of the Kohn hypothesis. *Journal of Marriage and the Family*, 139-147.
- Mahne, K., & Motel-Klingebiel, A. (2012). The importance of the grandparent role—a class specific phenomenon? Evidence from Germany. *Advances in Life Course Research* 17: 145-155.
- Mahoney, A., Pargament, K. I., Murray-Swank, A., & Murray-Swank, N. (2003). Religion and the sanctification of family relationships. *Review of Religious*

Research, 220-236.

- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. *Monographs of the society for research in child development*, 66-104.
- Malinga, T. & Ntshwarang, N.P.(2011). Alternative care for children in Botswana: A reality or idealism?*Social Work And Society International Online Journal*,9(2) 2-10.
- Masaiti, G., & Chita, J. (2014). Zambia: An Overview of Formal Education. *Education in East and Central Africa*, 423.*Research*, 17(1), 1-10.
- Mayer, B., Trommsdorff, G., Kagitcibasi, C., & Mishra, R. C. (2012). Family models of independence/interdependence and their intergenerational similarity in Germany, Turkey, and India. *Family Science*, 3(1), 64-74.
- McLoyd, V.C. (1998). Socioeconomic disadvantage and child development. *American Psychologist*, 53, 185-204. DOI: 10.1037/0003-066X.53.2.185
- Mead, M. (1974). Grandparents as educators. *The Teachers College Record*,76(2), 240-249.
- Mesman, J., van IJzendoorn, M. H., & Bakermans-Kranenburg, M. J. (2012). Unequal in opportunity, equal in process: Parental sensitivity promotes positive child development in ethnic minority families. *Child Development Perspectives*,6(3), 239-250.
- Mistry, R. S., Biesanz, J. C., Chien, N., Howes, C., & Benner, A. D. (2008). Socioeconomic status, parental investments, and the cognitive and behavioral outcomes of low-income children from immigrant and native households. *Early Childhood Research Quarterly*, 23(2), 193-212.
- Mokomane, Z. (2013). Social protection as a mechanism for family protection in sub-Saharan Africa1. *International Journal of Social Welfare*, 22(3), 248-259.
- Mpofu, E., Ruhode, N., Mhaka-Mutepfa, M., January, J., & Mapfumo, J. (2015). Resilience Among Zimbabwean Youths with Orphanhood. In *Youth Resilience and Culture* (pp. 67-79). Springer Netherlands.
- Myers, B. J., Jarvis, P. A., & Creasey, G. L. (1987). Infants' behavior with their mothers and grandmothers. *Infant Behavior and Development*, 10(3), 245-259.
- Nampanya-Serpell, N. (2002). Global implications. *Invisible caregivers: Older adults raising children in the wake of HIV/AIDS*, 278-291

- Neely-Barnes, S. L., Graff, J. C., & Washington, G. (2010). The health-related quality of life of custodial grandparents. *Health Social Work, 35*(2), 87–97.
- Njoh, A. J. (2006). *Tradition, culture and development in Africa: historical lessons for modern development planning*. Ashgate Publishing, Ltd..
- Nyambedha, E. O., Wandibba, S., & Aagaard-Hansen, J. (2003). Changing patterns of orphan care due to the HIV epidemic in western Kenya. *Social Science & Medicine, 57*(2), 301-311.
- Oburu, P. O. (2005). Caregiving stress and adjustment problems of Kenyan orphans raised by grandmothers. *Infant and Child Development, 14*(2), 199-210.
- Oburu, P. O., & Palmerus, K. (2005). Stress related factors among primary and part-time caregiving grandmothers of Kenyan grandchildren. *The International Journal of Aging and Human Development, 60*(4), 273-282.
- Ochiltree, G. (2006). *The changing role of grandparents*. Australian Family Relationships Clearinghouse: Australian Institute of Family Studies.
- Odgers, C. L., Caspi, A., Russell, M. A., Sampson, R. J., Arseneault, L., & Moffitt, T. E. (2012). Supportive parenting mediates neighborhood socioeconomic disparities in children's antisocial.
- Patterson, D. L. (1997). Adolescent mothering: Child-grandmother attachment. *Journal of Pediatric Nursing, 12*(4), 228-237.
- Pearce, L. D., & Axinn, W. G. (1998). The impact of family religious life on the quality of mother-child relations. *American Sociological Review, 810-828*.
- Pederson, D. R., Moran, G., & Bento, S. (1999). Maternal behaviour Q-sort. *Psychology Publications, 1*.
- Pederson, D. R., & Moran, G. (1995). A categorical description of infant-mother relationships in the home and its relation to Q-sort measures of infant-mother interaction. *Monographs of the Society for Research in Child Development, 60*(2-3), 111-132. doi: 10.1111/j.1540-5834.1995.tb00207.x
- Petts, R. J. (2009). Family and religious characteristics' influence on delinquency trajectories from adolescence to young adulthood. *American Sociological Review, 74*(3), 465-483.
- Pinderhughes, E. E., Dodge, K. A., Bates, J. E., Pettit, G. S., & Zelli, A. (2000). Discipline responses: influences of parents' socioeconomic status, ethnicity, beliefs about parenting, stress, and cognitive-emotional processes. *Journal of family psychology, 14*(3), 380.

