DETERMINANTS OF EARLY CHILDHOOD DEVELOPMENT IN KOSOVO

A Thesis

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Master of Public Administration

by

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ABSTRACT

International community recognizes investing in early childhood as a moral and legal obligation of the state to provide for an environment that allows the child to develop maximally, as well as an economically beneficial policy to break poverty traps.

Using the Multiple Indicator Cluster Survey carried out in 2013-2014 in Kosovo, I run four different logistic regressions to test: (i) the impact of learning environment, (ii) demographics, (iii) child's characteristics, and (iv) household's attitude towards violence on whether the child is on the right track of development as defined by UNICEF.

92.2 percent of Kosovar children 36 to 59 months old, surveyed at that time, were on the right track of development. Factors associated with being on the right track of development are: parental engagement in learning and play, access to books and toys, living in rural area, birth order, and tolerance towards domestic violence.

BIOGRAPHICAL SKETCH

Fjolla Kondirolli graduated from Cornell University in May 2017 with a Master degree in Public Administration. During her time at Cornell, she focused on International Development studies. She worked as an Associate Editor for the Cornell Policy Review. She has a Bachelor of Science in Economics and Public Policy from Rochester Institute of Technology in Kosovo.

I dedicate this thesis to my parents, for giving me the best childhood one could have.

ACKNOWLEDGMENTS

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LIST OF ABBREVIATIONS

ECD   Early Childhood Development

ECDI   Early Childhood Development Index

MICS   Multiple Indicator Cluster Survey

SDG   Sustainable Development Goals

UN   United Nations

UNICEF United Nations Children's Fund

CHAPTER 1

INTRODUCTION

Using the Kosovo Multiple Indicator Cluster Survey (MICS), carried out in 2013-2014 by United

Nations Children's Fund (UNICEF), I look at early child development (ECD) in Kosovo as a

function of the learning environment, household characteristics, individual child's

characteristics, and household's attitude towards violence. The purpose of this paper is twofold:

to contribute to the literature on early child development in developing countries in general, and

to inform public policy regarding the development of children aged 36 to 59 months in Kosovo.

Importance of ECD in development is recognized by the international community through the

Convention on the Rights of the Child. Article 6 of the convention states that a child has the right

to develop to "the maximum extent possible" and Article 27 states that "States Parties recognize

the right of every child to a standard of living adequate for the child's physical, mental, spiritual,

moral and social development" (The United Nations 1989). Besides the moral and legal

obligation of the state to provide for an environment that allows the child to develop maximally,

there are economic benefits to investing in children at such an early age. According to UNICEF,

7.6 million children under the age of 5 worldwide die each year and over 200 million children do

not reach their full potential. This unfulfilled potential translates into an estimated 20 percent

loss in adult productivity (Grantham-McGregor et al 2007). This loss is passed into next

generations, contributing into the poverty trap. Developmental lagging in early childhood can

have negative impacts in cognitive and psychological functioning, educational attainment, and

future income, contributing to continued inequalities in the next generation (Walker et al 2011).

A state that invests in healthy and educated children will reap economic and social benefits in the

future. Investing in child development is also a crucial piece in achieving the Sustainable

Development Goals (SDG). Providing health care, nutrition, safety, caregiving, and early learning opportunities for the youngest children, are some of the components of a successful fulfillment of the SDGs (Black et al, 2015).

I use the cross-sectional round of UNICEF MICS collected in Kosovo in 2013. Early childhood development index (ECDI) questionnaire was administered to mothers of children aged 36 to 59 months. Data is representative of all major rural and urban regions in Kosovo, of Albanian majority and other minorities, of diverse economic and educational background, and of both genders. I run four different logistic regressions to test: (i) the impact of learning environment, (ii) demographics, (iii) child's characteristics, and (iv) household's attitude towards violence on whether the child is on the right track of development as defined by UNICEF.

This paper is the first study on ECD in Kosovo using a large, nationally representative survey, as well as the first study that uses MICS data from Kosovo. There are very few studies in ECD in developing countries, and there are no studies in ECD in Eastern Europe. This paper contributes to ECD literature also by being the first to look at the association of four different classes of determinants with childhood development.

The remainder of the paper is organized as follows. Chapter 1 presents how the Early Childhood Development Index is calculated according to UNICEF. Chapter 2 provides a summary of the research done in early childhood development in developing countries. Chapter 3 presents the research design including a description of the variables of interest. Chapter 4 describes the data used and summary statistics of the sample. Chapter 5 presents results of the logistic regression analysis. Chapter 6 concludes with a discussion on findings, limitations, and policy implications.

CHAPTER 2

ABOUT EARLY CHILDHOOD DEVELOPMENT INDEX

Physical growth, literacy and numeracy skills, socio-emotional development and learning capabilities are important factors on a child's overall development (Shonkoff and Phillips, 2000.) UNICEF's Early Childhood Development Index is an index that assesses children of age 36-59 months in these four domains: literacy/numeracy, physical, social-emotional, and learning. Children of this age are considered as being developmentally on track on the *Literacy-numeracy* domain if at least two of these are true: whether they can identify/ name at least ten letters of the alphabet, whether they can read at least four words, and whether they know the name and recognize the symbols of all numbers from 1 to 10.

