CONTEXTUAL INFLUENCES ON CHILD SOCIAL AND EMOTIONAL ADJUSTMENT IN KIBERA

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CHAPTER I

INTRODUCTION

There are more than 2.2 billion children below the age of 18 in the world and an estimated 1 billion of this group lives in poverty (United Nations Children's Fund (UNICEF), 2005). In Sub-Saharan Africa where more than half of people live below the international poverty line of ~$1 a day, millions of children live in poverty (World Bank, 2009). To further exacerbate the plight of children living in poverty, the region presents some of the highest percentages of HIV/AIDS infected adults. The large numbers of infected adults has led to large numbers of HIV/AIDS orphans. An estimated 12 million children below age 17 have lost one or both parents to AIDS in the region (UNICEF, 2006).

Statement of the Problem

In the wake of the HIV/AIDS epidemic there has been a growing concern for children affected by the spreading disease and living under conditions of severe deprivation. As governments, international organizations and community-based groups strive to meet the needs of children; gaps in knowledge are becoming increasingly evident. The gaps in knowledge affect the ability of service providers to develop and evaluate interventions that adequately address the needs of children living in poverty and impacts of parental HIV/AIDS infection/death on child adjustment in extremely low

affected by HIV/AIDS (Centre Population et Developpement (CEPED), 2006; Madhavan, 2004; UNICEF, 2006). The gaps concern: (1) the actual resource settings; and (2) the roles the family and the community play in reducing the expected negative impacts on child functioning.

Initial agency/government responses have relied primarily on meeting physical needs (e.g., food and shelter) of children living in high poverty areas. Now, concerns are growing about the social and psychological needs these children may present. However, there is no consensus on how psychological and social needs can be met or how to assess whether children are receiving psychological or social support. What is evident is that children affected by parental HIV/AIDS and residing in areas of extreme poverty are at high risk for poor physical and social outcomes (CEPED, 2006; Joint United Nations Programme on HIV/AIDS, 2008; UNICEF, 2006). However, not all children living in extreme poverty and exposed to HIV/AIDS show poor outcomes. This variability in outcomes suggests that children in these settings may be able to function well, despite the adverse environment. In an effort to promote healthy social and emotional functioning in these vulnerable children, there is a need to increase understanding about the lives of children in such contexts and the factors associated with their functioning.

Reports of changes in household composition and family structure indicate an increase in female-headed and child-headed households due to HIV/AIDS related deaths and poverty. Generally, these family structures are expected to lead to poor child outcomes; however, a systematic examination of the prominent family structures and their relation to child outcomes has not been carried out (Nyambedha, Wandibba, Aagaard-Hansen, 2003; Schafer, 2006). The relationship between the changing family

structure and child functioning must be examined further to allow for a better understanding of the role of the family in helping children in low resource settings deal with parental HIV/AIDS and poverty.

The traditional kinship based support systems generally recognized as the primary means for dealing with parental death and orphans are expected to weaken as a result of increasing numbers of orphans and poor economic situations. More organizations are emphasizing the community as a means of providing social support for families in need. However, little is known about the relationship between community social support and child functioning (Ansell & Young, 2004; Madhavan, 2004; Nyambedha et al., 2001). A better understanding of the role of the community in providing social support for families would be especially valuable in minimizing the negative impact of extreme poverty and HIV/AIDS on children.

Purpose of the Study

The purpose of this study was to address gaps in knowledge by building a foundation for increased understanding of the ways children and families cope with the negative consequences of poverty and HIV/AIDS. The study did not seek to identify causal relationships between the adverse environments and child adjustment, but rather sought to identify factors associated with positive functioning in such environments so as to contribute to the development of relevant and effective programs to assist children. The project applied a cross-disciplinary approach to address gaps in knowledge by studying individual child, family and community factors and their relation to child functioning. Furthermore, the study utilized both quantitative and qualitative methods to develop a

robust understanding of child functioning in contexts of extreme poverty and parental HIV/AIDS.

Introduction to Kibera

The study took place in Kibera, one of the largest slums in Africa. Like other slums around the world, Kibera is a crowded, informal urban settlement lacking in infrastructure, characterized by inadequate water supply and poor sanitation. Kibera is densely populated, with an estimated 800,000-1,000,000 persons living in twelve villages within its 250 hectares (~1sq mile). Housing options in the area provide minimal security of tenure to tenants and are often temporary shelters with no indoor facilities (United Nations Human Settlements Program (UN-HABITAT), 2003).

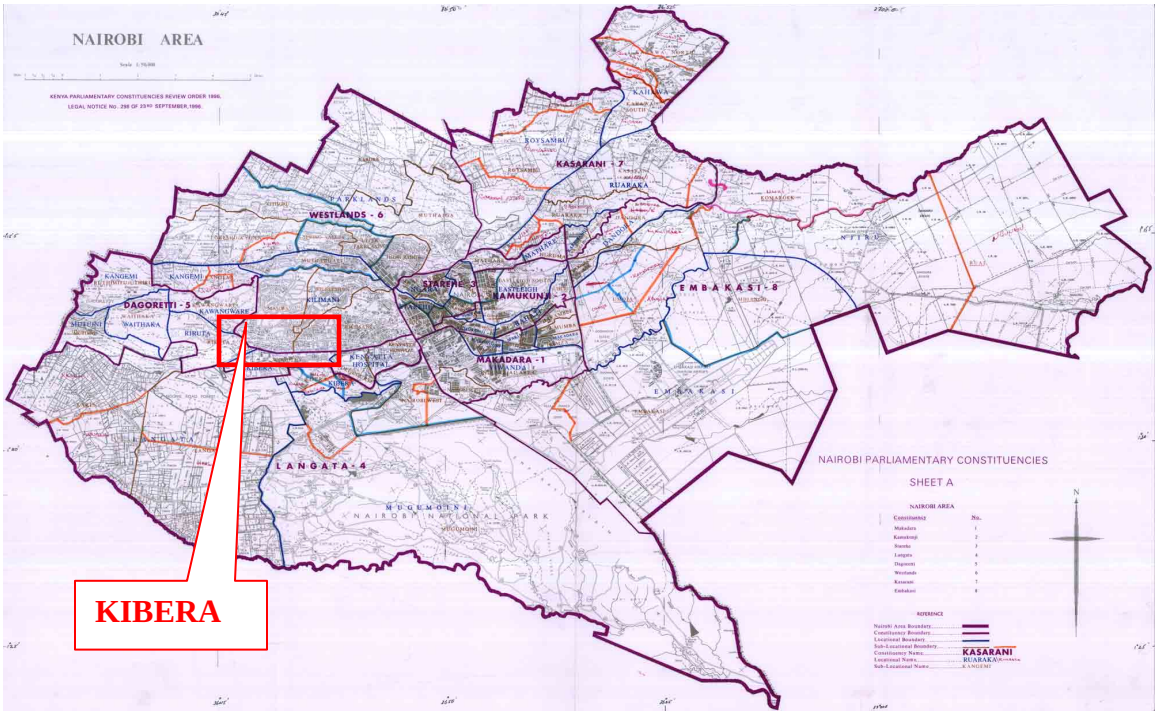

Figure 1. Map of Nairobi with Kibera highlighted.

The settlement is located in Nairobi, the capital city of Kenya (see *Figure 1*), approximately 7 kilometers from the city center. Despite the location, Kibera residents

experience extreme poverty. While actual unemployment numbers are not known, organizations working in Kibera estimate that 40-50% of adults are unemployed (Population Council, 2006). The high levels of unemployment and the lack of job security for those who do have employment, make poverty a primary concern in the area. The majority of those who do have employment, work as casual employees (i.e. day laborers) in the nearby industrial area of the city, approximately 3 kms away from Kibera, or as domestic workers or petty traders. The incomes attained from those types of employment are too low to adequately provide for basic needs of a household, even in Kibera. As a result of poverty the nutrition, education and health of children and adults living in the area is affected. A significant number of school-age children are not attending school, in spite of the governments' provision of free primary school (i.e. grades 1-8) education to all Kenyans. Estimates indicate that anywhere from 30-70% of children are not attending school (Population Council, 2006). The range varies widely as many children attend informal schools sponsored by not-for-profit groups.

Figure 2. Women waiting to buy water.

Poor health is prevalent in Kibera. Communicable diseases are abundant due to the lack of sanitation and poor living conditions. The settlement is also recognized for

presenting some of the nation's highest levels of HIV/AIDS infection. HIV/AIDS is one of the top health concerns in Kibera according to United Nations Human Settlements Program Study (un-published Social- Economic Survey by Research International, 2003).

Figure 3. Children playing in sewage in Kibera.

Waterborne diseases and infections place the children of Kibera at great risk of morbidity and mortality. Infections exacerbate the impact of a lack of food due to poverty resulting in high levels of chronic malnutrition. A study of 353 children between the ages of 6 months and 23 months found levels of malnutrition in Kibera to be 15 times higher than the national averages based on the 1999 Kenya demographic and health survey (Kariuki et al., 2002). The hardships of life in Kibera have led to numerous groups and organizations seeking to address the challenges for residents. Despite the interest, minimal research on child socio-emotional functioning occurs in the area. This study had the opportunity to examine child development in Kibera, utilizing a high-risk, understudied population.

Theoretical Foundation

The study applied theoretical constructs from the disciplines of sociology and child development. The integrated approach allowed for a broad examination of factors associated with child development as well as contributed to the use of integrated theories

and methods in research among societies encountering extreme adversity. The risk and resilience approach identified expected relationships between variables, while ecological theory provided a loose framework for organizing variables in relation to possible points for intervention. Resilience is defined as the ability to present positive adaptation when exposed to adverse contexts (Cowan, Cowan, & Shulz, 1996; Masten, Best, & Garmezy, 1990; Rutter, 1987). The study identified positive adaptation as high levels of prosocial behavior and low levels of problem behavior. Variables that increase the likelihood of poor behavioral outcomes are considered risk variables. Variables that buffer negative behavioral outcomes or promote positive outcomes are considered protective variables as they represent evidence of resilience. In agreement with Bronfenbrenners' ecological theory of human development, the study supports the idea that children were influenced by the systems within which a child lives, for example family or school. Other systems beyond the child's immediate context, for example the community, government or culture, were also expected to influence the child. In addition, the child was expected to contribute to his/her own development by influencing systems and/or through person characteristics of the child (Bronfenbrenner, 2001). Only variables relevant to addressing the gaps in knowledge were included in the study. Parental HIV/AIDS and poverty, and family structure were identified as key components of the family system. Social support, as assessed by social capital, was identified as the key component of the community system relevant to the study. The child's ability to adapt emotions appropriately across settings (emotional flexibility) and child nutrition were identified as key child level characteristics. *Figure 4* presents all relevant variables within the cultural context of Kibera.

Researchers have identified cultural context as important when examining child development (Bukowski, Sippola, 1998; Garcia Coll & Magnuson, 1999). The cultural context influences the acceptable societal norms as well as the environment the child resides in. Culture often supports and encourages certain lifestyles above others. There can even be variability in expectations of children in different cultural contexts, as adults promote some behaviors and habits in one culture and different behaviors in others (Butler, Lee, & Gross; Dubrow, 1999; Zhon, Lengua, & Wang, 2009). Dubrow (1999) illustrated the difference in his chapter on child competence and culture. Dubrow noted that child competence was not always defined the same way across cultural contexts. In fact, the features that define competency may vary depending on the context and the resources available to parents. To illustrate differences Dubrow (1999) referred to studies that showed greater parental preference and support for children with temperamental characteristics or behaviors that would ultimately be associated with competence in the future. For example, in one study temperamentally difficult and fussy infants received more support from mothers among an ethnic group in Kenya that experiences chronic food shortages. No other differences were found between infants who received support and those who did not receive support from mothers. The more difficult infants were also more likely to survive, while those without fussy temperaments were less likely to survive. The findings were interpreted as being indicative of a preference for children who are more assertive and hardy, characteristics with possible long term benefits for the type of lifestyle the group leads (Dubrow, 1999). Cultural context is expected to contribute to the types of behaviors considered socially appropriate, and ultimately the type of behavior a child presents. Although this study did not examine the influence of

specific cultural context variables on child adjustment, all study findings were interpreted in light of the unique cultural context of Kibera, Kenya. Interviews with caregivers provide qualitative information describing the context of development for children residing in Kibera.