- Putney, N. M., & Bengtson, V. L. (2002). Socialization and the family revisited. *Advances in Life Course Research*, 7, 165-194.
- Raby, K. L., Lawler, J. M., Shlafer, R. J., Hesemeyer, P. S., Collins, W. A., & Sroufe, L. A. (2015). The interpersonal antecedents of supportive parenting: A prospective, longitudinal study from infancy to adulthood. *Developmental psychology*, 51(1), 115.
- Raeff, C. (2006). *Always separate, always connected: Independence and interdependence in cultural contexts of development*. Psychology Press.
- Reijer, D. B. J. (2013). Grandparents as parents: Skipped-generation households coping with poverty and HIV in rural Zambia. <http://dare.uva.nl/record/1/398404>
- Richter, L. (2004). The importance of caregiver-child interactions for the survival and healthy development of young children. A review.
- Richter, L. M., & Morrell, R. (Eds.). (2006). *Baba: men and fatherhood in South Africa*. Human Sciences Research Council.
- Riley, M. R., Scaramella, L. V., & McGoron, L. (2014). Disentangling the Associations Between Contextual Stress, Sensitive Parenting, and Children's Social Development. *Family Relations*, 63(2), 287-299.
- Rubin, K. H., Hemphill, S. A., Chen, X., Hastings, P., Sanson, A., Coco, A. L., ... & Cui, L. (2006). A cross-cultural study of behavioral inhibition in toddlers: East-West-North-South. *International Journal of Behavioral Development*, 30(3), 219-226.
- Sands, R. G., Goldberg-Glen, R., & Thornton, P. (2005). Factors associated with the positive well-being of grandparents caring for their grandchildren. *Journal of Gerontological Social Work*, 45(4), 65-82.
- Schofield, T. J., Conger, R. D., & Neppl, T. K. (2014). Positive parenting, beliefs about parental efficacy, and active coping: Three sources of intergenerational resilience. *Journal of Family Psychology*, 28(6), 973.
- Scourfield, J., Taylor, C., Moore, G., & Gilliat-Ray, S. (2012). The intergenerational transmission of Islam in England and Wales: Evidence from the Citizenship Survey. *Sociology*, 0038038511419189.
- Sear, R. (2008). Kin and child survival in rural Malawi. *Human Nature*, 19(3), 277-293.
- Sear, R., & Coall, D. (2011). How much does family matter? Cooperative breeding and the demographic transition. *Population and development review*, 37(s1), 81-112.

- Seeley, J., Wolff, B., Kabunga, E., Tumwekwase, G., & Grosskurth, H. (2009). 'This is where we've buried our sons'. People of advanced old age coping with the impact of the AIDS epidemic in a resource-poor setting in rural Uganda.' *Ageing and Society*, 29(01), 115-134.
- Serbin, L., & Karp, J. (2003). Intergenerational studies of parenting and the transfer of risk from parent to child. *Current Directions in Psychological Science*, 12(4), 138-142.
- Serpell, R. (2014). Promotion of literacy in Sub-Saharan Africa: Goals and prospects of CAPOLSA at the University of Zambia. *Human Technology: An Interdisciplinary Journal on Humans in ICT Environments*, 10(1), 22-38.
- Silverstein, M., & Marenco, A. (2001). How Americans enact the grandparent role across the family life course. *Journal of Family Issues*, 22(4), 493-522.
- Simons, R. L., Beaman, J., Conger, R. D., & Chao, W. (1992). Gender differences in the intergenerational transmission of parenting beliefs. *Journal of Marriage and the Family*, 823-836.
- Singelis, T. M., Triandis, H. C., Bhawuk, D. P., & Gelfand, M. J. (1995). Horizontal and vertical dimensions of individualism and collectivism: A theoretical and measurement refinement. *Cross-cultural research*, 29(3), 240-275.
- Skovdal, M. (2010). 'Children caring for their "caregivers: exploring the caring arrangements in households affected by AIDS in Western Kenya.' *AIDS care*, 22(1), 96-103.
- Sloutsky, V. M. (1997). Institutional care and developmental outcomes of 6-and 7-year-old children: A contextualist perspective. *International Journal of Behavioral Development*, 20(1), 131-151.
- Smith, M. S. (1991). An evolutionary perspective on grandparent-grandchild relationships. In P. K. Smith (Ed.), *The psychology of grandparenthood* (pp. 157-176). New York: Routledge.
- Smorti, M., Tschiesner, R., & Farneti, A. (2012). Grandparents-grandchildren relationship. *Procedia-Social and Behavioral Sciences*, 46, 895-898.
- Sroufe, L., Carlson, E. A., Levy, A. K., & Egeland, B. (1999). Implications of attachment theory for developmental psychopathology. *Development and psychopathology*, 11(01), 1-13.
- Stith, S. M., Liu, T., Davies, L. C., Boykin, E. L., Alder, M. C., Harris, J. M., ... & Dees, J. E. M. E. G. (2009). Risk factors in child maltreatment: A meta-analytic review of the literature. *Aggression and violent behavior*, 14(1), 13-29.
- Strassmann, B. I., & Garrard, W. M. (2011). Alternatives to the grandmother hypothesis. *Human Nature*, 22(1-2), 201-222.

- Strassmann, B. I. (2011). Cooperation and competition in a cliff-dwelling people. *Proceedings of the National Academy of Sciences*, 108(Supplement 2), 10894-10901.
- Swartz, T. T. (2009). Intergenerational family relations in adulthood: Patterns, variations, and implications in the contemporary United States. *Annual Review of Sociology*, 35, 191-212.
- Szinovacz, M. E. (1998). Grandparents today: A demographic profile. *The Gerontologist*, 38(1), 37-52.
- Tabachnick, B. Fidell,(1996). *Using multivariate statistics*, 3.
- Tan, J. P., Buchanan, A., Flouri, E., Attar-Schwartz, S., & Griggs, J. (2010). Filling the parenting gap? Grandparent involvement with UK adolescents. Grandparent involvement with U.K. adolescents. *Journal of Family issues*, 31(7), 992-1015.
- Tanskanen, A. O., & Danielsbacka, M. (2012). Beneficial effects of grandparental involvement vary by lineage in the UK. *Personality and Individual Differences*, 53(8), 985-988.
- Tanskanen, A. O., & Jokela, M. (2011). Grandparental child care in Europe: Evidence for preferential investment in more certain kin.
- Teachman, J. D. (2002). Childhood living arrangements and the intergenerational transmission of divorce. *Journal of Marriage and Family*, 64(3), 717-729.
- Thomese, F., & Liefbroer, A. C. (2013). Child care and child births: The role of grandparents in the Netherlands. *Journal of Marriage & Family*, 75(2), 403-421.
- Thompson, R. A. (2008). Attachment-related mental representations: Introduction to the special issue. *Attachment & Human Development*, 10(4), 347-358.
- Tomlin, A. M. (1998). Grandparents' influences on grandchildren. *Handbook on grandparenthood*, 159-170.
- Tsai, K. M., Telzer, E. H., Gonzales, N. A., & Fuligni, A. J. (2015). Parental Cultural Socialization of Mexican-American Adolescents' Family Obligation Values and Behaviors. *Child development*.
- Turner, B.F. (1982). In M. E. Szinovacz (Ed.), *Handbook on Grandparenthood* (pp. 87-96). West Port, CT: Greenwood Press.
- U.S. Census Bureau.(2011). *Grandparents Raising Grandchildren: American Community Survey 5-Year Estimates*, Table B10050. Accessed via American Fact Finder