Children are considered as being developmentally on track on the *Physical* domain if one of these is true: if the child can pick up a small object with two fingers, and/or the caretaker does not indicate that the child is sometimes too sick to play.

Children of this age are considered as being developmentally on track on the *Social-emotional* domain if two of the following are true: if the child gets along well with other children, if the child does not kick, bite, or hit other children, and if the child does not get distracted easily.

Children are considered as being developmentally on track on the *Learning* domain if either one of the following is true: if the child follows simple directions on how to do something correctly and/or when given something to do, can do it independently.

ECDI is then calculated as the percentage of children who are developmentally on track in at least three of these four domains (UNICEF 2015).

CHAPTER 3

LITERATURE REVIEW

According to the Convention on the Right of the child, early childhood is defined as the first

8 years of age (The United Nations 1989). Nevertheless, indices such as UNICEF's ECDI

focus on children under 5 years old. This period is crucial on children's cognitive, social,

emotional and physical development, since the events during this time shape their health

and social outcomes (Shonkoff and Phillips 2000).

Healthy and socially adapt children are more likely to be economically and socially

productive when they grow up (Heckman 2006). Even though genetics play an important

role in brain development, environmental factors can change genetic traits (Meaney 2010).

For this reason, there have been several studies looking at the impact of socio-demographic

factors in early development. Studies have found an association between economic status

and children's cognition and school attainment (Sigman 1991; Stein 2005). A study in

Madagascar found that children from wealthiest families, or with mothers who had

secondary education, performed better in cognitive and language tests (Fernald et al 2011).

Another study in Philippines found a relation between IQ at 8 years old and wealth quintile

(Mendez et al 1999), and association between cognitive scores of 9 year olds and wealth in

Indonesia (Cheung 2006). Poverty is also associated with poor maternal education (Bradley

2002), maternal depression (Hamadani & Gregor 2004), and inadequate environment at

home (Baker et al 2003), which have a negative effect on the development of the child.

Poverty also has a direct effect on children's health: studies show that children that live in

poverty suffer from delayed growth, and stunting (Baker et al 2003; Schady et al 2005).

There is an increased focus on early child development research, mostly initiated by international organizations such as the UN and the World Bank. The World Bank created an early childhood development (ECD) guide in 2011 "in response to growing demand from project managers for advice and support to facilitate the policy dialogue on the topic" (Sayre et al 2015). The state of children in developing countries is bleak. An estimated 200 million children are not in the right track of development by the age of 5, with the highest percentage of disadvantaged children in Sub-Saharan Africa, and the largest number of disadvantaged children in south Asia (Grantham- McGregor 2007).

Notwithstanding risk factors such as poverty, poor health, and violence, interactions with primary caregivers and home environments are the most important determinants of development (Tang et al 2006; Belsky et al 2006; Maggi et al 2006). Two features positive caregiving are cognitive and socio-emotional support (Maggi et al 2011). Caregivers can influence the development of the child through adequate nutrition, proper housing, parental engagement in reading books, singing songs, naming or counting, and nonviolent discipline practices (Bornstein 2006). MICS survey measures caregiver engagement with children in these activities: reading or looking at picture books; telling stories; singing songs; taking children outside the home; playing; and naming/counting. These activities are one of the most important factors on the language development of the child (Hart & Risley 1995). In a 2012 study, Bornstein & Putnick found that only 25 percent of surveyed mothers have read to their child in the past 3 days, over one third have told stories to their children in the past 3 days, and 47 percent have counted, named or engaged in other learning activities. Another study found that in all the countries surveyed, except for Côte d'Ivoire and the Gambia, children in the richest 20 percent of households received more support for learning than

children in the poorest 20 percent of households. In most countries surveyed, mothers are the most likely to engage young children in early learning activities. While there is evidence on the importance of a father's engagement in the socio-emotional development of his children (Cabrera et al 2007), fathers are, on average, two to three times less likely than mothers to be involved in early learning activities (UNICEF 2012).

Availability of books and toys further helps child development. Children who grow up in households where books are available are likely to get, on average, three more years of schooling than children from homes with no books (Evans et al 2010). In the countries surveyed, the percentage of households with three or more children's books varies from almost 97 percent in Ukraine to almost zero in the Lao People's Democratic Republic. Bornstein & Putnick found that only 25 percent of surveyed mothers have read to their child in the past 3 days, over one third have told stories to their children in the past 3 days, and 47 percent have counted, named or engaged in other learning activities (2012). The same authors looked at learning opportunities at home, and found that the number of children's books is generally low. Poorer households tend to have fewer children's books, which could explain the low percentage of parents that read to their children.