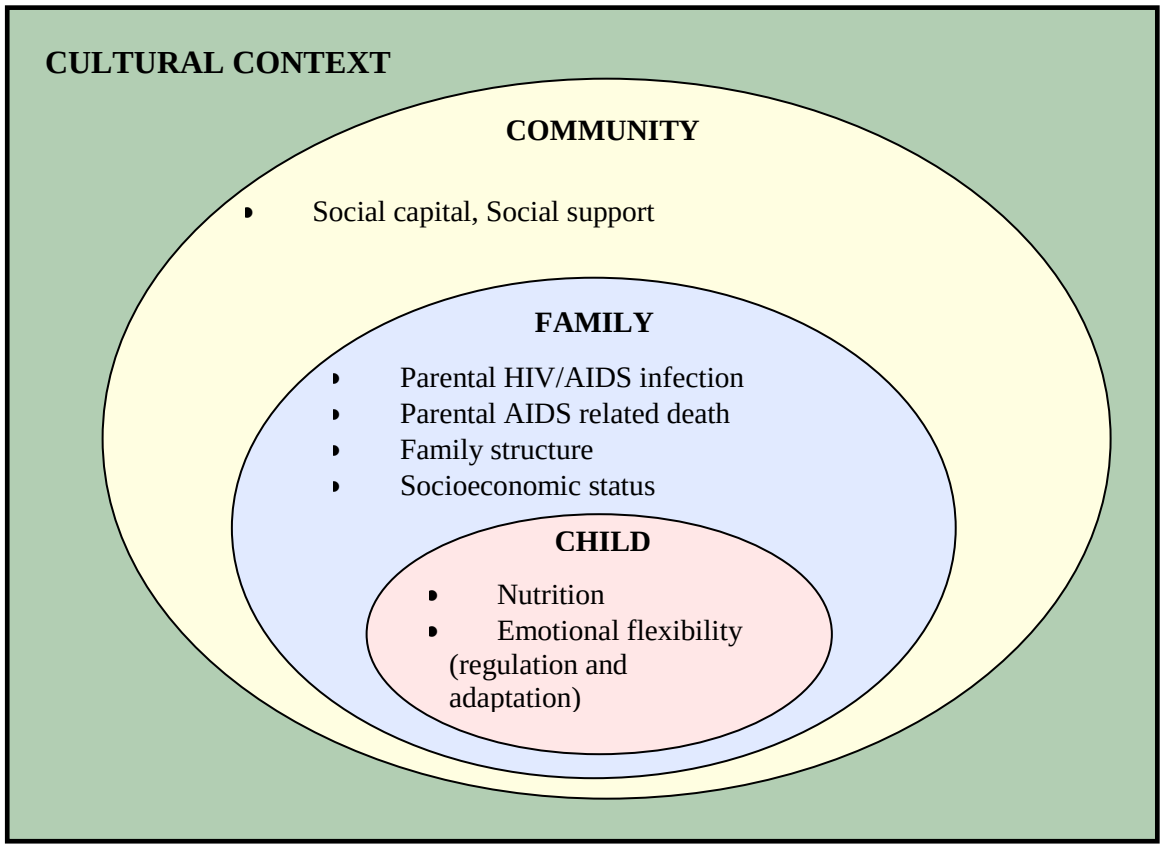

*Figure 4.*Conceptual model of variables expected to influence child functioning.

Despite exposure to adverse family or environment conditions, (e.g., maternal depression or psychopathology and low socioeconomic status) some children do show positive functioning or adaptation. The study of factors associated with poor outcomes and those that buffer negative outcomes has been used as a means to understand how to promote positive outcomes (Luthar, Cicchetti, & Becker, 2000; Rutter, 1987). Recently Masten (2007) recognized the growing interest in examining resilience across multiple

systems. In addition to addressing the gaps in knowledge described previously, this study contributes to the new wave of research on resilience by examining factors associated with child adjustment at the child, family and community level in a high risk context.

CHAPTER II

REVIEW OF LITERATURE

Child Social and Emotional Adjustment

Researchers have found a child's social and emotional adjustment to be influenced by the family and community within which the child lives. Children living in poverty, with chronically ill family members, or in single parent families, are at risk for poor child outcomes, such as poor academic records, increased involvement in delinquent behavior and poor social and emotional development (Luthar, 2006; Hoglund & Leadbeater, 2004). Risk and resilience researchers expect that exposure to multiple risks can lead to worse developmental outcomes (Luthar, 2006; Rutter, 1987). Most children in Sub-Saharan Africa are dealing with multiple sources of adversity, including changes in family structure, poor nutrition, inadequate shelter, lack of education, poverty and a lack of social support (Madhavan, 2004; Suda, 1997). Children living in poverty and affected by HIV/AIDS often leave school so as to assist in the caretaking of their sick parent(s) or to seek a means of supporting the family. In many cases healthcare costs and/or parental loss of income leads to a decrease in household income, resulting in food and resource shortages. Following a parent(s) death, children have to cope with not only the emotional distress of losing a parent to HIV/AIDS, but also major life changes. Children often have to leave their home to take up new residences with relatives or friends, become homeless

or fend for themselves in what is commonly known as child-headed households (Madhavan, 2004).

Child social and emotional adjustment is rarely examined among children living in extreme poverty or in relation to exposure to parental HIV/AIDS infection or death. Usually a greater emphasis is placed on recording the impact of poverty and HIV/AIDS on child survival among young children or participation in risky behaviors (e.g., delinquent acts and underage drinking) among adolescents (UNICEF, 2006). Young children who make it past the age of five are dealing with fewer challenges to survival and are not likely to choose to participate in risky behaviors, such as drugs and vandalism. Children of this age tend to show evidence of difficulties coping with adversity through changes in their behavior. A recent review of literature identified factors contributing to poor child developmental outcomes in developing countries emphasizing the importance of positive social and emotional development in relation to academic performance and subsequent social functioning (Walker et al., 2007). Children who met their developmental potential did better in school and were more likely to stay in school, which is expected to lead to greater productivity and success in the future (Walker et al., 2007). This study will examine child behavior at school as a means of ascertaining the relationships between HIV/AIDS, poverty and child social and emotional adjustment among young children.

Family Factors and Child Adjustment

Researchers have examined the impact of poverty on child development, and there is a general consensus that long-term poverty is detrimental. An environment of extreme poverty is often associated with more violence, less access to employment,

services, resources and support (Williams, 1997). Not surprisingly, children exposed to extreme poverty have been found to have lower academic achievement and more conduct problems (Barbarin & Richter, 1999; McLoyd, 1998). In Kibera, the families residing in the settlement are low-income, unemployed or insecurely employed and have minimal access to resources, from water and sanitation to assistance programs. Under these extreme conditions of poverty, everyone is low-income. However, the extent to which one is more disadvantaged than another may vary. An individual who is working may be able to provide food for their family, even if they cannot afford to leave Kibera. The current study considered income relative to others in Kibera as a means of assessing the extent of disadvantage the family was experiencing.

Few studies examine the impact of parental HIV/AIDS infection on child social and emotional adjustment. Forehand and colleagues (1998) found that children whose mothers were infected with HIV showed more internalizing problems, externalizing problems and less prosocial behavior in a study of inner city African-American children between the ages of 6 and 11. Upon further examination, the association between HIV infection and adjustment difficulties was found to be mediated by the ratio of adults-to-children in the home (Dorsey, Chance, Forehand, Morse & Morse, 1999). In Africa the social and emotional influences of parental HIV/AIDS infection or death are rarely examined by researchers (Foster & Williamson, 2000). Most research on the influences of HIV/AIDS has focused on the physical impacts of the disease, for example increases in under-five mortality and orphanhood (Preble, 1990). Nonetheless based on research on child social and emotional adjustment in western nations, the impact is expected to be negative. Increases in depression, stress, and trauma are expected to be evident among

children with HIV/AIDS affected parents. The changes in caregiver and quality of life as the family adjusts to a chronically ill parent or the death of a parent are expected to result in difficulties with functioning. In addition, the stigma associated with HIV/AIDS is expected to be associated with social withdrawal (Foster & Williamson, 2000). Despite the expected negative impacts of HIV/AIDS infection or death on child social and emotional adjustment, researchers and aid providers expect family characteristics to reduce vulnerability and bolster resilience. However, more research is necessary to determine the mechanisms driving resilience in families affected by HIV/AIDS especially with the high numbers of HIV/AIDS orphans in Africa (Foster & Williamson, 2000; Pedersen & Revenson, 2005; UNICEF, 2006).

Sociologists describe the family as a subsystem of society that is efficient in the socialization of its members, especially children, and reliant on a structure organized by power and roles (Doherty, Boss, LaRossa, Schumm, & Steinmetz, 1993; Litwak, Silverstein, Bengtson & Hirst, 2003). Throughout the years, changes in family structure or makeup have led to numerous studies of possible effects of family change and structure on the well-being of the family and the ability of the family to meet its goals of socialization (Kerr, 2004; Kingsbury & Scanzoni, 1993; Snyder, McLaughlin & Findeis, 2006; Verropoulou & Joshi, 2002). Researchers examining the association between family composition and child outcomes have met with little consensus over the nature of the relationship. While some researchers find evidence that child well-being is negatively affected by certain family structures, others find no association or ascribe the association to other factors (Cain & Combs-Orme, 2005; Kerr, 2004). Barrett and Turner (2005) found that family structure was associated with substance use problems, with single-

parent families facing elevated risk of substance use problems. Girls from single parent households are more likely to be pregnant teens (Wilson, 1987). In a longitudinal study of family structural changes and Canadian children, Kerr (2004) found that family structure and poverty both influenced child outcomes. Children that resided in single parent homes or lived with step-parents presented higher levels of anxiety, hyperactivity, and emotional symptoms. In contrast, Verropoulou and Joshi (2002) found associations between family structure and child outcomes no longer existed once human, financial and social capital were accounted for in analyses. The incongruity of findings shed light on the complex nature of families. There is great diversity in the types of family structures that exist around the world, ranging from nuclear families and extended families, to single-parent families (Hennon & Wilson, 2008). To further complicate studies on family makeup the structure of a family can change over time.

In sub-Saharan Africa, researchers have documented changes in the prevalent family structure as a result of urbanization, colonial influences, economic hardship and spread of Western culture (Ankrah, 1993; Suda, 1997). The African family structure, especially in urban settings has evolved from a broader extended family composition to a smaller more nuclear structure. The trend toward nuclearization has been seen as a necessary response to the demands of economic hardship especially in urban settings and as it becomes increasingly difficult to financially provide for large families. Although extended family obligations and connections remain intact especially in times of crisis, families more frequently consist of fewer related individuals residing together in addition to a man, a woman and children (Ankrah, 1993; Jones, 2005; Madhavan, 2004). As a result of large numbers of adults dying prematurely due to HIV/AIDS, family structure is

changing again. The spouse and children of a HIV/AIDS infected adult may move in with relatives or become dependents of relatives who are already struggling financially. Researchers note an increased reliance on the extended family to cope with parental deaths, leading to concerns about the current family structures' abilities to function considering that the economic situation is not improving despite the increasing demands (Ankrah, 1993; Ansell & Young, 2004; UNICEF, 2006). Furthermore, families composed of female headed households or child headed households are not expected to be able to handle the current economic demands adequately as they are likely to have less income and fewer skills for generating income. Some researchers believe that the family is capable of adaptation and will adjust and cope with the economic and structural demands of changes resulting from HIV/AIDS (Ankrah, 1993) while others are wary of current family structures and their abilities to cope (Madhavan, 2004; Nyambedha et al., 2003).

In Kenya, 58% of families are compiled of a monogamous couple and their children, 26% are made up of one parent and their children, 16% are composed of a polygynous couple and children. In addition other relatives or nonrelatives may reside within the same home (Ngige, Ondigi & Wilson, 2008). The HIV/AIDS epidemic and high levels of poverty have led to more female-headed households and orphans in the nation. While there have been changes in what a family looks like, families are still recognized as primary sources of socialization in Kenya and other African nations (Ngige et al., 2008; Njue, Rombo & Ngige, 2007). More research is needed to understand the relationship between family structure and child functioning in Kenya and other African nations currently experiencing changes in family composition.

One goal of this study is to describe the various family structures present in a low-income, urban population in sub-Saharan Africa known for high rates of HIV infection. An examination of the associations between the different family structures and child functioning will contribute to research of family structures and their impact on children. It is expected that there will be an interaction between family structure and parental HIV/AIDS infection/death, because some family structures (e.g., smaller families or child headed families) do not cope as well as others with the economic and social impacts of HIV/AIDS or taking on an orphan. Furthermore, family structure is expected to influence the relationship between parental death or illness and child functioning. Family structure is expected to affect a family's ability to interact with society and identify with a community that will provide support and access to resources.

Community Factors and Child Adjustment

Families are nested within communities. Families that are well connected within the community are more likely to function well due to access to social support, information and resources at the community level. There is a burgeoning interest in developing interventions that strengthen the community and the community's ability to respond to HIV/AIDS and poverty. For researchers concerned that traditional kinship support structures are weakening, the community provides a potential source of social support for families that are dealing with HIV/AIDS and poverty (Madhavan, 2004; Nyambedha et al., 2003).

The sociological concept of social capital provides insight into the value of social support at the community level. The concept of social capital appeals to policy makers and service providers due to evidence that increased social capital is related to higher

levels of well-being especially among low-income communities (Farrell, Tayler & Tennent, 2004; Leonard, 2005). Coleman, Putnam and Bourdieu made significant contributions to the conceptualization of the construct of social capital (Leonard, 2005; Stephenson, 2001). Coleman (1988) identified social capital as the positive characteristic of interactions between actors that exists when there is a sense of trust and belonging among actors. Putnam (2000) defined social capital in similar terms emphasizing social trust, coordination and cooperation for mutual benefit to the actors involved. Both Putnam and Coleman suggested that social capital could be developed and transformed into other types of capital. They identified three types of capital possessed by families: financial, human, and social capital. The term financial capital was used to refer to economic status and access to resources. Human capital represented the parents' educational achievement and the ability to aid children in attaining educational success. Social capital was identified as existing within relationships between adults inside and outside the family and between adults and children (Coleman, 1988; Putnam, 2000). Bourdieu (1986) considered social capital as reliant on the connections and obligations between individuals. Bourdieu suggested that value was dependent on the individual's ability to transform social capital into another types of capital, for example human or financial capital (Bourdieu, 1986; Leonard, 2005).