- Vahakangas, A. (2004). The Crisis of Christian Marriage In Kyomo, A & Selvan, S (Eds). *Marriage & Family in African Christianity* 53–75. Nairobi: Acton Publishers.
- Van den Dries, L., Juffer, F., van IJzendoorn, M. H., & Bakermans-Kranenburg, M. J. (2009). Fostering security? A meta-analysis of attachment in adopted children. *Children and youth services review*, 31(3), 410-421.
- Van der Voort, A., Linting, M., Juffer, F., Bakermans-Kranenburg, M. J., Schoenmaker, C., & van IJzendoorn, M. H. (2014). The development of adolescents' internalizing behavior: longitudinal effects of maternal sensitivity and child inhibition. *Journal of youth and adolescence*, 43(4), 528-540.
- Van IJzendoorn, M. H. (1992). Intergenerational transmission of parenting: A review of studies in nonclinical populations. *Developmental review*, 12(1), 76-99.
- Van IJzendoorn, M. H., Vereijken, C. M., Bakermans-Kranenburg, M. J., & Marianne Riksen-Walraven, J. (2004). Assessing attachment security with the attachment Q sort: Meta-analytic evidence for the validity of the observer AQS. *Child development*, 75(4), 1188-1213.
- Van IJzendoorn, M. H., & Kroonenberg, P. M. (1988). Cross-cultural patterns of attachment: A meta-analysis of the strange situation. *Child Development*, 147-156.
- Van IJzendoorn, M. H., & Sagi-Schwartz, A. (2008). Cross-cultural patterns of attachment: Universal and contextual dimensions. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 880-905). New York: Guilford Press.
- Van IJzendoorn, M. H., & Wolff, M. S. (1997). In search of the Absent Father—Meta-Analyses of Infant-Father Attachment: A Rejoinder to Our Discussants. *Child development*, 68(4), 604-609.
- Vermeer, H.J., & Bakermans- Kranenburg, M.J. (2008). Attachment to Mother and Non maternal Care: Bridging the gap. *Attachment & Human Development*, 10(3), 263-273.
- Vermeer, P. (2011). The impact of parental religiosity on parenting goals and parenting style: A Dutch perspective. *Journal of Beliefs & Values*, 32(1), 69-84.
- Van Zeijl, J., Mesman, J., Van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., Juffer, F., Stolk, M. N., ... & Alink, L. R. (2006). Attachment-based intervention for enhancing sensitive discipline in mothers of 1-to 3-year-old children at risk for externalizing behavior problems: a randomized controlled trial. *Journal of consulting and clinical psychology*, 74(6), 994.

- Wareham, J., Boots, D. P., & Chavez, J. M. (2009). A test of social learning and intergenerational transmission among batterers. *Journal of Criminal Justice*, 37(2), 163-173.
- Weichold, K. (2010). Introduction to Innovative Approaches to Longitudinal Data Analyses. *ISSBD Bulletin*, 1.
- Weinfield, N., Sroufe, L.A., Egeland, B., & Carlson E. (2008). Individual differences in infant-caregiver attachment. In Cassidy J., & Shaver P.R. *Handbook of Attachment: Theory, Research and Clinical Applications*. New York: Guilford Press
- White, V. J. (2009). Custodial grandparents defining new roles. *Journal Of Certified Senior Advisors*, 43(5), 16-19.
- White, R., Roosa, M. W., Weaver, S. R., & Nair, R. L. (2009). Cultural and contextual influences on parenting in Mexican American families. *Journal of Marriage and Family*, 71(1), 61-79.
- Wolfinger, N. H. (1999). Trends in the intergenerational transmission of divorce. *Demography*, 36(3), 415-420.
- Wolff, M. S., & Ijzendoorn, M. H. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child development*, 68(4), 571-591.
- Wood, V., & Robertson, J. F. (1976). The significance of grandparenthood. In J. F. Gubrium (Ed.), *Time, roles, and self in old age* (pp. 278-304). New York: Human Sciences Press.
- Zambia Demographic Health Survey (2013-2014). Accessed via <http://www.zamstats.gov.zm/surveys/zdhs.php>

APPENDIX A: Questionnaire study 1 English

Dear Respondent,

You are being invited to participate in a research project which aims to understand caregiving in Zambia. Through your participation I hope to understand grandparents' participation in caregiving. The data generated from this study are for academic purposes and will be treated with maximum confidentiality. I will not share any information that identifies you with anyone outside my research group. Your participation is voluntary and if you have any questions or concerns about the study please, feel free to contact the persons mentioned below.

Kindly fill in this questionnaire, following the example below, where appropriate. It will take you approximately 15 minutes to complete.