The Convention on the Rights of the Child ensures protection of children from all forms of violence. But caregivers themselves often exercise such violence to discipline their children. Exposure to violent forms of discipline has various harmful consequences that children may carry into adulthood (Straus 2009). According to another study using MICS evidence, violent forms of discipline, including physical punishment and psychological aggression, are extremely common. The percentage of children 2–4 years old who experience such forms of violence ranges from 41 percent in Bosnia and Herzegovina to 94 percent in

Vietnam (UNICEF 2012). Another study in three former Yugoslavian countries, showed that most of the respondents believed that physical punishment was not necessary to raise their children properly, but that only 27 percent practiced only non-violent discipline at home (Petrovic et al 2016). Lansford and Deater-Deckard (2012) found that only 18 percent of caregivers reported that no one in their household has used any violent form of discipline in the past month. Two thirds of caregivers reported that their children had experienced psychological aggression (66 percent) in the past month, while 16 percent of caregivers reported that someone in the household used severe physical discipline in the past month. Another important factor is access to early education programs. Early childhood care and education make up the foundation of a quality basic education (Irwin et al 2007). Early education programs include day care facilities, kindergartens, preschools, and other community programs. These programs benefit not only children, but also mothers who can use the free time to invest in their education or career. In a third of countries surveyed, attendance in such programs is 10 percent or less. While these programs are widely available, it is usually the wealthier children who have access to them. This is worrisome since early education programs can be used to reduce gaps in cognitive skills that often determine children's future low social and economic status. Moreover, recent studies show that the returns on such investments are highest among poorer children, and can serve as stepping stone out of poverty and exclusion (Heckman 2006).

CHAPTER 4

RESEARCH DESIGN

To understand the determinants and risk factors on early child development in Kosovo, I design

four different models with variables grouped as follows: Direct ECD determinants, household

characteristics, individual child's characteristics, and attitude towards violence. I run four

multivariate logistic regressions for each specification:

The first model looks at the probability of the child being on the right track of development, as

well as on the right track on each of the four domains, as a function of a few determinants that

are considered directly related to ECD such as: parents' engagement in learning and play,

whether the child attends an early education program, adequacy of care, the number of

children's' books in the family, and availability of toys. I call these variables "learning

environment."

Parents' engagement in learning and play is important for a proper upbringing of the child.

Whether the mother, the father, or another caretaker spends time with the child in activities such

as reading books, singing songs, talking, or playing, provides a better for fast brain development

(Grantham-McGregor 2007). Parents engagement is defined as a dummy variable whether the

mother, or the father, or someone else has been engaged in 4 or more activities.

A risk factor that inhibits growth and development is risk of injures (Grossman, 2000). I look at

whether the child was left alone, or under the supervision of another child in the past week. The

variable care is a dummy variable if neither the statements is true as a proxy for proper

caregiving.

Early education programs are important because they stimulate children's learning and social-emotional abilities. Being around other children, outside of the comfort zone that their home provides, is a good opportunity for the child to better prepare for school. The variable is defined whether the child attends such program.

The availability of toys and books is related to the previous two variables: children that have access to playthings and children's books are more stimulated, and better prepared to learn once they reach school age. The variable on the availability of books is defined as a categorical variable, with 3 categories: no books, 1-9 books, and 10 books or more. The variable on the availability of toys is a dummy variable whether the child has access or not.

The second model looks at the impact of household characteristics such as: household wealth, mother's education level, municipality, area (urban/rural) and ethnicity. Differences in early child development could be explained by demographics alone. With an estimated 30 percent of people in Kosovo live under the nationally defined poverty line, and 10 percent living in extreme poverty, Kosovo is the poorest countries in Europe (UNDP, 2017).

There is also a clear urban/rural divide in Kosovo in terms of education, health care, and access to opportunities, which could directly affect the development of the individual child, and indirectly through parents' education and wealth. [1] Because different municipalities in Kosovo have a different budget and governance, I look at differences in child development by main cities/regions: Prishtina, Peja, Gjakova, Prizren, Gjilan, Mitrovica, and Ferizaj.

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1 To construct the wealth index, principal components analysis is performed by using information on the ownership of consumer goods, dwelling characteristics, water and sanitation, and other characteristics that are related to the household's wealth, to generate weights for each of the items used. First, initial factor scores are calculated for the total sample. Then, separate factor scores are calculated for households in urban and rural areas. Finally, the urban and rural factor scores are regressed on the initial factor scores to obtain the combined, final factor scores for the total sample. Each household in the total sample is then assigned a wealth score based on the assets owned by that household and on the final factor scores obtained as described above. The survey household population is then ranked according to the wealth score of the household they are living in, and is finally divided into 5 equal parts (quintiles) from lowest (poorest) to highest (richest).

This dataset contains observations for Albanian, Serbian and other ethnicity children. UNICEF MICS has a separate dataset for minorities living in Kosovo. A comparison of early child development between Albanian children and children of other minorities in Kosovo using two datasets would be an interesting question to research on.