Social capital can be considered a valuable resource available for families in need, either within family relationships or between the family and the community. Based on Coleman and Putnam's work, families lacking in social capital can be strengthened and strengthening of social capital is likely to lead to other positive outcomes. Opinions differ as to whether social capital on its own is a valuable resource, or whether value is only

gained once it is transformed to financial or human capital. Coleman, Putnam and Bourdieu all support the notion of exchange value as more important than use value. Others suggest that use value can be equally important (Bourdieu, 1986; Coleman, 1988; Leonard, 2005; Putnam, 2000; Yip et al., 2007). Researchers found that low income children and families tend to emphasize the use value of social capital beyond the exchange value when discussing the impact of social support on their own personal well-being (Leonard, 2005). This may reflect the lack of agency these families have in transforming social capital to other forms of capital. The study participants for this project live in extreme poverty and are lacking in agency, so it is more likely that the use value of social capital will be more relevant in this situation. Families who are high is social capital, are better connected, suffer less from isolation and are part of a community that will help the family cope better with difficulties. Researchers have found evidence of an association between social capital and individual health and well-being (Farrell et al., 2004; Stephenson, 2001; Yip et al., 2007). The relation between well-being and social capital is so compelling that Australia's Commonwealth Department of Family and Community Services now considers social capital as one of the determinants of well-being among families and local communities (Farrell et al., 2004).

While a growing body of research has shown a connection between individuals and social capital, there is no consensus as to whether children are able to benefit from social capital. Coleman and Putnam, who viewed children as "future citizens," argued that parents transferred social capital to children but that children could only benefit from parental social capital once they were adults and capable of transforming social capital into other types of capital. Bourdieu considered social capital as embedded in the

practices of everyday life (Bourdieu, 1986; Leonard, 2005; Stephenson, 2001). Bourdieu's approach allowed for children to benefit from social capital now and was used in several studies of children and current social capital (Bourdieu, 1986; Stephenson, 2001). Some studies considered the lack of a father in a household detrimental to children since a father's absence means that a child's social capital is limited, in the sense that the child will have access to fewer sources of social support. In accordance with previous research, families presenting high social capital are well-supported in the community and more likely to have access to information and resources (Yip et al., 2007). This study expects to find social capital associated with child outcomes especially since the study sample is preschool children who are primarily reliant on their parents for the meeting of their physical and emotional needs. Children who belong to families with a strong sense of social capital are expected to present better functioning. Children who belong to a family with a weak base of social capital are likely to have fewer sources of support and security in the neighborhood and as a result present more behavior problems. Families with access to resources and information are more able to provide for their children's needs.

Child-level Factors and Child Adjustment

In addition to family and community influences on child functioning, individual characteristics of the child also play a role in the child's ability to function. Emotional flexibility refers to the child's ability to adapt or regulate their emotions in a socially acceptable manner across different settings. Two constructs associated with emotions will be examined to ascertain emotional flexibility, emotion regulation as assessed by effortful control, and ego-resiliency. The two variables represent child temperamental and

personality attributes that are associated with the expression of emotions and subsequent behavior. Effortful control is typically considered a temperamental attribute, while ego-resiliency a personality attribute (Eisenberg et al., 2001; Juffer, Stams, & Ijzendoorn, 2004; Smeekens, Riksen-Walraven, & van Bakel, 2007). Although both are associated with emotional flexibility they are different constructs.

Emotion regulation is defined as the ability to adapt emotions in an acceptable manner. Burgeoning research on emotion regulation indicates that a child's ability to manage and regulate emotions and responses are related to the child's behavior (Eisenberg et al., 2001). Children who are unable to regulate their emotions and negative emotional responses are more likely to present behavior problems. Emotion regulation has been found to serve as a mediator of the relationship between negative contextual factors and child behavior, with children expressing difficulties with emotion regulation presenting worse outcomes (Fabes et al., 1999; Morris et al., 2002). Research suggests that children who are capable of regulating their emotions appropriately will function well despite being at risk for poor social and emotional adjustment. A temperamental component of emotion regulation, effortful control, has been used by researchers as a component of emotion regulation in studies (Eisenberg & Morris, 2002). This study will assess emotion regulation by measuring effortful control and use the terms effortful control and emotion regulation interchangeably. As a result, a study on contextual influences on child functioning would benefit from the consideration of individual child emotion regulation/effortful control abilities and their association with child functioning.

Ego-resiliency is defined as a child's ability to be flexible and adapt emotional responses across different environments. Children that are capable of adapting their

responses to different situations represent high ego-resiliency, while those that find it difficult to adapt, showing minimal emotional elasticity, represent low ego-resiliency (Block & Block, 1980). A child with high ego-resiliency is expected to adapt behavior appropriately and exhibit more favorable social and emotional adjustment in stressful environments. A child with low ego-resiliency is expected to have great difficulty adapting behavior in stressful situations therefore exhibiting more problematic behaviors (Juffer et al., 2004). Smeekens and colleagues (2007) found ego-resilient children to present little or no behavior problems in a study of behavior problems among 7 year olds. Research regarding the relationship between ego-resiliency and child functioning has been somewhat inconclusive, and an interest in understanding the nature of the impact of ego-resiliency on child functioning and emotion regulation has been recognized (Eisenberg & Morris, 2002). As with emotion regulation, past research indicates that ego-resiliency may influence child functioning. By considering both constructs together, this study will examine both personality and temperamental aspects of emotional flexibility by examining overall abilities to regulate emotions, across different contexts. This will be the first study examining the relationship between emotional flexibility and child functioning in such extreme poverty, as literature searches presented no evidence of previous studies examining emotion regulation and ego-resiliency in children in sub-Saharan Africa.

Undernourishment is a major concern in disadvantaged populations in developing countries, where children do not have access to the foods necessary for healthy growth. Lack of adequate food has been identified as one of the major concerns of persons residing in Kibera (Research International, 2003). In a context where the majority of

people are living well below the universal poverty live of $1/day, food insecurity and poor nutrition are common in Kibera. In addition to the prevalence of poor nutrition, a child's nutritional status has been found to influence child social and emotional adjustment. Measurements of child height and weight are used to develop anthropometric indices useful in presenting meaningful information about a child's level of general nutrition in relation to indices of normal well-nourished children of a similar age. Three commonly used anthropometric indices are height-for-age, weight-for-age, and weight-for-height/BMI. A chronic lack of adequate nutrition results in stunting, where children present low height-for-age. Low indices of height-for-age and weight-for-age indicate wasting and underweight respectively (de Onis & Blossner, 2003).

Studies of undernourished children find that child mental and emotional development is hindered by a lack of adequate nutrition (Espinosa, Sigman, Neuman, Bwibo, & McDonald, 1992; Kordas, Stoltzfus, Lopez, Rico & Rosado, 2005). A pre- and post- intervention study of children presenting stunting as a result of chronic undernutrition found that even after the intervention, children who were stunted had lower scores in math, spelling and reading comprehension and higher levels of conduct problems (Chang, Walker, Grantham-McGregor & Powell, 2002). Stunting, iodine deficiency, and iron deficiency anemia have all been identified as major risk factors for poor child development in developing countries (Walker et al., 2007). Furthermore, numerous organizations emphasize the provision of food to children in need, although the interest is in providing for physical needs, researchers indicate that provision of food also impacts social and emotional development. The inclusion of the nutritional status

variables will allow for an examination of child nutrition as a possible moderator of the impact of HIV/AIDS on child functioning.

Study Objectives and Hypotheses

In summary, research indicates that family structure, socioeconomic status, social capital and individual child characteristics all influence child functioning. Furthermore, exposure to risk factors in the family and community negatively impact child functioning while family, social capital and individual child characteristics likely buffer these associations resulting in healthy child adjustment even in times of adversity. Despite research supporting these claims, little research has been conducted among children living in extreme poverty and adversity. Thus, the current study examined such associations in a sample of children living in Kibera, Kenya. This study had three objectives: 1) to describe the context within which children reside in Kibera, 2) to assess whether family structure, socioeconomic status, social capital, parental HIV/AIDS, emotional flexibility, and nutritional status influence child functioning, and 3) to examine whether there are differences in family structure, social capital, child emotional flexibility, parental HIV/AIDS, socioeconomic status and child nutrition among children who are functioning well and those who are functioning poorly. Following is a description of the components of each objective and the relevant hypotheses.

Objective #1: **Describe the context within which children reside in Kibera.**

a) Themes describing life in Kibera for families and children will be identified.
b) Themes describing how families and children cope with HIV/AIDS in Kibera will be presented.
c) Current and predominant family structures will be described.

Objective #2: Assess whether family structure, socioeconomic status, social capital, parental HIV/AIDS, emotion flexibility and nutritional status influence child functioning.

a) Direct relationships are expected between socioeconomic status, social capital, family structure, emotion flexibility, nutritional status and child adjustment. Low socioeconomic status, social capital, emotional flexibility and nutrition are all expected to be associated with poor functioning and less resilience as evidenced by more externalizing and internalizing behavior and less prosocial behavior. Children living in two-parent homes or with multiple-adults are expected to be more resilient as evidenced by the presentation of higher levels of prosocial behavior and less externalizing and internalizing behavior.

b) The relationships between socioeconomic status, social capital and family structure are expected to affect the individual child's emotion flexibility, child nutrition and adjustment. Low levels of socioeconomic status and social capital are expected to place children at risk for less emotional flexibility and poor nutritional status, and in turn more behavior problems and less prosocial behavior. Certain family structures, such as one-parent families and child-headed households are expected to be associated with more risk, evidenced by poor nutritional status, less emotional flexibility, and more behavior problems. Nutritional status and emotional flexibility are also expected to act as protective factors influencing the relationship between socioeconomic status, social capital, family structure and child adjustment.

Objective #3: Examine whether there are differences in family structure, social capital, child emotional flexibility, parental HIV/AIDS, socioeconomic status and child nutrition among children who are functioning well and those who are functioning poorly.

a) Children who are exposed to parental HIV/AIDS, poor nutrition, low socioeconomic status, low social capital and low emotional flexibility are expected to function well.

b) Children who are exposed to parental HIV/AIDS, poor nutrition, low socioeconomic status, low social capital and low emotional flexibility are expected to function poorly.

CHAPTER III

METHODOLOGY

Preliminary study

This study builds on an Oklahoma State University, Institutional Review Board approved, pilot study carried out in December 2006. The pilot study examined the social and emotional adjustment of children in Kibera. Teachers of a nursery school in Kibera completed survey measures regarding each child's behavior in class and among peers. The goals of the study were to describe the social and emotional adjustment of preschool age children in Kibera, compare the findings with previously gathered data on the adjustment of similar aged children in low-income, at-risk neighborhoods in the US, and prepare for a more thorough examination of contextual influences on child adjustment in Kibera. Analyses indicated that the measures of child social and emotional functioning utilized were reliable for the population, presenting acceptable alphas ranging from .60 to .80 for relevant socio-emotional adjustment scales (e.g., externalizing, prosocial, and internalizing behavior). Of the fifty-two children teachers reported on, 46% lived in a home with a HIV/AIDS infected parent and 58% had experienced a death in the family within the past year. The prevalence of HIV/AIDS among the sample supports the need for this study examining the relationship between contextual factors, such as parental

HIV/AIDS and child functioning. The pilot project also provided a valuable opportunity to develop a working relationship with the school.

Study participants

Data were gathered on 86 children between the ages of 2.5 and 8 years. Children were recruited from the same nursery school as the pilot project, a small not-for-profit school located in Kibera. Increases in enrollment led to primary caregivers of 100 children being approached to participate in the study. Of the 86 children for whom caregiver consent was given, fifty-five percent were females (N = 47) and forty-five percent (N = 39) were males. While ethnicity was not explicitly requested, variability in ethnicity (i.e., tribal membership) was evident from the names of the children and languages spoken. Although school administrators indicated that at least half of the children attending the school come from families affected by parental HIV/AIDS infection or death, only six primary caregivers indicated that a child's mother was infected with HIV/AIDS. Only eight caregivers noted a father was infected with HIV/AIDS. Overall, 10 primary caregivers reported a parental death (e.g., due to any cause including HIV/AIDS). The low levels of reporting probably reflect the sense of stigma associated with HIV/AIDS and a desire to keep such information private. Underreporting was also evident with the education questions as a result of confusion with regards to how the

Figure 5. Outside the nursery school.

education questions were phrased. In the interview caregivers were asked to report the last year of their studies if they had not completed school. Caregivers frequently responded to that question with an actual year (e.g., 1982) instead of stating how far they had gone in their studies (e.g., Standard/Grade 7). As the standard of living comparison item was also available as a means to assess socioeconomic status, education was dropped from the analyses.

Procedure

Once Institutional Review Board approval was granted, a research team traveled to Kibera, Kenya to carry out the study. Several meetings were scheduled at the nursery school to provide information to families of children attending the school. At these meetings the researchers were introduced to the families, the study was described, and consent was sought from primary caregivers. Due to the lack of trust of outsiders among this population, three research assistants familiar with the sample and Kibera were present at all meetings. Two of the research assistants are teachers at the school while the other is an individual who is known in the area due to the time he spends volunteering in the area. Meetings were conducted in English and Kiswahili, to ensure project information was adequately communicated. Data collection proceeded only after receipt of primary caregiver consent.

Figure 6. Children inside a classroom at the nursery school.