For example

Computer number	13042388					
Age	24					
Tribe	Tonga					
Gender	Male	<input checked="" type="checkbox"/>	Female	<input type="checkbox"/>		
Where did you grow up?	City	<input type="checkbox"/>	Town	<input checked="" type="checkbox"/>	Village	<input type="checkbox"/>
Name of area	Choma					

Please note that you are free not to participate in this exercise. Nevertheless, your participation will be highly appreciated. If you have any questions or need additional information, you can contact the following faculty members:

F.Sichimba -Psychology Department
Department

Email: francis.sichimba@unza.zm

Mobile: 0978 697664

Dr. Imasiku Mwiya – Psychology

Email: mwiya.imasiku@unza.zm

Mobile: 0977396176

DEMOGRAPHICS

Computer number						
Age						
Tribe						
Gender	Male	<input type="checkbox"/>	Female	<input type="checkbox"/>		
Where did you grow up?	City	<input type="checkbox"/>	Town	<input type="checkbox"/>	Village	<input type="checkbox"/>
Name of area						
Number of grandparents that						

you currently have and are still alive?	
---	--

SECTION 1

Below is a list of activities that *maternal* grandparents normally do to help take care of their grandchildren. Please mark/answer where appropriate (as shown in the example on the cover page). **As you try to answer please try to think back to what your grandmother did at the time when you were a child**

ACTIVITY	Yes	No	How your grandparents felt about doing these things		
			Positive	Negative	Neutral
Feeding					
Playing					
Bathing					
Comforting child when distressed					
Transporting baby					
Carrying child on the back					
Holiday care					
Caring during illness					
Toilet training					
Protection from accidents					
Discipline					
Setting Limits					

2. Do you still have contact with your grandparents?

Yes	
No	
Other, specify	

SECTION 2

FAMILY COMPOSITION

How many people lived in your family (under the same roof) at that time when your grandparents were taking care of you?

Person	# of people
Mother	
Father	
Grandmother	
Grandfather	
Older sisters	
Younger sisters	
Older brothers	
Younger brothers	

Person	# of people
Uncles	
Aunts	
Older cousins	
Younger cousins	
Nieces	
Nephews	
Maids/Baby sitters	
Other relations	

Think again of the time you were young (primary school) and answer/mark (x) the following questions.

At the time, was your father working	Yes		No	
Type of employment?	Part time		Full time	
At the time, was your mother working?	Yes		No	
Type of employment?	Part time		Full time	
How many grandmothers did you have at that time?				
How many times in a month did you meet your grandparents?				
What were your sleeping arrangements	Shared a bed			
	Shared a room (not in the same bed)			
	Slept in separate rooms			
Was there a time when your grandparents protected you and your younger sibling(s) from accidents/danger from death?	Yes		No	
Did your parents ever tell your grandparents that you were not taking good care of ?	Yes		No	
How often did they tell your grandparents that?	Very often		Quite often	
			Sometimes	
				Almost never
Did your parents get bothered living with your grandparents?	Yes		No	
				Not applicable
How did you feel being taken care of by your grandparents?	Happy		Not sure	
				Sad

SECTION 3 A

This part of the questionnaire is designed to assess the way in which you mentally represent important people in your life. You'll be asked to answer questions about your grandparents. Please indicate the extent to which you agree or disagree with each statement by circling a number for each item.

Please answer the following questions about your grandmother or a grandmother-like figure

1. It helps to turn to this person in times of need.
 Strongly disagree 1 2 3 4 5 6 7 Strongly agree
2. I usually discuss my problems and concerns with this person.
 Strongly disagree 1 2 3 4 5 6 7 Strongly agree
3. I talk things over with this person.
 Strongly disagree 1 2 3 4 5 6 7 Strongly agree
4. I find it easy to depend on this person.
 Strongly disagree 1 2 3 4 5 6 7 Strongly agree

5. I don't feel comfortable opening up to this person.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
6. I prefer not to show this person how I feel deep down.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
7. I often worry that this person doesn't really care for me.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
8. I'm afraid that this person may abandon me.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
9. I worry that this person won't care about me as much as I care about him or her.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

Please answer the following questions about your grandfather or a grandfather-like figure

1. It helps to turn to this person in times of need.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
2. I usually discuss my problems and concerns with this person.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
3. I talk things over with this person.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
4. I find it easy to depend on this person.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
5. I don't feel comfortable opening up to this person.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
6. I prefer not to show this person how I feel deep down.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
7. I often worry that this person doesn't really care for me.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
8. I'm afraid that this person may abandon me.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

9. I worry that this person won't care about me as much as I care about him or her.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

SECTION 3 B

This part of the questionnaire is designed to assess the way in which you mentally represent important people in your life. You'll be asked to answer questions about your parents. Please indicate the extent to which you agree or disagree with each statement by circling a number for each item.

Please answer the following questions about your mother or a mother-like figure

1. It helps to turn to this person in times of need.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
2. I usually discuss my problems and concerns with this person.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
3. I talk things over with this person.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
4. I find it easy to depend on this person.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
5. I don't feel comfortable opening up to this person.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
6. I prefer not to show this person how I feel deep down.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
7. I often worry that this person doesn't really care for me.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
8. I'm afraid that this person may abandon me.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
9. I worry that this person won't care about me as much as I care about him or her.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

Please answer the following questions about your father or a father-like figure

-
1. It helps to turn to this person in times of need.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
 2. I usually discuss my problems and concerns with this person.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
 3. I talk things over with this person.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
 4. I find it easy to depend on this person.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
 5. I don't feel comfortable opening up to this person.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
 6. I prefer not to show this person how I feel deep down.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
 7. I often worry that this person doesn't really care for me.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
 8. I'm afraid that this person may abandon me.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
 9. I worry that this person won't care about me as much as I care about him or her.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

SECTION 4

Below is a checklist of things/items that are sometimes found in people's homes. Thinking back to the time you were young (primary school) please mark in the appropriate box.

HP1	Did you have a television in your home?	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Don't know
HP2	Did you have a stove at home?	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Don't know
HP 3	Did you have electricity at home? (Including solar electricity)	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Don't know
HP 4	Did you have running water, from any source, at home?	<input type="checkbox"/> No

		<input type="checkbox"/> Yes <input type="checkbox"/> Don't know
HP 5	Did you have a flushable toilet?	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Don't know
HP 6	Did you have a car at home?	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Don't know
HP 7	Did you have at least two sets of clothes?	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Don't know
HP 8	Did you have at least one pair of shoes?	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Don't know
HP 9	Did the household own a radio?	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Don't know
HP 10	Did you have a bed or mat to sleep on?	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Don't know
HP 11	Did you have cement or tiled floors in your home?	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Don't know

*******THANK YOU VERY MUCH FOR YOUR PARTICIPATION AND
TIME*******

APPENDIX B: Questionnaire study 1 Dutch

Beste student,

We willen je vriendelijk vragen om mee te doen in een onderzoek waarin we kijken naar de rol van grootouders in de opvoeding. De vragenlijst is ook afgenomen onder Zambiaanse studenten en jouw deelname helpt ons de verschillen te begrijpen in de rollen die grootouders kunnen spelen in de opvoeding in verschillende culturen. Ook wanneer je momenteel geen grootouders meer hebt, kun je de vragenlijst invullen. De verzamelde gegevens zijn alleen bestemd voor wetenschappelijke doeleinden en zullen vertrouwelijk worden behandeld.