The third model looks at the impact individual children's characteristics such as: the child's rank in the family, the number of children in the family, and child's sex. The number of children under 5 in the family and rank of the child among children under 5, are used to see whether there is a scarcity on opportunities and care that parents can give to their child. The variable on child rank is a categorical variable with 3 categories: first child, second child, third or other. The variable on number of children is also a categorical variable with 3 categories: 1 child, 2 children, 3 or more children. Child's sex is a dummy variable.

The last model is concerned with family's attitude towards violence, as well as a few mother's characteristics such as: attitude towards violence of the husband against the wife, attitude towards physical and emotional violence against children, mother's education level, mother's age, and mother's age at first marriage.

Domestic violence towards women, and children, is clearly a problem that needs to be addressed. An environment that tolerates violence does not foster the conditions for a proper development of a child. 45 percent of household heads in Kosovo justify domestic violence towards their wives in at least one of the following areas: if she goes out without telling husband; if she refuses to have sex with him; if she makes him jealous; if she neglects his parents; if she makes decisions without him; if she argues with him. The variable is thus defined as a dummy variable whether the household head agrees with at least one of the above-mentioned statements, or none.

11 percent of parents think that physical punishment is necessary for a proper upbringing of a child, but 30 percent report to have used some form of physical violence, and 60 percent report to have used some form of emotional violence towards their child as punishment. All three variables are defined as dummy variables.

I add a few variables to account for mother's characteristics such as: age at first marriage, a categorical variable with 3 categories: under 18, 29-24, and 25 and older; and education level, a categorical variable with 5 categories: none, primary, lower secondary, upper secondary, higher.

CHAPTER 5

DATA AND SUMMARY STATISTICS

Of the 4,870 households selected for the sample, 4,127 were successfully interviewed giving a

household response rate of 94 percent. In the interviewed households, 5,915 women were

identified, 5,251 were successfully interviewed, with a response rate of 89 percent. There were

1,786 children under age five listed in the household questionnaires, and the questionnaire was

filled for 1,648 of them, with a response rate of 92 percent. Since early childhood development is

assessed in children aged 36 to 59 months (3 to 4 years) old, the final sample used for analysis is

807 children.

Learning environment of the children in Kosovo is not ideal for growth and development. 43.8

percent of surveyed children have no children's books available to them, 43.2 percent have

between 1 and 9, and only 13 percent have more than 10. Almost all children surveyed (99

percent) have access to some form of toys: homemade, bought from store, or household toys.

There was no gender difference in the access to toys and books. Only 14.5 percent of children

surveyed attend an early education program. There is a clear divide between attendance in rural

versus urban areas, with 24 percent of children in urban areas, and only 9 percent of children in

rural areas attending one. 77 percent of children surveyed were adequately cared, which is

defined as the child has not been left alone, or under the care of another child, as a proxy of

minimizing injuries and fatalities. On the other hand, engagement in activities that promote

learning and school readiness, varies a lot by the type of activity, and by the parent or caretaker

engaged. In the three days before the survey, the percentage of children whose mothers were

engaged in these activities is as follows: read a book to their child 30 percent, told stories 40

percent, sang 39.5 percent, took the child outside 45 percent, played with the child 47.5 percent,

and named or counted with the child 41 percent. Fathers are much less likely to be engaged with

their child in the above-mentioned activities: read books 6.2 percent, told stories 10.6 percent,

sang songs 5.8 percent, took their child outside 26.3 percent, played with their child 21.2 percent,

and named or counted with their child 9.7 percent. The percentage of children increases when

another caretaker (sibling, relative) is counted as being engaged in learning and play (Table 1,

Column 3).

TABLE 1: LEARNING ENVIRONMENT OF CHILDREN AGED 36–59 MONTHS, KOSOVO, 2013 (N = 807)

	Female	Male	**All**
Availability of children's' books			
None	42%	45%	43.8%
1-9	43%	42%	43.2%
More than 10	14%	13%	13%
Child has access to playthings	99.7%	99.4%	99.5%
Child attends an early education program	13.8%	15%	14.5%
Child is adequately cared for	75%	79%	77%
Engagement in learning and play	72.5%	73.2%	73%
	Mother	Father	Mother/father/other
Reads books	30%	6.2%	50%
Tells stories	40%	10.6%	70%
Sing songs	39.5%	5.8%	62.5%
Takes child outside	45%	26.3%	80%
Plays with child	47.5%	21.2%	83%
Names/counts with child	41%	9.7%	65%

Source: UNICEF 2013.

20.7 percent of the children surveyed fall within the poorest income quintile, 16.6 percent the

second, 14.5 percent middle, 16.4 fourth, and 14.7 percent richest quintile. It is important to

note that UNICEF MICS does not use an income or expenditure approach to dividing the sample into wealth quintiles. Rather, it uses information on the ownership of consumer goods, dwelling characteristics, water and sanitation, and other characteristics that are related to the household's wealth, to generate the wealth quintiles. 39 percent of children live in urban areas, and 61 percent in rural areas. 90.1 percent are of Albanian ethnicity, 1.7 percent Serbian, and 7.3 percent other minority. Children were surveyed in the 7 largest municipalities of Kosovo (Table 2).