Data collection involved a mixture of quantitative and qualitative methods (see *Table 1* for a list of measures). This approach is recommended by social scientists when support networks are under examination, as it provides a more robust understanding of the cultural context (Adams, Madhavan & Simon, 2006). Furthermore it is recommended in research where an understudied cultural context is examined (Garcia Coll & Magnuson, 1999). The study gathered *quantitative* data from survey measure reports, and anthropometric measurement of the children. Teachers were asked to report on the social and emotional adjustment of children in English as both teachers spoke English fluently. Children whose parents had provided consent and who wished to participate were weighed and measured over the course of two days. A digital, electronic scale calibrated to measure weight in kilograms was used to measure weight. To minimize error in height measurements a ruler was fixed onto a flat plank of wood to make the measurement surface level. One research assistant was responsible for weighing all of the children, while another research assistant was responsible for measuring the heights of all children. All children at the school on the days of anthropometric measurement received a bottle of juice, notebook and pencil, whether they participated or not. *Qualitative* data was gathered through structured interviews in Kiswahili (English and Kiswahili versions of the measure is included in the Appendix). Consenting primary caregivers were asked to participate in audio-recorded structured interviews

*Figure 7.*The chapel was the only room with a door, all interviews took place there.

providing information about family and community characteristics. Interviews lasted 30-45 minutes. Interviews took place in the chapel at the nursery school at scheduled times. For those who could not make it to the school during the scheduled time, the option was give for interviews to be carried out at the homes of participants. No caregivers utilized the option; all who wished to participate made it to the scheduled times. Parents who consented to participate were provided with a bag of groceries including bar soap, flour, oil, tea, and sugar.

Measures

See *Table 1* for a summary of measures used in the study. *Child Functioning.* The Child Behavior Scale (CBS; Ladd & Profilet, 1996) was completed by teachers to ascertain child functioning. The CBS assesses child social competence, by gathering information about aggression, interactions with peers, anxious-fearful behavior, hyperactive-distractible behavior, prosocial and asocial behavior (Ladd & Profilet, 1996). The rating is done on a three-point scale ranging from "doesn't apply" to "certainly applies." Good internal consistency and construct validity have been reported by Ladd and Profilet, alphas .77-.96. The CBS has also been used favorably among children of different ethnicities and socioeconomic backgrounds (Ladd & Profilet, 1996). In the current study, *externalizing behavior* was assessed via the aggressive behavior scale (7 items, $\alpha = .85$) using items such as "kicks, bites, hits," and "taunts, teases." *Prosocial behavior* was assessed via the prosocial scale (6 items, $\alpha = .85$) using items such as "helps others," and "cooperative with peers." *Internalizing behavior* was assessed via the anxious-fearful scale (4 items, $\alpha = .47$) with sample items such as "is worried" and "cries

easily." Although the reliability for the internalizing scale is low, it will be used for analysis as the scale is commonly used in studies of child adjustment.

Child-level Variables. Child level independent variables were assessed using teacher reports, caregiver reports, and anthropometric measurement. Both teachers and caregivers reported child age and gender. Measurements of child height and weight were used to compute anthropometric indices of child *nutrition* status. Computations of child weight-for-height/BMI, weight-for-age and height-for-age were standardized into Z-scores by comparison with median scores from an international reference population. The computations were done utilizing the World Health Organization (WHO) Anthro software. Different reference populations were used for children above the age of five and those below the age of five. Since child ages were reported in whole numbers by teachers and caregivers average ages were calculated. For example children who were identified as six years old were considered as six and a half years. The WHO Anthro software calculates Z-scores of children with regards to BMI, weight-for-age and height-for-age. In accordance with World Health Organization standards, children falling below -2 standard deviations are considered moderately undernourished, while those falling below -3 standard deviations are considered severely malnourished (de Onis & Blossner, 2003).

Table 1.

Measures and methods used for data collection.

	Measures	**Method**
Child Functioning Outcomes	Child Behavior Scale (CBS; Ladd & Profilet, 1996)	T

Externalizing, internalizing and prosocial behavior	*Externalizing (α = .85), internalizing (α_s = .47), prosocial (α_s = .85)*	
Person-level Variables		
Nutritional status	Anthropometric measurement	M
Emotion flexibility		
Emotion regulation	Child Behavior Questionnaire (CBQ; Goldsmith & Rothbart, 1991) *Effortful control (α_s = .77),*	T
Ego-resiliency	revised Block & Block (1980) Q-sort (Eisenberg et al., 1997) *Ego-resiliency (α_s = .78),*	T
Family Variables		
Parental HIV/AIDS	Structured interview	PC
infection	Structured interview	PC
Parental HIV/AIDS death	Structured interview	PC
Family Structure	Structured interview	PC
Socioeconomic status		
Community Variables		
Social capital	Structured interview	PC
Access to resources	Structured interview	PC

α_s = scale reliability in this study, T= teacher, PC=primary caregiver, M=measurement

Emotional flexibility was assessed by teacher reports on emotion regulation and ego-resiliency measures. Emotion regulation was assessed from teacher reports on a shortened version of the Child Behavior Questionnaire (CBQ; Goldsmith & Rothbart, 1991), measuring attention focusing, attention shifting, and inhibitory control. The scales for attention focusing, attention shifting and inhibitory control were combined for use as

an indicator of effortful control which is one indicator of emotion regulation (Morris et al., 2002). The measure relies on teacher ratings of how true an item is for the child on a 7-point likert scale (1 = extremely untrue to 7 = extremely true). Sample items include "Has a hard time shifting from one activity to another," "Has trouble sitting still when s/he is told to" and "Is easily distracted when listening to a story." Internal consistency estimates of the CBQ range from .67 to .94 (Goldsmith & Rothbart, 1991; see Fabes, 1994 for the reliability of the shortened scales), and scales from the CBQ have been correlated with similar observed constructs and child adjustment (see Eisenberg et al., 1997). In the current study, *effortful control* exhibited adequate internal consistency (α = .77).

Teachers also reported on the child's ability to vary emotional response in different settings, a construct known as *ego resiliency*, utilizing a revised and reformatted version of Block and Block's (1980) Q-Sort. The measure asks how well a statement describes the target child, using a 9-point likert scale (1 = most undescriptive to 9 = most descriptive). Sample items include, "Freezes up when things are stressful, or else keeps doing the same thing over and over" and "When under stress, s/he gives up and backs off." The measure presents good construct validity and internal consistency (Eisenberg et al., 1997). In the current study, *ego-resiliency* presented an adequate internal consistency of .78.

Family Variables. Structured interviews with the primary caregivers were used to gather information about family level characteristics. In the course of the interview, primary caregivers were asked about *parental HIV/AIDS death and/or infection, family structure*, and *socioeconomic status*. To ascertain family structure, the caregiver was

asked about the child's household composition. This allowed family structure to be classified according to common methods of marital status and whether the family is intact or not. To get further information about the family structure, a household composition grid was used to report on the age, gender and relation of each member of the family to the child subject (see Appendix).

Assessing socioeconomic status presented a significant challenge. In a nation where the majority of people live on less than one dollar a day, common measures of socioeconomic status are often too broad and irrelevant. Other researchers have also acknowledged the challenge of measuring income especially among poor populations and developing countries (Kerr & Beaujot, 2003). One approach often used is the reliance on a proxy measure of income such as presence of glass windows or indoor plumbing. In the population under consideration, reliance on a proxy such as presence of glass windows or indoor plumbing would be equally inappropriate as very few have access to such facilities in Kibera. No other items were identified as worthwhile proxies, leading to a different approach of assessing socioeconomic status. In the current study, one question in the structured interview asked the primary caregiver to report on their family's experience of financial strain/poverty in comparison to other families in the area. The item comparing familial financial strain with that of others in the neighborhood is taken from Hilton and Devall's (1997) Family Economic Strain Scale and adapted to involve a comparison with the neighborhood in Kibera as opposed to a neighborhood in the U.S. Participants were asked to indicate how their standard of living compares to that of others in Kibera (ranging from -2 = far below average to 2 = far above average). In an attempt to assess income by other means, another item asked about education level. While education

level is sometimes used as a proxy for socio-economic status in the U.S. it may not serve in a similar fashion in Kibera due to high unemployment and illiteracy.

Community Variables. Data regarding community level variables were gathered in the course of the structured interview. The items about *social capital* were adapted from a measure of social capital used by Farrell, Tayler, and Tennent (2004). Items reflect six dimensions of social capital identified by Onyx and Bullen (1997): connections with family and friends; connections with the neighborhood; participation in the community; sense of trust and safety within the community; proactivity within the community; and tolerance of diversity. In Onyx and Bullen's (1997) study, factor analyses across different neighborhoods supported the six dimensions as acceptably reliable and valid components in a measure of social capital (Onyx & Bullen, 1997). In the current study, minor adjustments were made to the items to reflect cultural differences. Several additional questions were included in the structured interview referring to the family's access to resources in times of need and sources of support. These questions allow primary caregivers to report on aspects of social support that are culturally and personally relevant (see Appendix for the structured interview questions). The exploratory items provide information that will be useful in the interpretation of findings.

Data Analysis Plan

Data gathered using each of the measures will used to meet the objectives detailed in Chapter 2. **Objective #1: Describe Kibera.** Qualitative data from the structured interviews will be examined for themes describing life in Kibera and how families and children cope with HIV/AIDS in Kibera. Family composition information will be compiled and categorized to identify predominant family structures. **Objective #2:**

Assess whether child, family, community factors influence child adjustment. To examine the direct and indirect effects on child social and emotional functioning, correlations will be run and a path analysis model will be tested that includes variables identified as important to child development and relevant for interventions. The path analysis model is presented in *Figure 8* below. **Objective #3: Examine differences in child functioning according to child, family and community factors.** Children will be classified into two groups, well-functioning and poor functioning. Then ANOVAs will be run to examine whether there are differences in parental HIV/AIDS, socioeconomic status, family structure, social capital, child emotion flexibility and nutrition.

Summary

In testing the central hypothesis, the study garners information about the impact of parent level factors on child social and emotional functioning. The findings will address the gaps in knowledge regarding the impact of parental HIV/AIDS on child functioning as well as contribute to a greater understanding of factors associated with healthy child adjustment in an especially disadvantaged population. As there is a shift to provide for social and psychological needs of children and to intervene at the family and community level, the findings of this study will provide useful information for guiding programs and policies to support children affected by HIV/AIDS. Understanding the relations between risk variables (e.g., parental HIV/AIDS and poverty) and other variables (e.g., family structure, social capital, and emotional flexibility) will allow for identification of potential protective mechanisms that could lead to interventions in a vulnerable, understudied population.

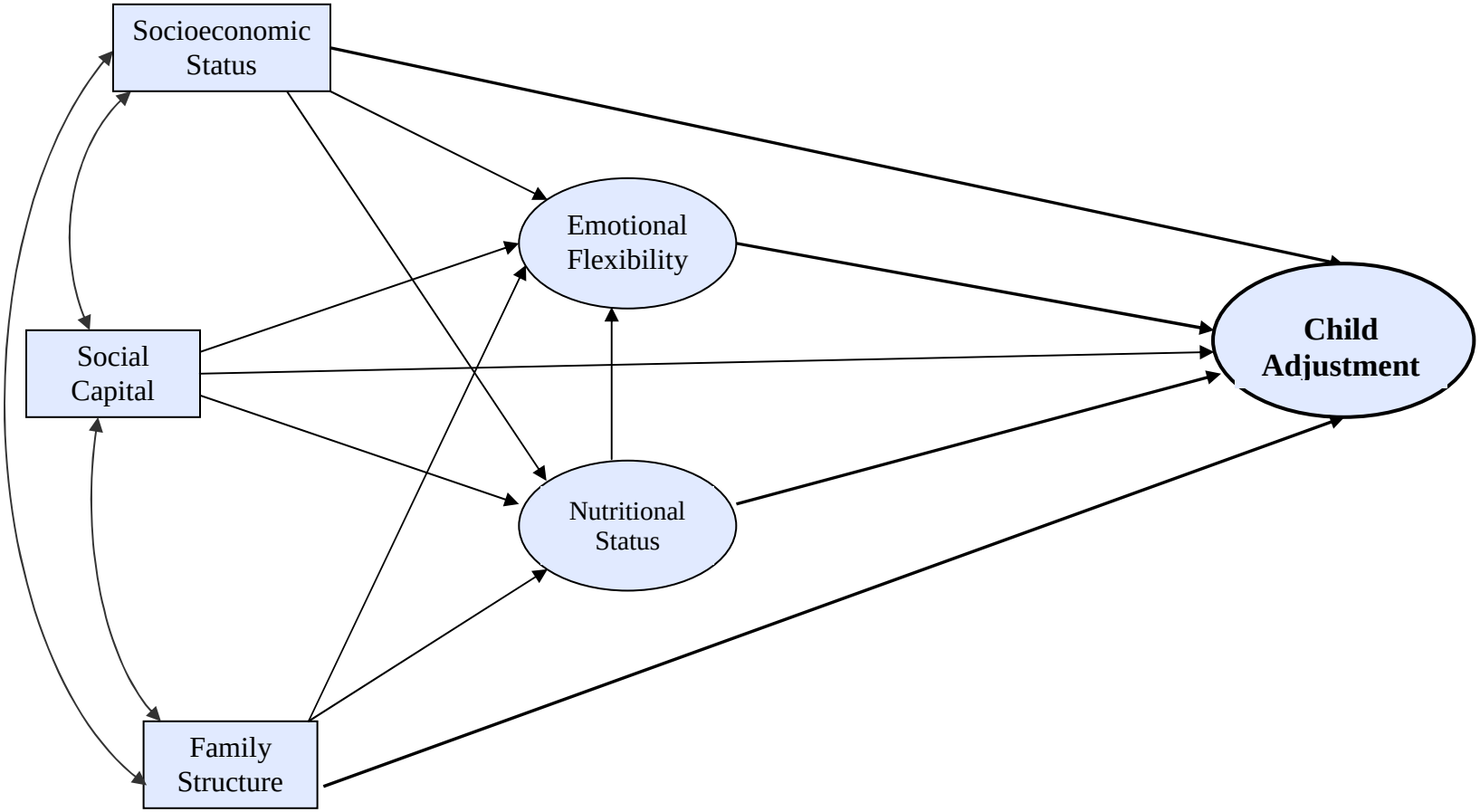

Figure 8. *Path model identifying expected relationships between child, family, community variables and child adjustments.*

CHAPTER IV

RESULTS

Life in Kibera

To further understanding of this understudied population, qualitative and descriptive findings are presented in addition to quantitative results. Study findings are presented according to the study objectives identified in Chapter 2. Qualitative findings from interviews with caregivers were used to explore the cultural environment within which children reside in Kibera. Once the structured interviews were transcribed and translated into English, the transcripts were read by several members of the research team. Recurrent themes were identified and the qualitative data analysis software, QSR NVivo©, was utilized to pull out phrases associated with key words. The results of these analyses produced responses associated with themes reflecting advantages and disadvantages of living in Kibera, described below. Many participants also discussed the impact of HIV/AIDS on children, and sample responses are provided following the advantages/disadvantages themes. Questions about living in Kibera asked caregivers to describe advantages and/or disadvantages of living in the settlement. When reporting advantages, most caregiver responses reflected advantages associated with either low expenses or social benefits of residing in the area. Respondents noted the inexpensive nature of goods in Kibera and the ability to access goods. The caregiver of a 4 year-old

Figure 9. Rooftop view of the crowded slum.

male stated that, “The cost of living is cheap. The child doesn’t need so much here. Some organizations have [even] come to help us.” The caregiver of a 4 year-old female stated that, “…life is cheap you can buy vegetables for five shillings….housing is inexpensive.” A caregiver of a 5 year-old stated, “Most schools are free, some schools offer sponsorship so the main thing a parent does is to get food and clothes.”