We willen je vragen deze vragenlijst in te vullen zoals is aangegeven in het voorbeeld hieronder. Het invullen van de complete vragenlijst zal ongeveer 15 minuten duren.

Voorbeeld

Leeftijd	22			
Ethniciteit	Nederlander			
Geslacht	Man	<input checked="" type="checkbox"/>	Vrouw	<input type="checkbox"/>
Waar ben je opgegroeid?	Stad	<input checked="" type="checkbox"/>	Dorp	<input type="checkbox"/>
Naam van stad of dorp waar je opgroeide	Delft			

Voel je niet verplicht om deze vragenlijst in te vullen. Echter, je deelname wordt erg op prijs gesteld! Voor vragen kun je contact opnemen met:

F.Sichimba

Email: francis.sichimba@unza.zm

ALGEMENE GEGEVENS

Leeftijd				
Ethniciteit				
Geslacht	Man	<input type="checkbox"/>	Vrouw	<input type="checkbox"/>
Waar ben je opgegroeid?	Stad	<input type="checkbox"/>	Dorp	<input type="checkbox"/>
Naam van stad of dorp waar je opgroeide				
Hoeveel grootouders zijn op dit moment nog in leven?				

DEEL 1

Hieronder staat een lijst met taken die grootmoeders kunnen doen om te helpen met de verzorging/ opvoeding van hun kleinkinderen. Kruis aan wat van toepassing is (zie het voorbeeld op pagina 1) en denk hierbij terug aan wat je grootmoeder deed toen je een kind was.

ACTIVITEIT	JA	NEE	Hoe denk je dat je grootmoeder het uitvoeren van deze taken ervoer?		
			Positief	Negatief	Neutraal
Voeden					
Samen spelen					
In bad doen					
Troosten					
Vervoeren/ ergens naartoe brengen					
Duwen in de kinderwagen					
Oppassen / uitstapjes maken					
Verzorgen tijdens ziekte					
Zindelijkheidstraining					
Beschermen tegen ongelukken					
Disciplineren/ straffen					
Grenzen stellen					

2. Heb je momenteel nog contact met je grootouders?

Ja	
Nee	
Anders, namelijk.....	

DEEL 2

FAMILIE SAMENSTELLING

Uit hoeveel personen bestond jullie gezin (dwz onder hetzelfde dak) toen je de leeftijd had waarop je grootouders wel eens voor je zorgden?

Persoon	Aantal	Persoon	Aantal
Moeder		Ooms	
Vader		Tantes	
Grootmoeder		Oudere neven	
Grootvader		Jongere neefjes	
Oudere zussen		Oudere nichten	
Jongere zusjes		Jongere nichtjes	
Oudere broers		Hulp in huishouding	
Jongere broertjes		Andere personen	

Denk terug aan de tijd dat je tussen de 7-13 jaar oud was (basisschool) en kruis aan (x) wat van toepassing is.

Had je vader op dat moment werk?	Ja		Nee	
Soort werk?	Part time		Full time	
Had je moeder op dat moment werk?	Ja		Nee	
Soort werk?	Part time		Full time	
Hoeveel grootmoeders had je <i>op dat moment</i> ?				
Hoe vaak zag je je grootouders ongeveer <i>per maand</i> ?				
Kun je je een voorval herinneren waarin (één van) je grootouders jou en/of je jongere broertjes en zusjes beschermden tegen een ongeluk of dodelijk gevaar?	Ja		Nee	
Zeiden je ouders ooit tegen je grootouders dat ze niet goed voor jou zorgden?	Ja		Nee	
Hoe vaak zeiden je ouders dat tegen je grootouders?	Heel vaak	Regelmatig	Soms	(Bijna) nooit
Gaven je ouders wel een aan het lastig te vinden om samen met je grootouders (in één huis) te leven?	Ja		Nee	
Hoe voelde je je over de zorg die je grootouders je gaven?	Blij	Neutraal/ weet ik niet	Verdrietig	

DEEL 3 A

Dit deel van de vragenlijst is bedoeld om na te gaan hoe je denkt over belangrijke personen in je leven. Hieronder staan vragen die betrekking hebben op je grootouders. Je kunt aangeven in welke mate elke stelling van toepassing is door het juiste cijfer te omcirkelen. Denk bij de beantwoording van de eerste 9 vragen aan je grootmoeder of haar plaatsvervanger, en bij de volgende 9 vragen aan je grootvader.

 Beantwoord de volgende vragen over je **grootmoeder** of een andere grootmoeder-figuur.

- Deze persoon is een hulp in tijden van nood.
 Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens
- Meestal bespreek ik mijn problemen en vragen met deze persoon.
 Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens
- Ik praat vaak met deze persoon over allerlei dingen.
 Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens
- Ik vind het makkelijk om deze persoon te vertrouwen.
 Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens
- Ik voel me niet comfortabel als ik open ben tegenover deze persoon.
 Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

6. Ik laat deze persoon liever niet zien hoe ik me diep vanbinnen voel.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

7. Ik maak me vaak zorgen dat deze persoon niet echt om me geeft.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

8. Ik ben bang dat deze persoon me misschien zal verlaten.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

9. Ik maak me zorgen dat deze persoon niet zoveel om mij geeft als ik geef om hem of haar.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

Beantwoord de volgende vragen over je **grootvader** of een grootvader-figuur.