TABLE 2: HOUSEHOLD CHARACTERISTICS OF CHILDREN AGED 36-59 MONTHS, KOSOVO, 2013 (N=807)

Economic Status	
Poorest	20.7%
Second	16.6%
Middle	14.5%
Fourth	16.4%
Richest	14.7%
Area	
Urban	39%
Rural	61%
Region	
Prishtina	27%
Peja	10.3%
Prizren	18%
Gjakova	11.6%
Gjilan	9.4%
Mitrovica	11.6%
Ferizaj	12%
Ethnicity	
Albanian	90.%
Serbian	1.7%
Other	7.3%

Source: UNICEF MICS 2013.

46 percent of children were the oldest of children under 5 years old in the family, and 46 percent of them were also the only child under 5 years old in their family.

TABLE 3: CHARACTERISTICS OF CHILDREN AGED 36–59 MONTHS, KOSOVO, 2013 (N = 807)

Gender			
Female	48%		
Male	52%		
	Female	Male	ALL
Number of children under 5 in the family			
1	39.1 %	52.3 %	46 %
2	44.3 %	31.6 %	37.7 %
3	11.7 %	11.6 %	11.6 %
4	3.1 %	4.3 %	3.8 %
5	1.9 %	0.2 %	1 %
Rank of child			
First	45.2 %	46 %	46.1 %
Second	29.9 %	28 %	28.9 %
Else	25 %	26 %	25 %

Source: UNICEF MICS 2013.

Most mothers whose children were surveyed had a secondary education, or high school degree (74.5 percent). 57 percent were married between the age of 18 and 25, and a worrisome percentage of 10.8 were married before they were 18 years old. 45 percent of household heads in the sample justified violence towards the wife in at least one of the following situations: if she goes out without telling husband; if she refuses to have sex with him; if she makes him jealous; if she neglects his parents; if she makes decisions without him; if she argues without him.

While only 11 percent of parents believed that physical punishment is necessary to raise a child properly, 30 percent had exercised physical violence, and 60 percent had exercised emotional violence towards their child in the past month. Physical punishment includes hitting, slapping,

beating, and spanking. Emotional violence includes shouting, yelling, screaming; calling child dumb, lazy or another name (Table 4).

TABLE 4: ATTITUDE TOWARDS VIOLENCE AND MOTHER'S CHARACTERISTICS OF CHILDREN AGED 36–59 MONTHS, KOSOVO, 2013 (N = 807)

Mother's education	
None	2.3 %
Primary	5.6 %
Secondary	74.5 %
Higher	17.2 %
Age at marriage	
<18	10.8 %
18-25	57 %
25<	32.2 %
Wife beating is justified	45.2 %
Child was physically abused by parents	30.3 %
Child was emotionally abused by parents	60.6 %
Child needs to be physically punished to be raised properly	11 %

Source: UNICEF MICS 2013.

92.2 percent of children surveyed are on the right track, according to the UNICEF definition of early childhood development. 98 percent of children are on the right track on the learning domain, with 95.4 percent of children able to follow simple directions, and 93 percent able to do something independently. 99.8 percent of children surveyed are on the right track on the physical domain, with 96.5 percent able to pick up a small object with two fingers, and 74 percent healthy enough to play, with an interesting gender divide (71 percent of boys and 77 percent of girls). 90 percent of children surveyed are on the right track on the socio-emotional side: 87.7 percent of children are reported to get along with other children by their caretakers, but only 26 percent do not kick, bite or hit other children, and only 21.3 percent do not get distracted easily. The domain

that the children of Kosovo are lagging is literacy-numeracy, with only 18 percent of the children

surveyed considered on the right track. 28.4 percent of children (31 percent of girls, 26 percent

of boys) identify at least 10 letters of the alphabet, only 5.7 percent can read 4 simple words, and

32 percent know the name and recognize the symbols of numbers from 1 to 10. This

underdevelopment can be explained by a low attendance in early education programs, and

relatively low parental engagement in activities that promote learning and school readiness.

TABLE 5: PERCENTAGE OF CHILDREN ON TRACK BY ECDI COMPONENTS (N=807)

	Female	Male	All
Developmentally on Track	93.8%	90.7%	92.2%
Literacy-Numeracy	19%	17%	18%
Physical	100%	99.7%	99.8%
Socio-Emotional	30%	33%	90%
Learning	99%	97.4%	98%
Literacy-Numeracy			
Identifies at least 10 letters of the alphabet	31.1%	25.9%	28.4%
Reads at least four simple, common words	6.5%	5%	5.7%
Knows the name and recognize the symbols of all numbers from 1 to 10	34.5%	30.9%	32.6%
Physical			
Pick up a small object with two fingers	97.7%	95.4%	96.5%
Caregiver did not indicate that the child was sometimes too sick to play	77%	71%	74%
Socio-emotional			
Gets along well with other children	87.7%	87.6%	87.7%
Does not kick, bite, or hit other children	79%	69%	26%
Does not get distracted easily	19.7%	22.8%	21.3%
Learning			
Follows simple directions on how to do something correctly	96.1%	94.8%	95.4%
Child can do something independently	94%	92%	93%

Source: UNICEF MICS 2013.