While most advantages identified had to do with the inexpensive nature of life, some respondents identified social benefits associated with living in the area. The primary caregiver of a 3 year-old girl noted the following advantage, “Children mix with other children and learn different languages.” Another caregiver stated, “You mix with people from all walks of life.” Another caregiver acknowledged, “The family stays together.”

When caregivers were asked to identify disadvantages associated with life in Kibera, more variability in responses was found. Three themes were identified that had to do with disadvantages/challenges of residing in Kibera; increased amounts of sickness, exposing children to delinquency or bad behavior, and a lack of resources (e.g., food, money). Several caregivers mentioned the challenges to physical health associated with residing in Kibera, such as the caregiver of a 5 year-old boy who stated, “The problem is the environment….a very dirty environment causing diseases to the children.” Another caregiver acknowledged that waterborne diseases were a concern in the area.

Caregivers were also concerned with delinquency or bad behavior. A caregiver of a 7 year-old girl mentioned, “One of [the challenges] is actually the children hanging out with crooks. The parent has to be very strict.” Another parent pointed out that, “the children are not well-behaved. If the parent is not careful the child can be influenced by bad groups.” One caregiver indicated worries about peer pressure, “When a child becomes a teenager, there is a bad influence from their peers. I have a twelve year- old and I have started experiencing the problem.”

Concerns about a lack of resources were evident too. “Without a job, it’s very difficult, poverty is everywhere…food is scarce and clothes….” The caregiver of a 6 year-old girl stated, “There are challenges because life is expensive, what I get paid is not enough even to pay school fees.” A caregiver of a 5 year-old boy noted, “the biggest challenge is one has to either work or do business. One can’t wait on the husband to provide, one has to work hard.”

Despite underreporting on parental HIV/AIDS infection and/or death other questions about HIV/AIDS in the interview led to responses regarding how people in Kibera cope with HIV/AIDS. A couple of caregivers were hesitant to discuss HIV/AIDS, presenting ignorance and a lack of knowledge about HIV/AIDS initially. The following exchange presents an example of one of those caregivers.

> **Interviewer:** How has Aids affected you?
> *Primary Caregiver:* I have not been affected.
> **Interviewer:** How about children, how are they affected?
> *Primary Caregiver:* I don’t see anything, they’re fine.
> **Interviewer:** In your neighborhood or extended family, have you seen anyone infected?
> *Primary Caregiver:* No, I haven’t seen.
> **Interviewer:** In the neighborhood?
> *Primary Caregiver:* I have seen people with the disease …. coughing and all.
> **Interviewer:** How about children?

Primary Caregiver: They suffer if the parent doesn't go to clinic in good times.
Interviewer: How are the children left when the parents die?
Primary Caregiver: They are left like that, their schooling is disturbed.

The majority of caregivers acknowledged casual exposure to HIV/AIDS infected people, stating that they had heard about a sick individual in the neighborhood, or that they had heard that infected people got tuberculosis or lost a lot of weight. Only a few caregivers discussed how they were personally touched by HIV/AIDS. The responses most likely indicated some concerns about stigma and reflected some of the difficulties associated with parental HIV/AIDS infection and/or death. Those who were affected indicated great concerns with the hardship resulting from the disease. The transcripts below are of two caregivers who were willing to discuss HIV/AIDS more than most.

Interviewer: Please try to tell me in brief how this problem of AIDS has affected you.
Primary Caregiver: The parents to my husband died of AIDS leaving children to suffer
Interviewer: Is this your husband or former husband?
Primary Caregiver: Former
Interviewer: So the children are suffering?
Primary Caregiver: Yes, they do not have a place to lean on
Interviewer: How has your family been affected?
Primary Caregiver: There is my sister what I follow she had this disease. She died and left her children.
Interviewer: In your neighborhood have you seen people with this problem?
Primary Caregiver: So many
Interviewer: How is that?
Primary Caregiver: You find someone dying leaving their children behind. First the child dies and then parents. The family is wiped out.

Interviewer: Please tell me how living with the HIV virus has affected your life
Primary Caregiver: The first time I knew, you know I lived for a while before I could know, I went to Kenyatta when I was pregnant and the doctor told me I was positive. I came here and joined some group who supply me with ARVS
Interviewer: Thank you. The disease can affect anyone. How has your life changed?

Primary Caregiver: When I am sick, I go to the hospital to get medication.
Interviewer: What is different now that you're HIV positive?
Primary Caregiver: Well there are times when I need money and don't know what to do. I employ every skill to get what I want
Interviewer: How have your children been affected by you being HIV positive?
Primary Caregiver: My children are fine
Interviewer: How has this affected your family?
Primary Caregiver: Nobody knows in my family. I was born alone so if I told my mom she might die. You see I had a sister but she died in the early years of 2000
Interviewer: What killed her?
Primary Caregiver: Something else. So I can't tell my mother because she has high blood pressure. She might collapse
Interviewer: Please stay strong for her when you go to visit put up a brave face for her sake. How long have you lived with the virus?
Primary Caregiver: I have stayed for more than 10 years.
Interviewer: How have been the neighbors affected by this disease?
Primary Caregiver: You know people don't tell their problems.
Interviewer: But you mention to a close friend.
Primary Caregiver: There is a friend I talked to and found out that she is positive. I told her

Further information about the context was gathered from questions about socioeconomic status, social capital and family structure. Despite the adverse environment, caregivers responses showed variability in the families socioeconomic status, social capital and family structures. *Table 2* indicates that the majority (53.5%) of caregivers perceived their standards of living to be worse than average. Almost 40% thought their lives were average or similar to others. None of the respondents perceived their standard of living as a lot better than others. While there is some variability in this measure of socioeconomic status, the findings indicate that the majority of caregivers considered their standard of living as less than or equal to average, reflecting very low socioeconomic status. *Table 3* indicates some variability in response to items regarding social capital. Ninety-nine percent of respondents said they attended church/religious

gatherings, and 86% interacted with people from different tribes/areas. The majority did not trust others in the neighborhood (70%) or feel safe in the neighborhood (63%).

Table 2

Socioeconomic status assessed by perceived standard of living (N = 86)

Compared to others residing in Kibera, would you say your income is:	
Far below average	5.8%
Below average	47.7%
Similar/average	39.5%
Above average	5.8%
Far above average	0%

Table 3

Responses to Items Regarding Social Capital (N = 86)

Items	*Yes (%)*	*No (%)*
Involved in a Community group	37 (43%)	49 (57%)
Trust others in the neighborhood	26 (30%)	60 (70%)
Feel safe in the neighborhood	32 (37%)	54 (63%)
Involved with cleaning neighborhood	64 (74%)	22 (26%)
Interact with people from different tribes/areas	74 (86%)	12 (14%)
Attend church/religious gathering	85 (99%)	1 (1%)

In an effort to understand the different family structures in the area, information about household composition was asked in the course of the structured interview. The predominant family structure was a two parent home with child(ren), 57% of children resided in a two-parent home. Thirteen percent of children lived with their mother as the only parent and 7% lived with a father only. Twelve percent of children lived with relatives such as a grandparent, uncle or aunt and no parent. Two percent lived with unrelated adults. The remaining children either lived with one parent and an unrelated adult or did not have information regarding household status. To facilitate further analyses, the variable family structures were assigned to one of the following four groups, no parent, single parent, parent plus, and two parent. Single father and mother families were added together to make up the single parent home group. The groups were developed to reflect predominant family structures and family structures often examined by family researchers.

Table 4

Type of Family Structures Represented in Study Sample (N = 86)

Family Structure	*N (%)*
Two parent home	49 (57%)
No parent in home	8 (9.3%)
Single parent home	17 (19.8%)
Parent plus home	7 (8.1%)
Missing data	5 (5.8%)

Factors Associated With Child Socio-emotional Functioning

Child data was gathered on 86 children. Forty-five percent (N = 39) were male and fifty-five percent (N = 47) were female. The distribution of child age is presented in *Figure 9*. The majority of children were between 4 and 6 years old, however there were some children. Child nutritional status, as obtained from calculations using the WHO Anthro software (2009), is presented in *Table5*. The majority of children fell within one Z-score for BMI-for-age, height-for-age and weight-for-age. Only 1.2% of the children presented Z-scores less than 2, indicating that only a few of the children were stunted. No children were severely malnourished. Correlations were utilized to assess whether family structure, socioeconomic status, social capital, parental HIV/AIDS, emotional flexibility and nutrition predicted child functioning. Correlations, means and standard deviations of the child, family and community variables are presented in *Table 7*. Data from teacher reports of child functioning and emotional flexibility were examined in light of findings from the family level factors. Correlations provided initial evidence of relationships between variables (see *Table 6*). Then regression analyses were utilized to further examine the nature of relationships between variables.

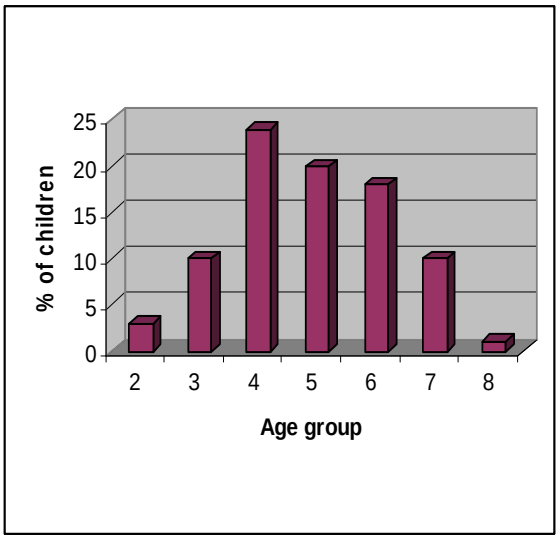

Figure 9. Percent of children in each age group.

Table 5

Nutritional status of children according to Z-scores for each anthropometric measure.

	Z-scores				
	<-2	<-1	0	>+1	>+2
BMI-for-age	0%	14.0%	50.0%	0%	2.3%
Height-for-age	2.3%	11.6%	44.2%	7.0%	1.2%
Weight-for-age	1.2%	10.5%	51.2%	2.3%	1.2%

Table 6

Correlations between child behavior, child, family, and community level variables (N = 86)

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Gender[a]	–										
2. Age[b]	-.03	–									
3. Effortful control	-.06	.34**	–								
4. Ego resiliency	-.06	.50***	.61***	–							
5. Height/length-for-age Z-score	.10	-.35**	-.18	-.24	–						
6. Weight-for-age Z-score	.02	-.17	.01	-.06	.71***	–					
7. BMI-for-age Z-score	-.09	.11	.19	.16	-.02	.69***	–				
8. Parental death[c]	-.03	-.00	-.05	.14	.14	-.00	-.15	–			
9. Parental HIV/AIDS	-.03	.06	-.12	-.05	.06	-.09	-.06	.66***	–		
10. Adult-child ratio	.11	-.09	-.09	.04	.18	.09	-.07	.23*	.10	–	
11. Standard of living	.06	-.11	-.03	-.09	.08	.04	-.01	-.03	-.03	.09	–
12. Social capital	-.25*	-.15	-.14	-.15	.06	.13	.13	-.04	-.07	-.09	.14

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Table 6

Continued

Variables	1	2	3	4	5	6	7	8	9	10	11	12
13. Externalizing behavior	-.10	.16	-.22	.01	.07	.09	.05	-.01	.05	-.00	.13	.01
14. Internalizing behavior	-.02	-.40***	-.39***	-.57***	.05	-.04	-.10	.07	.08	-.02	.16	.20
15. Prosocial behavior	.06	.40***	.35**	.49***	-.09	.05	.15	-.02	-.03	-.08	.02	-.08
M	.55	57.10	.00	5.77	-.26	-.34	-.29	.11	.11	1.00	2.46	3.33
SD	.50	18.29	2.12	.76	.96	.80	.90	.32	.32	.61	.70	1.14

Table 6

Continued

Variables	13	14	15
13. Externalizing behavior	–		
14. Internalizing behavior	.20	–	
15. Prosocial behavior	-.08	-.32**	–
M	1.81	1.84	2.21
SD	.42	.38	.41

Note. [a]child gender: 0 = *male*, 1 = *female*. [b]Age is reported in months. [c]Parental death from HIV/AIDS or any other causes.
*$p < .05$. **$p < .01$. ***$p < .001$

Significant associations were found between child age, child nutrition variables, and emotional flexibility variables. Increases in age were significantly correlated with higher levels of effortful control, ego resiliency, and height/length-for-age Z-score. Increases in age were also associated with lower levels of internalizing behavior and higher levels of prosocial behavior. Internalizing behavior was significantly correlated negatively with effortful control, and ego resiliency. Prosocial behavior was significantly correlated positively with effortful control, and ego resiliency, and significantly correlated negatively with externalizing and internalizing behavior. Child gender was not correlated with any of the child outcome variables.