1. Deze persoon is een hulp in tijden van nood.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

2. Meestal bespreek ik mijn problemen en vragen met deze persoon.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

3. Ik praat vaak met deze persoon over allerlei dingen.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

4. Ik vind het makkelijk om deze persoon te vertrouwen.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

5. Ik voel me niet comfortabel als ik open ben tegenover deze persoon.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

6. Ik laat deze persoon liever niet zien hoe ik me diep vanbinnen voel.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

7. Ik maak me vaak zorgen dat deze persoon niet echt om me geeft.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

8. Ik ben bang dat deze persoon me misschien zal verlaten.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

9. Ik maak me zorgen dat deze persoon niet zoveel om mij geeft als ik geef om hem of haar.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

DEEL 3B

We willen je vragen dezelfde vragen te beantwoorden over je moeder, of iemand die de moederrol voor jou vervulde, en voor je vader of een vader-figuur. Geef opnieuw aan in welke mate elke stelling van toepassing is door het juiste cijfer te omcirkelen.

Beantwoord de volgende vragen over je **moeder** of een andere moeder-figuur.

1. Deze persoon is een hulp in tijden van nood.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

2. Meestal bespreek ik mijn problemen en vragen met deze persoon.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

3. Ik praat vaak met deze persoon over allerlei dingen.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

4. Ik vind het makkelijk om deze persoon te vertrouwen.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

5. Ik voel me niet comfortabel als ik open ben tegenover deze persoon.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

6. Ik laat deze persoon liever niet zien hoe ik me diep vanbinnen voel.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

7. Ik maak me vaak zorgen dat deze persoon niet echt om me geeft.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

8. Ik ben bang dat deze persoon me misschien zal verlaten.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

9. Ik maak me zorgen dat deze persoon niet zoveel om mij geeft als ik geef om hem of haar.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

Beantwoord de volgende vragen over je **vader** of een vader-figuur.

1. Deze persoon is een hulp in tijden van nood.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

2. Meestal bespreek ik mijn problemen en vragen met deze persoon.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

3. Ik praat vaak met deze persoon over allerlei dingen.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

4. Ik vind het makkelijk om deze persoon te vertrouwen.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

5. Ik voel me niet comfortabel als ik open ben tegenover deze persoon.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

6. Ik laat deze persoon liever niet zien hoe ik me diep vanbinnen voel.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

7. Ik maak me vaak zorgen dat deze persoon niet echt om me geeft.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

8. Ik ben bang dat deze persoon me misschien zal verlaten.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

9. Ik maak me zorgen dat deze persoon niet zoveel om mij geeft als ik geef om hem of haar.

Helemaal mee oneens 1 2 3 4 5 6 7 Helemaal mee eens

DEEL 4

Hieronder vind je een lijst van dingen die mensen in huis kunnen hebben. **Denk terug aan de tijd dat je tussen de 7-13 jaar oud was** (basisschool) en kruis aan wat van toepassing is.

1	Hadden jullie een televisie thuis?	<input type="checkbox"/> Nee <input type="checkbox"/> Ja <input type="checkbox"/> Weet ik niet
2	Hadden jullie een fornuis thuis?	<input type="checkbox"/> Nee <input type="checkbox"/> Ja <input type="checkbox"/> Weet ik niet
3	Hadden jullie elektriciteit thuis? (zonne-energie valt hier ook onder)	<input type="checkbox"/> Nee <input type="checkbox"/> Ja <input type="checkbox"/> Weet ik niet
4	Hadden jullie stromend water thuis?	<input type="checkbox"/> Nee <input type="checkbox"/> Ja <input type="checkbox"/> Weet ik niet
5	Hadden jullie een doorspoelbare toilet thuis?	<input type="checkbox"/> Nee <input type="checkbox"/> Ja

		<input type="checkbox"/> Weet ik niet
6	Hadden jullie een auto thuis?	<input type="checkbox"/> Nee <input type="checkbox"/> Ja <input type="checkbox"/> Weet ik niet
7	Had je tenminste twee sets eigen kleding?	<input type="checkbox"/> Nee <input type="checkbox"/> Ja <input type="checkbox"/> Weet ik niet
8	Had je tenminste één paar eigen schoenen?	<input type="checkbox"/> Nee <input type="checkbox"/> Ja <input type="checkbox"/> Weet ik niet
9	Hadden jullie een radio thuis?	<input type="checkbox"/> Nee <input type="checkbox"/> Ja <input type="checkbox"/> Weet ik niet
10	Had je een bed om in te slapen?	<input type="checkbox"/> Nee <input type="checkbox"/> Ja <input type="checkbox"/> Weet ik niet

*******Heel hartelijk dank voor je tijd en deelname!*******

APPENDIX C: Questionnaire parenting in diverse cultures

Questionnaire "Parenting in different cultures"

BACKGROUND

1. Number of children:	<input style="width: 80%;" type="text"/>		
2. Child 1	Age*:	<input style="width: 80%;" type="text"/>	Gender: <input style="width: 80%;" type="text" value="M / F"/>
3. Child 2	Age*:	<input style="width: 80%;" type="text"/>	Gender: <input style="width: 80%;" type="text" value="M / F"/>
4. Child 3	Age*:	<input style="width: 80%;" type="text"/>	Gender: <input style="width: 80%;" type="text" value="M / F"/>
5. Your age:	<input style="width: 100%;" type="text"/>		

* age in months for children younger than 2 year. Age in years for children older than 2 year.

6. What is the highest level of education that you completed (with a diploma)?

7. Country of birth

	You	Your mother	Your father	Father	His mother	His father
Zambia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (Namely.....)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Your language ability

	Limited	Moderate	Fluent
English	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other language (namely)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

REARING

The statements below describe you as educator of your child and your ideas about rearing. Please indicate how much you agree or disagree with each statement.