CHAPTER 6

RESULTS

Association between ECD and Learning Environment

Children whose parents are engaged in learning and play, are 1.78 times more likely to be on the right track of early development than children whose parents are not engaged, but there is no statistically significant impact of parental engagement on the individual ECD domains. Number of books affects both whether the child is on the right track of development, and whether they are on the right track on the literacy-numeracy domain. Specifically, children that have 1 to 9 children's books are 2.11 times more likely to be on the right track on the literacy-numeracy domain compared to children that had no books. Children that have 10 books or more, are 5.56 times more likely to be on the right track of development, and 3.83 times more likely to be on the right track on the literacy-numeracy domain, compared to children that had no books. The availability of toys has a statistically significant effect on the overall index, and on learning domain. Children that have any type of toys, are 6.92 times more likely to be on the right track on early development, and 33.64 times more likely to be on the right track on learning domain, respectively, compared to children that had no toys.

Access to an early education program has a statistically significant effect only on the literacy-numeracy domain, where children that attend such programs are 2.5 times more likely to be on the right track compared to children that do not.

Association between ECD and Household Characteristics

Surprisingly, there is no statistically significant association between wealth and any of the

dependent variables of interest, except for one case. Children in middle class are 0.43 times less likely to be on the right track of development than the poorest.

There seems to be no statistically significant correlation between mother's education level, and any of the dependent variables, as well as ethnicity and any of the dependent variables. On the other hand, children in rural areas were 1.91 times more likely to be on the right track of development, and 5.73 times more likely to be on the right track on the learning domain, compared to children in urban areas. With children from Gjakova as a reference group, children from Gjilan were 9.95 times more likely to be on the right track of development.

Association between ECD and Child's Characteristics

The rank of the child in the family was the most important factor on whether the child is on the right track of development. Compared to children who are first of their siblings, children who are second are 0.51 less likely to be on the right track of development. Children who are third or after third, are 0.44 less likely to be on the right track of development, and 0.33 less likely to be on the right track on the literacy-numeracy domain. The number of children under 5 on the family did not have any statistically significant effect on any of the variables. Girls and boys did not seem to be statistically significantly different in any of the variables.

Not surprisingly, age was strongly correlated to all dependent variables except for learning domain. Compared to children of age 3, children of age 4 were 2.36 times more likely to be on the right track of development, 2.26 times more likely to be on the right track on the literacy-numeracy domain, and 2.22 more likely to be on the right track on the socio-emotional domain.

Association Between ECD and Household Head's Attitude Towards Violence

Whether the household head believes that wife beating is justified as defined at the beginning, was statistically significantly associated with all the dependent variables except for learning domain. Children in families where domestic violence is justified were 0.57 less likely to be on the right track of development, and 0.53 less likely to be on the right track on literacy-numeracy domain, and 0.54 less likely to be on the right track on the socio-emotional domain. Physical violence towards children was statistically significantly associated with the socio-emotional domain only, where children that have experienced physical abuse as a form of punishment were 0.47 less likely to be on the right track. Emotional violence towards children, whether the parent believes physical punishment is necessary to raise a child, and mother's age at marriage did not have a statistically significant effect on any of the variables of interest.

TABLE 6: FACTORS ASSOCIATED WITH ECDI AMONG CHILDREN AGED 36–59 MONTHS IN KOSOVO, 2013 (N=807)