No significant associations were found between family variables and child behavior. The lack of findings at the family level nullifies the path model introduced in *Figure 8* as the three exogenous variables were not associated with any child variables. Therefore multiple regressions were run to determine the predictive nature of child-level variables (e.g., nutrition, emotional flexibility). Child age was controlled for in each of the models as simple correlations were found between age, child-level factors and functioning. The results are presented in *Table 7* below. Thirty four percent of the variance in internalizing behavior problems is accounted for by the age, nutrition and emotional flexibility model. Ego resiliency is the only significant predictor in the model. Twenty percent of the variance in prosocial behavior is explained by the age, nutrition and emotional flexibility model, with ego resiliency as the only significant predictor. Although age and effortful control appear to be significant predictors of externalizing behavior problems, the model is not significant, therefore no conclusions can be drawn regarding predicting levels of externalizing behavior from the model.

Table 7

Regression Analyses Predicting Child Behavior from Child-level Variables

	Internalizing		Externalizing		Prosocial	
	B	β	B	β	B	β
Age	-.05	-.17	.01**	.434**	.00	.22
BMI-for-age Z-score	-.01	-.03	.05	.11	.05	.10
Ego resiliency	-.20**	-.43**	-.10	-.19	.20*	.38*
Effortful control	-.01	.02	-.08**	-.42**	-.00	-.01
Adjusted R^2	.34		.21		.25	
F for equation	$F(4, 52) = 7.73$***		$F(4, 52) = 4.44$**		$F(4, 52) = 5.37$**	

Note: * $p<.05$, ** $p<.01$, ***$p<.001$

Differences between Well-functioning and Poor-functioning Children

ANOVA's were utilized to examine differences in family structure, social capital, child emotional flexibility, parental HIV/AIDS, socioeconomic status and child nutrition among well- and poor-functioning children. Children were classified according to whether they fell above the median or below the median for each outcome; externalizing behavior, internalizing behavior and prosocial behavior. Then ANOVA's were run to determine differences between groups. Analyses indicate a significant difference in mean levels of effortful control between groups with high and low levels of externalizing

behavior, $F(1,77) = 5.573$, $p < .05$. Children in the low externalizing behavior group were more likely to have higher levels of effortful control than those in the high externalizing behavior group. Similar results were found with internalizing behavior, where significant differences in mean levels of effortful control $F(1,77) = 5.509$, $p < .05$, and ego resiliency $F(1,76) = 13.818$, $p < .01$ were found. Children in the low internalizing behavior group were more likely to present high mean levels of effortful control and ego resiliency. Significant differences in mean levels of effortful control $F(1,77) = 8.629$, $p < .01$, ego resiliency $F(1,77) = 14.451$, $p < .001$, and BMI $F(1,65) = 3.956$, $p = .05$ were found among children presenting high and low levels of prosocial behavior. Children in the high prosocial behavior group were more likely to have higher levels of effortful control, ego resiliency and greater BMI's than those in the low prosocial behavior group.

CHAPTER V

DISCUSSION

The large numbers of children living in poverty and affected by HIV/AIDS make it essential that governments and service providers understand the role of poverty in child development and recognize opportunities for intervention. To contribute to the understanding of the influences of HIV/AIDS and poverty, this study examined contextual influences on child adjustment in a vulnerable population. This is one of the few studies to examine social and emotional adjustment among children living in the slums of a developing country. Although no conclusions can be drawn regarding the causal impact of HIV/AIDS and poverty on child social and emotional adjustment, the study provides valuable insight into factors associated with increased risk and resilience in such a context.

Overview of Findings

The nature of life in Kibera is described as difficult, but with a few positive attributes. Findings indicate that despite hardship, parents do report some advantages to living in Kibera (e.g., low cost of living, community support). Many parents reported interacting with people from other tribes (86%), attending church/religious gatherings (99%), being involved in a community group (43%), and being involved in neighborhood

cleaning (74%). However, parents also reported many disadvantages such as increased risk for disease, violence, and lack of resources. Parents also reported not feeling safe (63%) and not trusting others (70%). The majority of parents reported living in a two parent-home (57%) and approximately 20% reported living in a single parent household. The findings closely reflect the predominant family structures identified by researchers in Kenya. Ngige, Ondigi, and Wilson (2008) reported 58% of the nations families resided in two-parent monogamous homes and 26% resided in single parent homes. Most families (54%) reported that economically they were more disadvantaged than others living in Kibera. The nursery school was initially developed to provide service to children belonging to families who are especially destitute. So the high numbers of people reporting a worse economic status is understandable. Caregivers identified access to inexpensive goods and exposure to people of different ethnic groups as some the advantages of living in Kibera. However, caregivers agreed on a larger number of disadvantages to residing in Kibera, namely extreme poverty, exposure to delinquent children, and poor living conditions increasing the likelihood of infectious disease.

Quantitative analyses found child functioning to be associated with child-level factors such as emotional flexibility, but not family-level factors such as social capital and socioeconomic status. Higher effortful control and ego-resiliency were correlated to lower levels of child internalizing and higher levels of prosocial behavior. The significant associations between emotional flexibility and child functioning are not surprising as other researchers have repeatedly shown associations between a child's ability to regulate their emotions in an appropriate manner and child functioning. Finding the same associations in an understudied population of high risk children provides added support

for universal relevance of emotional flexibility in child adjustment. Children with low levels of emotion regulation are more likely to present adjustment problems (Eisenberg & Morris, 2002; Eisenberg et al., 2007; Eisenberg, Smith, Sadovsky, & Spinrad, 2004). When ego-resiliency and effortful control were both included as possible predictors of child adjustment, ego-resiliency stood out as the significant predictor. Specifically ego-resiliency predicted child internalizing and prosocial behavior while controlling for age, nutritional status and effortful. Differential findings indicate that despite the high correlation between ego-resiliency and effortful control, the two constructs are distinct. Researchers have previously found ego-resiliency to be associated with child functioning. Children with high levels of ego-resiliency present fewer behavior problems than those with low levels of ego-resiliency (Flores, Cicchetti, & Rogosch, 2005). Finding similar results in this sample provides support for recognizing individual child characteristics such as emotional flexibility as important influences on child functioning, even among children residing in poverty.

The use of qualitative and quantitative data allowed for information to be gathered from each of the systems identified by Bronfenbrenner and relevant to the study as illustrated in *Figure 4*. The qualitative portion of the study gathered information regarding the cultural context by describing the nature of life in an extremely low resource setting. The quantitative portion examined relationships between child, family and community factors (e.g., parental HIV/AIDS, poverty, family structure and social capital) and child functioning. As expected some variables were associated with positive functioning, which can be labeled as increased resilience, while other variables were

associated with less positive functioning and more negative adjustment, which can be labeled as increased risk.

Qualitative Findings

Caregivers identified three challenges associated with residing in such a low resource setting, reflecting concerns about child physical health, delinquent behavior, and the family's lack of finances. Two of their concerns mirror key issues governments and institutions are trying to address today, through the United Nations Millennium Development Goals (MDGs) initiative. The MDGs were developed in 2001 to galvanize the effort to improve social and economic conditions in the world's poorest regions. MDG 4's goal is the reduction by two thirds of the mortality rate among children under five years old, and MDG 1's goal is the eradication of extreme poverty and hunger directly impacting children. In the Kibera settlement, home to one third of the population of the capital city of Kenya, the majority of its population live on less than US$1 a day with very high child mortality rates, higher than the national average of 121 deaths per 1000 children under age five (UNICEF, 2007; UN-HABITAT, 2003). Delinquency is a major concern in Kibera, where large numbers of children are not enrolled in school (Population Council, 2006). Delinquency, high levels of unemployment, rapid unplanned urbanization, social and economic hardship contribute to concerns about crime in slums such as Kibera (UN-HABITAT, 2003). Actual numbers of crimes committed in Kibera are not available from police reports of criminal activity in Kenya. The available reports (i.e., Annual Crime Report; Kenya Police, 2008) provide information regarding levels of crime in the whole of Nairobi. Regardless of the lack of numbers, crime is considered a major social problem in Kibera (Research International, 2003 unpublished). Furthermore,

service organizations recognize that female children as the most vulnerable victims (Erulka & Matheka, 2007; UNICEF, 2003). A 2007 study found that 60% of the girls in their sample of 1675 children (45% male, 55% female) in Kibera indicated feeling unsafe in Kibera and scared of being raped, 47% were scared of someone in their own neighborhood (Erulka & Matheka, 2007). Interview findings show that residents in Kibera are in agreement with the government and child organizations regarding the kinds of challenges that need to be addressed: eradication of extreme poverty, reduction of child delinquent behavior and improvement of living conditions associated with child physical health. The congruence between caregiver concerns and ongoing initiatives indicate that the needs of Kibera slum dwellers are known and can be addressed.

Caregivers also identified advantages associated with residing in Kibera. These include access to inexpensive foods and clothing and social benefits including access to diverse opportunities. While this by no means indicates the environment is a pleasant one, it does signify the ability of some to present a positive outlook in a difficult setting. Family resilience literature identifies positive outlook as one of the characteristics of resilient families. The ability to have a positive outlook is associated with positive adaptation in times of stress and hardship (Black & Lobo, 2008). It is possible that families in Kibera that present a positive outlook may be more resilient and cope better with the hardships of life. However, due to the way the interview asked about advantages and disadvantages associated with life in Kibera, information could not be garnered regarding whether families had an overall more positive outlook on life or a more negative outlook. To facilitate research on the type of outlook families have, caregivers should be asked how they feel generally about life in Kibera. The ensuing responses can

be coded to reflect the type of outlook presented. Such an approach would allow for family outlook and adaptation to be assessed even in very poor context, and is worth considering in the future.

Quantitative Findings

Child nutritional status was not associated with child functioning. While adjusting for age the anthropometric indices, weight-for-age and weight-for-height, were not associated with child behavior. The absence of a relationship with age-adjusted nutritional status variables may be due to inaccuracy of age estimates or due to other measurement issues. Other researchers recognize associated with using height and length measurement (Berkley et al., 2005). Accurate and reliable scales are necessary when measuring child height and weight. Inaccurate age, height, or weight measurements can lead to misidentification of child nutritional status. The use of mid upper arm circumference (MUAC) measurements could provide an alternative means of assessing nutritional status in that would bypass some of the measurement issues associated with using height and weight dependent indices (Berkley et al., 2005; Cogill, 2003). One of the limitations of the study that may have affected nutritional status findings is age reporting. Teachers and caregivers were asked to report on child age in the course of the surveys and interviews respectively. Most reported age in years. A couple reported in fractions of years. None of the respondents reported in months and none of the measures asked for dates of birth to be reported. Researchers note that the most accurate means of assessing age involves reporting date of birth and computing the exact age at the time of

anthropometric measurement (de Onis, Onyango, Borghi, Siyam, Nishida & Siekmann, 2007). Since precise age information was not available only estimates were used for calculating weight-for-age, height/length-for-age and BMI-for-age. The World Health Organization recommends the use of exact age measurements for calculations, in cases where exact age is unavailable age estimates can be used with the understanding that children may not be accurately compared with their age mates (de Onis et al., 2007; Butte, Garza & de Onis, 2007). Recognizing that one of the reasons child date of birth was not requested was due to the high levels of illiteracy in the area, it is important to have other ways to ascertain date of birth. Efforts should be made in the future to gather more precise age estimates.

None of the family and community variables were associated with child functioning. The lack of findings may be due to the way family and community variables were assessed in this study or the number of variables examined. The study relied on only one item to assess socioeconomic status, measuring perceived standard of living. It is possible that the items did not allow for adequate variability to be measured or that there may be better ways to assess the constructs of interest. It is also possible that there was minimal variability due to the context. As indicated in the course of the interviews, life in Kibera is very difficult. In fact more disadvantages to living in Kibera were identified, than advantages. The lack of variability in slum residents' perceptions of their standard of living may indicate a real lack of variability in socioeconomic status. Further research assessing socioeconomic status in different ways would contribute to an understanding of whether there is variability among slum dwellers.

Social support, the primary community variable, was only assessed through a measure of social capital. While Putnam and other social science researchers acknowledge the value of the concept of social capital, there is no agreement on the best way to measure social capital (Social Capital Community Benchmark Survey, 2001). The Onyx and Bullen (1997) measure utilized in this study examined some of the key components on social capital, i.e. trust, volunteerism, civic involvement, and socialization. The Social Capital Community Benchmark Survey (SCCBS, 2001) examined the value placed on different components of social capital in 40 different communities around the United States of America. The SCCBS findings indicated that communities placed more value on some components than others. Despite considering different components of social capital the measure used assigned equal value to each component. Further insight regarding the more valuable components of social capital should be sought in future research. For example, more basic questions about support networks and what values matter to the society could be asked.