	Completely disagree	Mostly disagree	Neither agree, nor disagree	Mostly agree	Completely agree
1. Playing with your child helps to prevent difficult behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. You should not exaggerate praising children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Difficult behavior is best ignored.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. If you forbid your child to do something, you have to stay calm.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Praising good behavior makes my child easier.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Difficult behavior can be prevented by directing the child's attention to something else.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I believe that I should praise my child at least once a day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Even if your child is content, it is important to play together.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. If your child is being difficult, you should really give more compliments.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

WORK AND INCOME

1. Are you and your partner gainfully employed? (you can check multiple answers)

<p>You:</p> <p><input type="radio"/> No, fulltime homemaker</p> <p><input type="radio"/> No, student/finishing</p> <p><input type="radio"/> No, unemployment benefits / other social security welfare benefits</p> <p><input type="radio"/> Yes, namely for hours per week</p>	<p>Your partner:</p> <p><input type="radio"/> No, fulltime homemaker</p> <p><input type="radio"/> No, student/finishing</p> <p><input type="radio"/> No, unemployment benefits / other social security welfare benefits</p> <p><input type="radio"/> Yes, namely for hours per week</p> <p><input type="radio"/> n.a.</p>
---	--

2. Approximately what was your household's total income last year, including social welfare? (before deduction of tax and allowances)

Below is a checklist of things/items that are sometimes found in people's homes. Please mark in the appropriate circle

	Yes	No
HP1 Do you have a television at home?		
HP2 Do you have a stove at home?		
HP3 Do you have electricity at home? (including solar electricity)		
HP4 Do you have running water, from any source, at home?		
HP5 Do you have a flushable toilet?		
HP6 Do you have a car at home?		
HP7 Do you have at least 2 sets of clothes?		
HP8 Do you have at least one set of shoes?		
HP9 Does the household own a radio?		
HP10 Do you have a bed or a mat to sleep on?		
HP11 Do you have cement or tiled floors in your home?		

RELIGION

1. Which religion do you have?

Christian	Other, namely:
○

For some people religion plays an important role in the parenting of their child(ren). For other people the religion is not important or only somewhat. We would like to know what your opinion is about this. Indicate for every statement to which extent this applies to you.

	Totally disagree	Disagree	Nether disagree, nor agree	Agree	Totally agree	n.a
1. I use my religion as a guideline for the parenting of my child.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. My religion helps me to rear my child well.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I teach my child a lot about my religion.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I teach my child that religion plays an important role in our life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

VALUES

Indicate to what extent you agree with the following statements.

	Strongly disagree	Disagree	Slightly disagree	Neither agree, nor disagree	Slightly agree	Agree	Strongly agree
1. I'd rather depend on myself than others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I rely on myself most of the time; I rarely rely on others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I often do "my own thing."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. My personal identity, independent of others, is very important to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. It is important that I do my job better than others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Winning is everything.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Competition is the law of nature.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. When another person does better than I do, I get tense and aroused.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. If a coworker or acquaintance gets a prize, I would feel proud.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. The well-being of my coworkers and acquaintances is important to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. To me, pleasure is spending time with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I feel good when I cooperate with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Parents and children must stay together as much as possible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. It is my duty to take care of my family, even when I have to sacrifice what I want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Family members should stick together, no matter what sacrifices are required.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. It is important to me that I respect the decisions made by my groups.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Date:

Check whether you completed all questions.

Thank you for completing the questionnaire!

If you have comments and/or additions, you can write these below.
Comments and additions:

Age				
Tribe				
Where did you grow up?	City		Town	
Number of grandchildren	Girls		Boys	
How many times in a month do you meet your grandchildren				
Which of the grandparents were most involved in taking care of your children	Grandparents mother's side			
	Grandparents father's side			
	Both equally			

Below is a list of activities that *maternal* grandparents normally do to help take care of their grandchildren. Please mark/answer where appropriate (as shown in the example on the cover page). **As you try to answer please try to think back to what you do as a grandmother.**

ACTIVITY	Yes	No	How do you feel about doing these activities		
			Positive	Negative	Neutral
Feeding					
Playing					
Bathing					
Comforting child when distressed					
Transporting baby					
Carrying child on the back					
Holiday care					
Caring during illness					
Toilet training					
Protection from accidents					
Discipline					
Setting Limits					
Others					

APPENDIX D: Maternal Behavior Q-Sort

1.
Gives her child little opportunity to play along or to respond.
2.
Pays attention to what her child is doing when there is a visitor.
3.
Her responses to her child are unpredictable.
- 4.

Does not pay attention to her child when she is busy with a visitor.

5.
Is not at ease when she is holding her child close (for instance on her lap).
6.
Supports contact of her child with a visitor.
7.
Treats her child as an object when holding him/her.

8.

Lets her child know when
she leaves the room.

9.
Does not respond when her child makes sounds, smiles or reaches.

10.
Speaks to her child directly and not just about her child.

11.
Speaks slowly and repeats the words if she talks to her child.

12.
Mother determines when her child has to sleep, whether her child is tired or not.

13.

Uses brothers/sisters or television to keep her child entertained.

14.
Suddenly stops playing with her child to talk to a visitor.

15.
Tries to involve her child in games or activities that are actually too difficult for her child, but does not notice that.

16.
Does not realize it when things become too much for her child.

17.
Dictates what happens and how fast things go, not her child.

18.
The house does not look like a child is living there.

19.
Places her child in another room when her child is in a bad mood or cranky.

20.
Responds well when her child is sad.

21.
Finds it difficult to take care of her child.

22.
Seems to be unaware when her child is asking for attention.

23.
Makes sure that her child can always come close to her.

24.
Makes sure her child can hear or see her.

25.

Is not very good at dividing her attention between her child and other tasks, so that she does not always see what her child needs.

26.

Responds immediately when her child cries/whimpers.
grfewghfeasdasfdf

27.

Responds when her child asks for attention, even when she is busy with a visitor.

28.

Offers her child something else to do to distract him/her from something that is not allowed.

29.

When her child is distressed, mother understands why.

30.

Uses mainly physical contact with her child instead of using her voice.

31.

Distracts her child to something else when her child wants to sit on her lap, without a gentle transition.

32.

Mother does not follow her child with her behaviors.

33.
Tries several different things to satisfy her child, without a clear plan.

34.
Her behavior fits the mood of her child.

35.
Finishes activities and games with her child properly so that her child is content.

36.
Steps in when her child does something dangerous.

37.
Steps in when her child does something that can make him/her dirty.

38.
Provides healthy snacks.

39.
Tries to teach her child things during play.

40.
Encourages her child to feed him-/herself if her child wants to.

41.

Her contact with her child consists mostly of doing things (e.g., eating, or playing with toys).