Independent Variable	ECDI AOR (95percent CL)	Literacy AOR (95percent CL)	Learning AOR (95percent CL)	Socio-Emotional AOR (95percent CL)
Parental Engagement	1.78 (1.02-3.09) *	1.21 (0.73-2.02)	0.81 (0.25-2.65)	1.5 (0.8-2.6)
Books				
None	-	-	-	-
1-9	1.38 (0.76-2.5)	2.11 (1.28-3.48)**	3.4 (0.9-12.7)	1.41 (0.8-2.5)
10<	5.56 (1.21- 25.54) *	3.83 (1.95-7.55)**	4.57 (0.3-76.6)	10.7 (1.5-74.6)
Availability of Toys	6.92 (0.99-48.98)*	-	33.64 (2.9-386)**	1
Early Education Program	0.72 (0.31-1.7)	2.5 (1.45-4.3)**	1.3 (-0.1-12.1)	0.78 (0.34-1.76)
Adequate Care	1.73 (0.7-4.3)	1.21 (0.46-3.15)	3.72 (0.8-17.4)	0.82 (0.3-2.4)
Wealth Quintile				
Poorest	-	-	-	-
Second	0.76 (0.35-1.65)	0.6 (0.27-1.25)	2.68 (0.5-14.2)	0.87 (0.4-1.8)
Middle	0.43 (0.2-0.94)*	0.55 (0.25-1.21)	2.25 (0.4-12.2)	0.59 (0.28-1.26)
Fourth	1.3 (0.51-3.35)	1.23 (0.61-2.45)	1	1.15 (0.5-2.6)
Richest	1.35 (0.38-4.79)	1.83 (0.86-3.87)	4.41 (0.6-31.1)	2.02 (0.5-7.6)
Mother's education				
None	-	-	1	-
Primary	0.12 (0.01-1.2)	0.94 (0.06-13.3)	0.12 (0.007-2.2)	0.15 (0.01-1.5)
Secondary	0.25 (0.02-2.31)	3.03 (0.27-33.1)	0.29 (0.02-3.1)	0.31 (0.03-2.7)
Upper Secondary	0.68 (0.069-6.57)	4.26 (0.4-45.9)	0.81 (0.05-12.9)	0.74 (0.08-6.9)
Higher	0.94 (0.07-12.2)	4.93 (.43.3-56.13)	1 (omitted)	0.68 (0.06-7.7.)
Ethnicity				
Albanian	-	-	-	-

Serbian		1.27 (0.25-6.27)	1	1
Other	0.61 (0.21-1.83)	0.94 (0.26-3.43)	0.87 (0.11-6.63)	0.89 (0.2-2.9)
Area				
Urban	-	-	-	-
Rural	1.91 (1.01-3.6)*	1.12 (0.6-1.9)	5.73 (1.55-21.1) **	1.39 (0.7- 2.9)
Region				
Gjakova	-	-	-	-
Gjilan	9.95 (1.21-81.24)*	0.57 (0.2-1.5)	1.6 (0.09-26.2)	9.15 (1.1-73.7)*
Mitrovica	0.85 (0.33-2.17)	1.38 (0.6-3.1)	0.59 (0.08-4.22)	0.88 (0.3-2.1)
Peja	1.86 (0.63-5.45)	0.54 (0.2-1.6)	1	1.58 (0.59-4.23)
Prizren	2.21 (0.9-5.5)	1.05 (0.5-2.3)	3.75 (0.28-49.7)	1.52 (0.6-3.5)
Prishtina	2.37 (0.9-6.2)	1.7 (0.8-3.6)	1.03 (0.1-9.5)	2.77 (1.06-7.2)*
Ferizaj	2.22 (0.77-6.37)	0.33 (0.2-0.9)*	1.32 (0.1-11.2)	2.31 (0.8-6.4)
Rank of child				
First	-	-	-	-
Second	0.51 (0.26-0.98)*	0.73 (0.4-1.2)	0.32 (0.07-1.3)	0.69 (0.3-1.3)
Third or after	0.44 (0.21-0.91)*	0.33 (.2-0.6)**	0.38 (0.072-2.04)	0.62 (0.3-1.2)
Sex				
Female	-	-	-	-
Male	0.59 (0.33-1.03)	0.82 (0.5-1.2)	0.3 (0.07-1.2)	0.49 (0.2-0.8)**
Number of children under 5				
1	-	-	-	
2	0.85 (0.46-1.55)	0.91 (0.6-1.5)	0.92 (0.2-3.1)	0.85 (0.4-1.5)
3 or more	0.95 (0.42-2.17)	0.95 (0.5-1.8)	1	0.86 (0.3-1.9)
Age				

36-46 months	-	-	-	-
48-59 months	2.36 (1.35-4.2) **	2.26 (1.4-3.6)**	1.3 (0.4-4.1)	2.22 (1.3-3.8)*
Domestic Violence	0.57 (0.32-1.01) *	0.53 (0.3-0.8)*	0.63 (0.19-2.06)	0.54 (0.3-0.9)*
Physical Violence	0.64 (0.32-1.26)	0.81 (0.5-1.4)	2.5 (0.34-18.3)	0.47 (0.2-0.9)*
Emotional Violence	1.25 (0.63-2.47)	0.88 (0.5-1.4)	1.65 (0.43-6.24)	1.32 (0.7-2.6)
Believes in physical punishment	1.21 (0.85-1.71)	0.99 (0.6-1.6)	4.98 (0.8-29.1)	1.21 (0.9-1.6)
Mother's age at marriage				
>18	-	-	-	-
18-24	1.04 (0.44-2.43)	1.82 (0.8-4.25)	4.27 (0.6-28.2)	0.83 (0.3-2)
25<	0.95 (0.37-2.43)	2.35 (0.9-5.8)	0.78 (0.2-41)	0.73 (0.3-1.9)

Notes: Physical Domain omitted due to lack of observations.

Source: UNICEF MICS 2013.

* Significant at the 5 percent level.