To increase the likelihood of findings associated with family and community variables efforts should be made to assess each variable using multiple measures. In addition other family variables such as parenting or parent-child interactions should be examined. The findings associated with child effortful control and ego resiliency show that a child's ability to adapt their own emotions appropriately, across contexts matters. Researchers recognize that the family and especially parents play a significant role in the development of emotional flexibility (Morris, Silk, Steinberg, Myers & Robinson, 2007). Further research should examine other family variables closely associated with child emotional flexibility.

Limitations of the Study

A limitation to the study has to do with the teachers serving as the only source of child functioning and child emotional flexibility data. Most of the studies significant findings are associated with data gathered from teacher reports. Developmental researchers recognize the value in gathering data from multiple informants as it limits the likelihood that findings represent the reporter's biases more so than the reality (Moreno, Silverman, Saavedra & Pares, 2008). Future studies should examine the impact of child emotion regulation and ego-resiliency on child functioning from multiple reporters.

More research should be done utilizing qualitative methods to gather data regarding appropriate interventions. However, a few challenges associated with the structured interview process should be addressed prior to further research. First, the interview, in this study, was developed in English first then translated to Kiswahili. Back translation should have been utilized to reduce the likelihood of items being misunderstood, as occurred with the education question. Second, the development of an interview measure should have involved individuals on the inside of the cultural context under examination. In this study the interview measure was developed and then an insider opinion was sought informally. While the insider was able to provide some feedback, judgments' had already been made regarding what constructs are important and relevant to the study by an outsider. In addition, the interview items should have been worded in such a way as to encourage discussion and discourage simple one word "yes/no" responses. This is especially important in an understudied cultural context, where the researchers would benefit from receiving emic responses regarding family and community factors of relevance to child adjustment.

The surveys the teachers completed assessed child functioning utilizing empirically supported measures that have been used among different populations. However there were concerns about the relevance of such measures to an understudied, highly vulnerable population. The study findings show adequate reliabilities for all child related variables excluding internalizing behavior problems. While all other child-related variables presented alphas greater than .60 internalizing behavior problems presented an alpha around .40. The low alpha for internalizing behavior problems may reflect some cultural differences in expressing and communicating emotion. Nonetheless, adequate alphas and the meaningful correlations between the other child related variables, indicate that the measures were assessing what they set out to assess. Further research on social and emotional functioning should include other means of assessing child functioning other than teacher reports on survey measures.

Strengths of the Study

The greatest strength of this study lies in the use of mixed methods in data collection. The structured interview provided family information that was not readily accessible to the teachers. The open ended nature of the interviews allowed for residents of Kibera to speak in their own words, describing their own lives and concerns. Social scientists recognize the importance of learning from their subjects about the issues of importance (Garcia Coll & Magnuson, 1999). In an understudied population such as this it is important to learn from the respondents what the real concerns are rather than making assumptions regarding what matters. The insights garnered from interviews also allowed for a greater understanding of the cultural context within which child development occurs in Kibera. In addition the interview findings showed that caregivers

were concerned about the same risk factors as policy makers, poverty, health and delinquency. Involvement of the target population is considered crucial to the development of programs that are effective, sustainable and relevant to the population in need. This study shows that the target population agrees with policy makers and organizations that seek to make changes in the area, suggesting that programs that address the key issues would be relevant and appreciated.

Another strength of the study lies in the examination of child, family and community levels simultaneously. This ecological approach allows various sources of resilience to be examined in one study. As resilience scholars move into a fourth wave of research where the emphasis is on examining resilience across systems (Masten, 2007), this study provides ideas as to how that can be carried out in a slum setting. The study findings recognized child emotional flexibility as a possible protective factor during difficult times. Resilience researchers have long considered the role of emotion regulation as a protective factor (Masten, 2007), suggesting that resilience may be influenced by similar processes regardless of the location.

The examination of prosocial behavior serves as another strength of the study. The process of promoting positive adjustment could affect research on risk and resilience. Despite the growing interest in promoting positive adjustment, minimal research examines the effects of different contexts on child prosocial behavior (de Guzman, Edwards, & Carlo, 2005). This study addressed the paucity by examining prosocial behavior in children residing in an especially low resource setting. Moreover, the study was able to present resilience as not only the absence of negative adjustment, but also the presence of positive adjustment. Numerous studies examine factors associated with

resilience and focus primarily on understanding impacts on negative child adjustment. For example, Barbarin, Richter and de Wet (2001) followed 625 six-year old South African children as part of the national Birth To Ten study, in a rare study of child psychological functioning in sub-Saharan Africa. Surprisingly they found low effects of violence on child psychological outcomes. All of the child psychological outcomes they considered were negative (e.g. aggression and somatic complaints; Barbarin et al., 2005). Although they were able to find some evidence of moderation by child and family factors, it is possible that other findings could have been made with the inclusion of positive psychological outcomes. This is especially likely in cultures that place great value on prosocial behavior. Researchers suggest that the importance placed on prosocial behaviors in some cultures, such as in Kenya, may be associated with differences in prosocial behavior of children (de Guzman et al., 2005; Eisenberg & Mussen, 1989).

Implications of the Study

In summary this study identifies several implications for further research on child socioemotional adjustment in especially adverse settings, such as slums. Individual child factors were found to be associated with child adjustment. More specifically, child emotional flexibility was associated with child adjustment. This implies that further research should recognize that the child actively contributes to their own development even in extremely adverse settings. This may even have implications for interventions, whereby programs to promote emotional flexibility may be considered relevant even in adverse environments. Despite being correlated with each other, ego resiliency and effortful control presented some different findings, such as the significant contribution of ego resiliency, but not effortful control to variance in prosocial behavior. These findings

contribute to child development research showing the distinction between effortful control and ego resiliency. Resilience researchers have recognized the value of emotion regulation in contributing to child competence (Masten, 2008). This study shows that emotion regulation promotes resilience even among understudied groups. This may indicate a universal contribution of emotion regulation to resilience.

Another implication for resilience research is found in the significance of prosocial behavior in this study. Considering that collectivist cultures place importance on socially appropriate behavior (Eisenberg, Liew & Pidada, 2004), the consistent associations with prosocial behavior are not surprising. Risk and resilience researchers should examine factors and processes associated with positive adjustment, especially if findings are to be applicable to children from collectivist cultures. Although this study did not find associations between child adjustment and family or community factors, further research should continue to examine the role of the family and community. The variables examined in this study as potential protective factors were chosen from an emic point of view. More involvement by the insiders in the development of measures or the identification of factors perceived as relevant to child adjustments may provide added information.

Finally, the ecological approach allowed for possible relationships between expected variables to be examined. The ecological theory provided a meaningful framework for examining variables from various systems beyond and including the child. The use of ecological theory in future research would contribute to research on the process of resilience and would be especially useful in understudied contexts.

Conclusion

In conclusion, life in Kibera is difficult, as evidenced by statistics and the words of residents presented. Approximately 32% (~924million) of the world's urban population lived in slums in 2001. Sub-Saharan Africa is the region with the largest percentage of its urban population residing in slums, 71.9% (UN-Habitat, 2005). The numbers are expected to continue rising with slow rates of slum improvement, as such the plight of children residing in slums must be addressed. Children residing in the area have to deal with extreme poverty, delinquent behavior and poor health. While this study was not able to determine the precise role family and community variables in influencing child functioning, it acknowledges the importance of family, community and culture in influencing child functioning. This study provides a foundation for further research by recognizing the importance of qualitative research in presenting a basis for understanding the context for child functioning. The high numbers of people infected with HIV/AIDS in Sub-Saharan Africa make it imperative that further research considers the relationship between poverty, HIV/AIDS, the family, community and children.

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APPENDICES

English Structured Interview Guide

Kiswahili Structured Interview Guide

Institutional Review Board Approval

Consent Forms

Structured Interview Guide

1. Are you related to the child in the study? YES NO
   In what way?

_____

_____

____

2. Regarding the child's biological parents:
   a. Are the child's parents married? YES NO

   _____

   b. Do the child's parents live together? YES NO

   _____

   c. Which parent does the child live with?
      MOTHER FATHER BOTH

3. Please report on the parents health status regarding HIV/AIDS

	Healthy	HIV/AIDS infected	Passed away due to HIV/AIDS*	Passed away due to other causes*
Mother				
Father				

*If either has passed on, state how long ago
Mother _____
Father _____

4. Who is the primary income provider for the household?
   _____

5. How much was the household income in the last month?
   _____

6. Compared to others residing in Kibera, would you say your income is
   _____Far below average
   _____Below average
   _____Average
   _____Above average
   _____Far above average

7. Number of people that live in the household? _____
    a. Number of Adults (age 18 and above) _____
    b. Number of Children _____

(Complete attached family structure and household composition grid)

8. Please report on the highest level of education reached by you and the child's parents:

	No schooling	**Primary School**	**Secondary School**	**University**	**Technical School**
		(indicate last year attended or if completed)			
Respondent					
Childs mother					
Childs father					

9. *Social capital items.* Please report on your impression of your neighborhood.

    a. Are you involved in any community groups?

_____
_____

    b. Do you visit with friends or relatives often?

_____
_____

    c. Do you visit with your neighbors often?

_____
_____

    d. Do you trust most of the people in your neighborhood?

_____
_____

    e. Do you feel safe living in this area?

_____
_____

    f. Do you participate in activities to clean up the neighborhood?

_____
_____

    g. Do you interact with people from different tribes and places?

_____
_____

10. List the five people you turn to in times of need and how you know them

_____
_____
_____
_____
_____

11. Where do you go to get services in times of need?

_____
_____

12. Where do you get information about services available to people in need?

_____
_____

13. Tell me about the child participating in the study. Describe how they are functioning in comparison with other children of a similar age.

_____
_____
_____
_____

14. How does the child behave when they are coping with sadness, loss or changes to their environment?

_____
_____
_____
_____

15. Is the child currently dealing with sadness, loss or changes in their environment?

_____
_____
_____
_____

16. What is it like raising a child in this environment?

_____
_____
_____
_____

17. What challenges are there to raising a child in this environment?

_____
_____
_____
_____

18. What benefits are there to raising a child in this environment?

_____
_____
_____
_____

19. Have you noticed any changes in the child's behavior? If so what?

_____
_____
_____
_____

20. How is HIV/AIDS affecting your child, family or the community?

_____
_____
_____
_____

Family Structure and Household Composition Grid

*Provide the following information about every member of the household, starting with the primary caregiver then report in order from the oldest to the youngest. Do **NOT** write down any names!*

Person	**Gender**	**Age**	**Employed?**	**Relation to the child participating in the study**
1 (Self)				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Structured Interview Guide

Jibu maswali haya kulingana na uwezo wako. Amna jibu 'nzuri' au 'baya'

Umri : _____

	Mwanaume	Mwanamke
Jinsia	**O**	**O**

	Ndivyo	La	Sifahamu
1. Je, unao usiano na mtoto anaechunguzwa hapa?.....	**O**	**O**	**O**
2. Je, unaketi naye mtoto huyu?.....	**O**	**O**	**O**
3. Je, wazazi wa mtoto huyu wako kwenye ndoa?.....	**O**	**O**	**O**
4. Je, wazazi wa mtoto huyu wanaketi pamoja?.....	**O**	**O**	**O**
5. Je, mama wa mtoto huyu yuhai?.....	**O**	**O**	**O**
6. Je, baba wa mtoto huyu yuhai?.....	**O**	**O**	**O**

	Mama	Baba	Wote	Sio
7. Je, ni mzazi yupi mtoto huyu aketi naye?	O	O	O	O

8. Tafathali akikisha kama moja katika haya ni kweli kuhusu wazazi wa mtoto:

	Mama	Baba
a) Kuhadhirika na viruzi vya ukimwi……	**O**	**O**
b) Kufa kutokana na ukimwi…….....	**O**	**O**
c) Kufa kutokana na maradhi mengine ……	**O**	**O**

Ikiwa wameaga dunia, eleza ni kwa mda gani

Mama_____ Baba_____

9. Idadi ya wale wanaoishi nawe kwenye nyumba hii _____
   a. Idadi ya watu wazima (miaka 18 na zaidi) _____
   b. Idadi ya watoto _____

10. Ni njia lipi uliyopata mapeni kwenye siku zilizo pita?

	Ndio	La
Uuzaji vya vyakula/mboga/na vitu vingine	**O**	**O**

Kwa kutekeleza kazi (mtumishi nyumbani)	**O**	**O**
Kutokana na jamaa na marafiki/kanisani/njia zingine tofauti	**O**	**O**
Njia tofauti (Fafanua) _____	**O**	**O**

11. Kwenye siku zilizopita, je mchunjagi wa nyumba hii aliwahi kupata ruzuku kupitia njia zifwatazo?

	Ndio	**La**
Uuzaji vya vyakula/mboga/na vitu vingine	**O**	**O**
Kwa kutekeleza kazi (mtumishi nyumbani)	**O**	**O**
Kutokana na jamaa na marafiki/kanisani/njia zingine tofauti	**O**	**O**
Njia tofauti (Fafanua)	**O**	**O**

12. Je, unamiliki kibanda/ duka/ au njia yoyote ile ya kupata hela

Ndio	**La**
O	O

13. Kulinganisha na wakazi wengine wa Kibera, je waweza kusema kua hali ya maisha ni

Ni bovu maradufu zaidi ya wengine..... **O**

Ni bovu zaidi ya wengine……..... **O**

Ni sawa na wengine……..... **O**

Ni bora kuliko ya wengine….. ..... **O**

Ni bora maradufu kuliko ya wengine.... **O**

14. Tafadhali elezea kiwango kikubwa cha elimu uliyo hitimu

	Kutoenda shule	**Shule ya Msingi**	**Shule ya Upili**	**Chuo Kikuu**	**Chuo cha Ufundi**	Mwaka wa Mwisho *****
Mjibishaji	**O**	**O**	**O**	**O**	**O**	_____
Mama wa mtoto	**O**	**O**	**O**	**O**	**O**	_____
Baba wa mtoto	**O**	**O**	**O**	**O**	**O**	_____

* Elezea mwaka wa mwisho wa shule yako.