42.

Her way of showing affection for her child seems insincere.

43.

Is cheerful when she does things with her child.

44.

Knows what her child can and can not do at his/her age when it comes to self-control.

45.

Praises her child / gives her child compliments.

46.

Makes sure her child is comfortable on her lap.

47.

Shows her affection for her child by touching her child or cuddling him/her.

48.

Points to interesting things in her child's environment and tells him/her what they are called.

49.
Seeks contact with her child.

50.
Makes sure that the environment is interesting for her child.

51.
Makes sure that there are toys that fit the age of her child.

52.
If she wants to forbid her child something, she does so with words and without touching or restraining the child.

53.

Waits for her child's response when they are doing something together.

54.
Teases her child to keep her child's attention, even when the child does not like it.

55.
Sees her child as a person with his/her own wishes and even accepts it when her child wants to do things that she does not like.

56.
Has fixed ideas about how her child needs to be taken care of and always does these things the same way.

57.

Shows that she enjoys doing things with her child.

58.

Takes her child's needs into account in the way the house is furnished/organized.

59.

Lets her child do things he/she likes without interruption.

60.

Often scolds or criticizes her child.

61.

Is irritated when her child wants to sit on her lap.

62.

Understands her child well as can be seen from the responses of her child.

63.

Shows that she is aware of her child's distress but does not respond.

64.

Greets her child when she comes back into the room.

65.
Responds to what her child does or says.
66.
Never responds to her child.
67.
Responds only when her child shows prolonged or intense distress.
68.
Adapts her tempo and tone to what her child wants when they are playing together.
69.
Notices when her child is distressed (e.g., cries, fusses or whimpers).
70.
Is so late in her responses, that it is not clear for the child what she is responding to.
71.
Joins in the focus of her child's attention.
72.
Notices when her child smiles and makes sounds.

73.

When she is irritated with her child, she stops doing things with him/her.

74.

Worries when her child tries new things, even when they are not dangerous.

75.

Encourages her child to try new things.

76.

Holds her child close to her to comfort him/her.

77.

Talks to her child regularly.

78.

Plays games together with her child.

79.

Becomes tense when her child needs a lot of attention.

80.

Is annoyed if her child does not cooperate.

81.

Clearly shows her child that she is happy with him/her.

82.

Restricts her child's movements.

83.

Aloof/distant when doing things with her child.

84.

The feelings that she shows do not match the feelings of the child, for example mother smiles when her child cries.

85.

Suddenly interrupts things that she is doing with her child.

86.

Stops physical contact before her child is contented.

87.

Clearly opposes her child's wishes.

88.

Often argues or disagrees with her child.

89.

The way she handles her child makes her child content.

90. Is negative and hostile towards her child.

APPENDIX E: Participants inform consent form

FORM 1b



UNZAREC

THE UNIVERSITY OF ZAMBIA
DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

Telephone: 290258/
Fax: +260-1-290258/253937
E-mail: drgs@unza.zm

P. O. Box 32379
Lusaka, Zambia

HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE

CONSENT FORM

TITLE OF RESEARCH: **INFANT PARENTING AND ATTACHMENT IN ZAMBIA**

REFERENCE TO PARTICIPANT INFORMATION SHEET:

1. Make sure that you read the Information Sheet carefully, or that it has been explained to you to your satisfaction.
2. Your permission is required if tape, audio or video recording is being used.
3. Your participation in this research is entirely voluntary, i.e. you do not have to participate if you do not wish to.
4. Refusal to take part will involve no penalty or loss of services to which you are otherwise entitled.
5. If you decide to take part, you are still free to withdraw at any time without penalty or loss of services and without giving a reason for your withdrawal.
6. You may choose not to answer particular questions that are asked in the study. If there is anything that you would prefer not to discuss, please feel free to say so.
7. The information collected in this session will be kept strictly confidential.
8. If you choose to participate in this research study, your signed consent is required below before I proceed with the interview with you.

VOLUNTARY CONSENT

I have read (or have had explained to me) the information about this research as contained in the Participant Information Sheet. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction.

I now consent voluntarily to be a participant in this project and understand that I have the right to end the interview at any time, and to choose not to answer particular questions that are asked in the study.

My signature below says that I am willing to participate in this research:

Participant's name (Printed):

.....

Participant's signature: Consent Date:

.....

Researcher Conducting Informed Consent (Printed)

.....

Signature of Researcher: Date:
.....

Signature of parent/guardian: Date:
.....
.....



ZAMBIA

**SCHOOL OF HUMANITIES AND SOCIAL SCIENCES
DEPARTMENT OF PSYCHOLOGY**

THE UNIVERSITY OF

19th October 2012

To whom it may concern

SUBJECT: SIBLING AND GRANDPARENTING STUDY

We are lecturers in the Psychology Department of the University of Zambia. We are currently conducting a study on Parenting in Zambia with a focus on Sibling and Grandparental caregiving in Lusaka Zambia. This exercise is being conducted as part of our PhD.

Our study seeks to study the interaction that takes place between parents (mothers) and their children and the role that older siblings and grandparents play in the caregiving activities. Our study sample includes families that have parents living with their children (with siblings) and have regular contact with their grandparents (even though they may not live in the same locality).

We have identified your institution as one place where we could recruit participants for our study. We are therefore requesting for your permission and assistance to speak to any 'potential' participants. Your assistance will be greatly appreciated. Should you require further information, kindly contact us on the information indicated below.

Yours faithfully

Haatembo Mooya
Lecturer – Psychology Department
University of Zambia
Email: haatembomooya@unza.zm
Mobile: +260 977 415 671

Francis Sichimba
Lecturer – Psychology Department
University of Zambia
Email: fsichimba@unza.zm
Mobile: +260 978 697 664

Should you require further information, please contact our supervisors on the following contact details.

Dr. S.O.C Mwaba
Psychology Department
University of Zambia
Email: sidneymwaba@yahoo.com
Mobile: **+260 975 496 346**

Dr. M. Imasiku
Psychiatry Department
University of Zambia
Email: imasikumwiya@gmail.com
Mobile: **+260 977 396 176**