** Significant at the 1 percent level.

CHAPTER 7

DISCUSSION AND CONCLUSION

Summary of Findings

The adjusted logistical models resulted with a statistically significant effect of the learning environment on the likelihood of the child being on the right track of development and the literacy-numeracy, and learning domains specifically. Children, whose parents are engaged in learning and play were 1.78 times more likely to be on the right track of development. Children that had 10 books or more were 5.56 and 3.83 times more likely to be on the right track of development, and the literacy-numeracy domain respectively, compared to children with no books. This is particularly important since descriptive statistics showed that 44 percent of the children surveyed did not have any books. Similarly, the availability of toys was statistically significantly correlated with the overall development, and the learning domain. Finally, whether the child attends an early education program was statistically significantly associated with being on the right track on the literacy-numeracy domain (2.5 times more likely). This is important since descriptive statistics showed that only 18 percent of children surveyed are on the right track on the literacy-numeracy domain, and only 14.5 percent of children surveyed attend an early education program.

Interestingly, wealth was statistically significantly associated with overall development only once: children of middle class were 0.43 less likely to be on the right track of development than children on the poorest quintile. Children in rural areas were 1.91 times more likely to be on the right track of development, and 5.73 times more likely to be on the right track on the learning domain than children in urban areas.

The models showed statistically significant association between the rank of the child in the family, child's age, and development. Children that are second in the family were half as likely to be on the right track of development compared to children that are first, and this likelihood decreases to 0.44 for children that are ranked third or after. Not surprisingly, 4 years old children

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were more likely to be on the right track compared to children of age 3 (2.36 more likely on the overall development, 2.26 more likely on the literacy-numeracy domain, and 2.22 more likely on the socio-emotional domain).

Finally, the model on the household's attitude towards violence gave some interesting results. Descriptive data showed that 45 percent of household heads justified wife beating in at least one of different cases of disobedience towards their husband. This variable was statistically significantly associated with all dependent variables except for learning. Children in families that justify domestic violence are half as likely to be on the right track on the overall development, literacy-numeracy domain, and the socio-emotional domain. 30 percent of children surveyed were physically punished, and 60 percent were emotionally abused in the past month. The model shows that physical abuse was associated with the socio-emotional domain, where children that were physically punished were half as likely to be on the right track on the socio-emotional domain.

Limitations of the study

This study is limited in three ways: survey design, data limitations, and external validity.

First, ECDI is an arbitrary index, designed by UNICEF based on an exhaustive academic and field work. There exists no comprehensive, unbiased index on early childhood development, thus all studies are limited on what the index represents and what type of data is used.

Second, data is self-reported, which can cause response bias. Furthermore, data is reported in a set period (most commonly the past 3 days), which can cause recall bias. Finally, there is no data on the supply side of services such as the availability of early education programs. A low supply of such services could be the cause for a lower percentage of children on the right track of development.

Third, it can be argued that the results may not have external validity outside of Kosovo. Further comparable research in countries of the same socio-economic characteristics as Kosovo, could be of interest.

Policy Implications

The Government of Kosovo must invest in improving the literacy-numeracy domain. With only 18 percent of children on the right track on this domain, there is a lot that needs to be done. According to the results, children that attend an early education program are 2.5 times more likely to be on the right track on this domain. Hence, an increase in the supply of these programs is needed across the country. Moreover, raising awareness among parents on the importance of these programs is necessary for the attendance to increase. More research is needed to determine whether children are not attending such programs due to a low supply, or due to a lack of financial means. In the latter case, cash transfer programs could help families afford sending their children to such schools.

The second factor that was associated with overall development is parental engagement. Children whose parents, or other relatives, were engaged in learning and play, were almost 2 times more likely to be on the right track of development. A lack of early educational programs, together with a lack of parental engagement, results in children lagging on the literacy-numeracy domain and in overall development.

The third factor that was found to be associated with literacy-numeracy is the number of books. Children with more than 1 book were almost 2 times more likely to be on the right track on this domain, while children with more than 10 books were 4 times more likely to be on the right track. Unfortunately, 44 percent of children surveyed had no books at home. Availability of school libraries, as well as public libraries, could help children have access to books, especially if they cannot afford them otherwise.

The second group of indicators that were associated with being on the right track of development was child's characteristics, specifically, was the order of the child. Among children under 5 years old, children that were second on the family were half as likely to be on the right track of development, while children that were third or after were a third as likely to be on the right track of development compared to those born first. One way to address this issue is through governmental awareness programs in family planning. A study found that postponing the age of the first birth and increasing inter-pregnancy intervals could improve child development in low and middle income countries (Fink 2014).

Finally, domestic violence is an issue that negatively affects children of Kosovo. Children whose parents are more likely to rationalize domestic violence against women, are half as likely to be on the right track of overall development, as well as literacy-numeracy, and socio-emotional domain. Again, raising awareness on the issue, as well as increasing responsiveness and law enforcement in cases of reporting are a few policy options that the government of Kosovo should take into consideration.

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