15. Tafadhali elezea kuhusu mashi ya kwako mtaani

a. Ni mara ngapi wewe utembelea jamaa ambao huishinao?

Kila siku	Mara kadha kwa wiki	Mara moja kwa wiki	Mara moja kwa mwezi	Mara kadha kwa mwaka	Mara moja kwa mwaka
O	O	O	O	O	O

b. Ni mara ngapi wewe utembelea marafiki ambao huishinao?

Kila siku	Mara kadha kwa wiki	Mara moja kwa wiki	Mara moja kwa mwezi	Mara kadha kwa mwaka	Mara moja kwa mwaka
O	O	O	O	O	O

c. Ni mara ngapi wewe utembelea majirani zako?

Kila siku	Mara kadha kwa wiki	Mara moja kwa wiki	Mara moja kwa mwezi	Mara kadha kwa mwaka	Mara moja kwa mwaka
O	O	O	O	O	O

	Ndio	La	Sifahamu
16. *. Je unajiusisha na vikundi vyovote vile mtaani?.....	**O**	**O**	**O**
17. Je, unawamini watu mtaani mwenu?	**O**	**O**	**O**
18. Je, wahisi yusalaama kwenye mtaa huu ?	**O**	**O**	**O**
19. Je, unajiusisha kwa mpango au utaratibu wakudumisha usafi kwenye mtaa huu?.....	**O**	**O**	**O**
20. Je, unashirikiana au kungiliana na watu wa kabila au tabaka mbali mbali hapa mtaani?.....	**O**	**O**	**O**
21. Je, ushiriki kanisani au semu zingine za maombi?.....	**O**	**O**	**O**

* Hikiwa jawabu ni Ndiyo, ni kikundi kipi unacho shirikiana au kuingiliana
nao?_____
_____

22. Elezea jinsi virusi na maradhi haya ya ukimwi vipi kimekuwathiri kimaisha?
_____
_____
_____
_____
_____

23. Elezea jinsi virusi na maradhi haya ya ukimwi vipi ilivyo athiri watoto kimaisha?
_____
_____
_____
_____
_____

24. Elezea jinsi virusi na maradhi haya ya ukimwi vipi ulivyo athiri familia yako?

_____
_____
_____
_____
_____

25. Elezea jinsi virusi na maradhi haya ya ukimwi vipi vime athiri jamii mtaani mwako?
_____
_____
_____
_____
_____

26. Onyesha ni nani unamwelekea au kukimbilia wakati wa shida?

Wale uketi kwangu	**O**	
Jamii wasioishi kwangu	**O**	
Marafiki wasioishi kwangu	**O**	
Vikundi vya Kidini	**O**	Lipi ilo_____

Vikundi vya Jamii mtaani	**O**	Lipi ilo_____
Wegineo	**O**	Eleza_____

27. Je, wapokea usaidizi/msaada kutoka kwa jamii ya kidini?

Ndio	**La**	**Aina gani ya msaada?**
O	O	_____

28. Ni wapi utaelekea ukipatikana na mswiba kwako?

_____

_____

29. Ni wapi utaelekea ukipatikana na matatizo za kifedha?

_____

_____

30. Ni wapi upokea maelezo kuhusu uwezekano wa usaidizi wa kifedha kwa wale wenye shida?

Jamaa na Marafiki	**O**
Kundi la Kidini	**O**
Kundi la Jamii	**O**
Radioni	**O**
Runinga	**O**
Pahala pengine	**O**

31. Ni idadi wa mlo mingapi kwa siku mtoto huyu hupata?

Moja	**Mbili**	**Tatu**	**Nne**
O	O	O	O

32. Katika wiki moja ni mara ngapi usiku mtoto huyu hulala njaa?

Moja	**Mbili**	**Tatu**	**Nne**	**Tano**	**Sita**	**Saba**
O	O	O	O	O	O	O

33. Vipi unaichukulia umuhimu wa kupeana chakula au lishe kwa mtoto huyu?

Sisikii	**Nasikia Kidogo**	**Nasikia Sana**
O	O	O

34. Vipi tabia ya watoto wenye umri sawa na mtoto huyu twazungumza juu yake huwa? (Elezea usiano baina yao, na watu wazima na wanachopenda kufanya)

_____
_____
_____
_____
_____

35. Elezea kwa kina kuhusu mtoto huyu mwenye uchunguzi yujuyake?

_____
_____
_____
_____
_____

36. Vipi tabia za watoto huwa wakati wanapo kabiliana na tatizo, kwa mfano, wakati mmoja katika wazazi huwa mgonjwa sana au kufa? (Ikiwa mmoja wa wazazi hawa hajawai kuwa mgonjwa sana au kufariki, tafadhali eleza jinsi tabia yake huwa wakati utokea shida zinginezo?)

_____
_____
_____
_____
_____

37. Elezea ugumu wa kulea mtoto kwenye maineo haya?

_____
_____
_____
_____
_____

38. Elezea manufa ya kulea mtoto kwenye maineo haya?

_____
_____
_____
_____
_____

Sura inayo Onyesha Mipangilio ya Familia na Unyumba wake

Peana maelezo ifwatao kuhusu kila mnoja wa wakazi wa njumba hii,ukianzia na kiongozi mtoaji kisha ueleze ukianzia mkubwa hadi mdogo. Usiandike majina! Jumuisha pamoja mtoto huyu anayechunguzwa.

Mtu	**Jinsia**	**Umri**	**Husiano na mtoto anae usika kwenye uchunguzi**
1(Mwenyewe)			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Oklahoma State University Institutional Review Board

Date:	Tuesday, June 26, 2007
IRB Application No	HE0742
Proposal Title:	The Influence of Poverty and Parental HIV/AIDS on Child Functioning in Kibera
Reviewed and Processed as:	Expedited (Spec Pop)

Status Recommended by Reviewer(s): Approved Protocol Expires: 6/25/2008

Principal Investigator(s

Mumbe Kithakye
700 N. Greenwood 2103 Mail
Tulsa, OK 741060700

Amanda S Morris
700 N. Greenwood
Tulsa, OK 741060700

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Sue C. Jacobs, Chair
Institutional Review Board

Family Development Lab
Amanda Sheffield Morris, Ph.D., Director
Department of Human Development and Family Science
700 North Greenwood Avenue
Tulsa, Oklahoma 74106
Phone: (918)594-6381; email: amanda.morris@okstate.edu

Project Title: Poverty, Parental HIV/AIDS and Child Social and Emotional Adjustment in Kibera
Informed Consent for Parent Participation

May 10, 2007

Dear Parent or Caregiver:

Researchers from Oklahoma State University, USA, would like to carry out a study at the Slum Outreach Nursery School. The goal of the study is to understand what it is like to live in Kibera and how children that live in Kibera behave. We would appreciate your assistance. This letter explains the ways you and your child can be involved in the study.

Project Investigators: **Dr. Amanda Morris,** Associate Professor at Oklahoma State University, is the director of the project. **Mumbe Kithakye,** MPH, a Kenyan graduate student attending Oklahoma State University, will coordinate the project.

The purpose of this project is to learn more about children living in Kibera. The researchers want to gather information that will be useful to organizations that provide services to children in Kibera. **Your participation will involve taking part in a short interview, giving permission for your child to be measured, and giving permission for a teacher to report on your child's behavior.** If you give permission we will measure your child's height and weight and ask the teachers to report on your child's behavior at school. If you decide to take part in the interview, you will be asked questions about you, the child's parents, life in Kibera and your experiences with HIV/AIDS. **The interviews will be tape-recorded and each interview will take about one and a half hours to complete.**

We do not know of any harm that can come to you as a result of being in this study. If you have any question or feel tired and want to talk about it, you can let any of the Research Assistants know. Trained researchers will ask you questions and tape record the interview sessions. The recording will only be used to verify responses for data entry.

The benefits of this project include:

1) The study findings will provide meaningful information to organizations, like Slum Outreach Ministries, that are providing assistance to children living in Kibera.
2) The information will also be useful to organizations providing assistance to people living in other areas similar to Kibera.

The information gathered will be kept private. Any written results will discuss group findings and will not include information that will identify you or your child. Research records will be stored securely and only researchers and individuals responsible for research oversight will have access to the records. It is possible that the consent process and data collection will be observed by research oversight staff responsible for safeguarding the rights and well being of people who participate in research. To protect you and your child's privacy, no names will be recorded. All information gathered will be destroyed after three years. **There will be no way to match your name or your child's name to the information gathered.**

After you complete the interview you will receive a bag of goods (including oil, sugar, tea leaves, flour and soap) for your time and assistance with this project. You will also be asked to sign a receipt saying that you have received the bag of goods. The Slum Outreach Nursery School and teachers will also receive a token of our appreciation.

Please initial: _____

If you have any questions about the project, or about your participation, you can ask the Research Assistants or Mumbe Kithakye (Telephone/SMS: 733-_____) at any time Questions can also be sent to Dr Amanda Morris at Telephone: 011-1-918-594-7194

Feel free to ask any questions any time before or after you agree to participate **If you have questions about the research and your rights as a research volunteer, you may contact Dr. Sue C. Jacobs, 219 Cordell North, Stillwater, OK 74078, 011-1-405-744-1676 or irb@okstate.edu.**

Participant Rights: **It is your choice if you want to participate in the interview and you can choose to withdraw at anytime. It is your choice if you want to give permission for your child to be measured or for teacher reports on your child. If you choose not to participate or not to give permission, it will not affect your child's attendance at the Slum Outreach Nursery School.**

I have read and fully understand this letter. I sign it freely and voluntarily. A copy of this form has been given to me.

_____ _____
Parent/Caregiver Name (printed) Date

_____ _____
Parent/Caregiver Signature Date

As a parent or caregiver I give permission for _____ (print name of child) to participate in the described research.

_____ _____
Parent/Caregiver Signature Date

As a parent or caregiver I give permission for a teacher to report on my child's behavior at school.

_____ _____
Parent/Caregiver Signature Date

OSU
Institutional Review Board
Approved 6/26/07
Expires 6/25/08
Initials Emm
IRB-07-42

I certify that I have personally explained this document before requesting that the participant sign it

_____ _____
Signature of Research Assistant *Date*

Please initial: _____

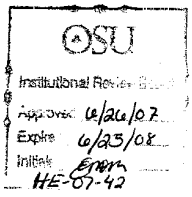
Child Assent Form

I have been told that my parents or guardians said its okay for me to have my weight and height measured.

I am getting measured because I want to. I know that I can stop at any time I want to and it will be okay if I want to stop.

Print Your Name Here

Sign Your Name Here



VITA

Mumbe Susanna Kithakye

Candidate for the Degree of

Doctor of Philosophy

Dissertation: CONTEXTUAL INFLUENCES ON CHILD SOCIAL AND EMOTIONAL ADJUSTMENT IN KIBERA

Major Field: Human Environmental Sciences

Biographical: Born in Nairobi, Kenya to David and Mary Kithakye. Married to Clement Abai. Mother to Keke and Mwende Abai.

Education: Bachelor of Science in Biology, Messiah College, 1999. Master of Public Health, Tulane University, 2001. Completed the requirements for the Doctor of Philosophy in Human Environmental Sciences at Oklahoma State University, Stillwater, Oklahoma in July, 2009.

Professional Memberships: Society for Research on Child Development, National Council on Family Relations, Global Health Council.

Name: Mumbe Susanna Kithakye Date of Degree: July, 2009

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: CONTEXTUAL INFLUENCES ON CHILD SOCIAL AND EMOTIONAL ADJUSTMENT IN KIBERA

Pages in Study: 93 Candidate for the Degree of Doctor of Philosophy

Major Field: Human Environmental Sciences

Scope and Method of Study: This study examines child, family and community variables that are associated with child adjustment in the especially low resource setting of the Kibera slum. Quantitative and qualitative data is gathered through caregiver interviews and teacher reports on surveys regarding child adjustment and the context within which the children live.

Findings and Conclusions: Eighty-six children between the ages of 2 and 8 and their primary caregivers participated in the study. Qualitative findings indicate that caregivers are concerned with the same issues as governments and service organizations; poverty, poor health, and delinquency. Caregivers also indicate some advantages associated with the inexpensive nature of goods and the ethnic diversity of the area. Quantitative findings indicate that child variables are associated with child adjustment. Child emotional flexibility is associated with child behavior. Ego resiliency predicted high levels of prosocial behavior and low levels of internalizing behavior. Effortful control predicted high levels of externalizing behavior. Child emotional flexibility should continue to be considered in future research on child adjustment in adverse environments. No significant relationships were found between family and community variables and child adjustment. The paper discusses possible reasons for the findings and presents some recommendations for further research.

ADVISER'S APPROVAL: Dr. Amanda Sheffield Morris