



Sixth Annual Life in Kyrgyzstan Conference 2020

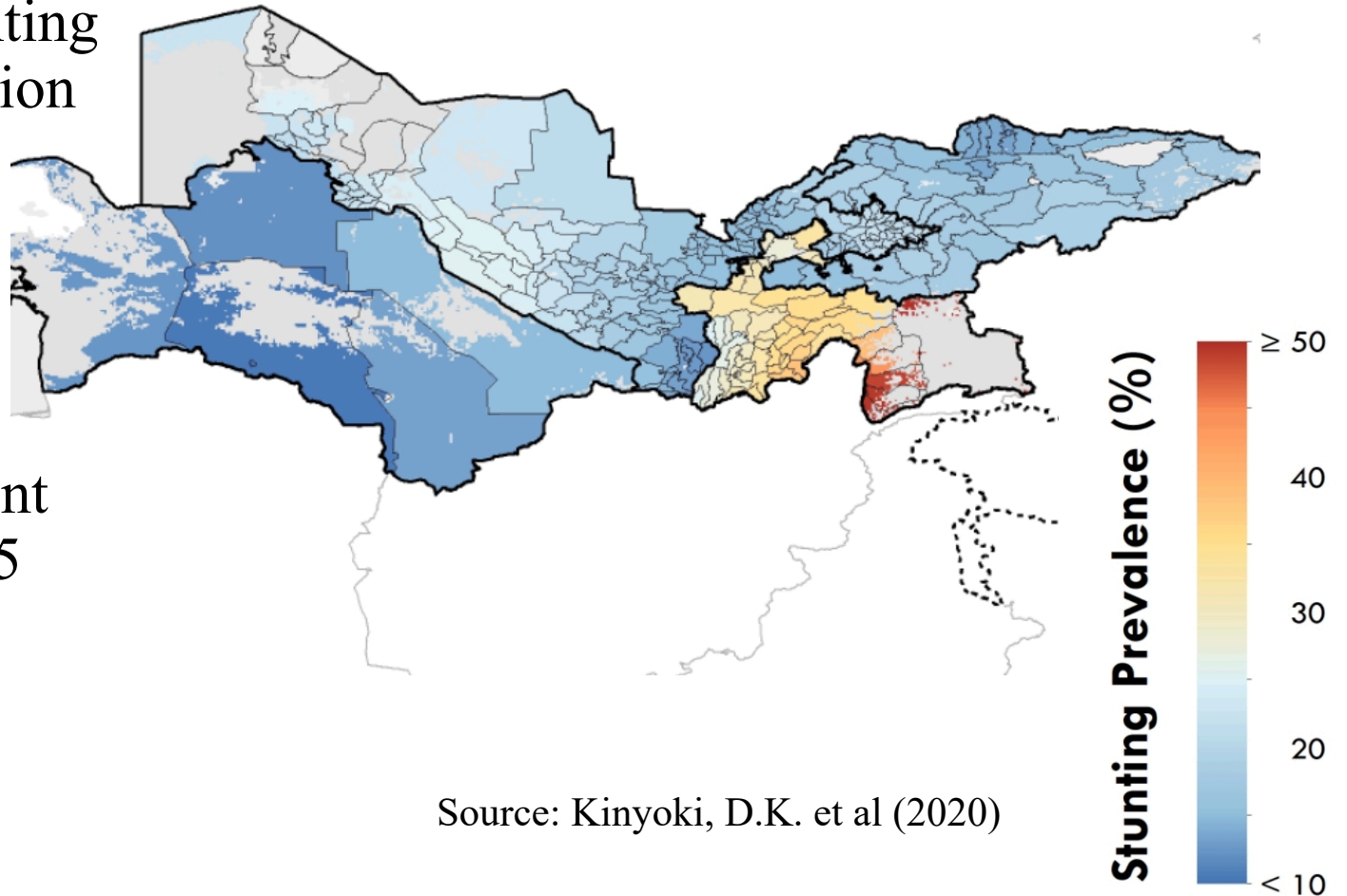
Women's Bargaining Power and Child Nutrition: Evidence from Life in Kyrgyzstan Survey

Binazirbonu Yusupova, University of Sussex, UK

Statement of the problem: Why child nutrition?

- In Central Asia, the prevalence of stunting in under-fives is 10.9% (Global Nutrition Report, 2019).
- Central Asia is the subregion with the highest prevalence of undernourishment at 6.2% in 2017, up from 5.8% in 2015 (FAO, 2018).

Prevalence of under-five stunting in Central Asia, 2017



Source: Kinyoki, D.K. et al (2020)

Why women's bargaining power?

- Extensive evidence that an increase in women's power confers benefits on child health (e.g. Ahmed, 2006; Duflo, 2003; Hoddinott & Haddad, 1991):
 - Women's power to make decisions has a direct impact on child nutrition as **women are the main caretakers of children**
 - Women's power has an indirect effect on child nutrition through **women's own health and nutritional status**
 - Women's income is used more to meet daily consumption, such as food, clothing, and health care compared to men's.

Why Kyrgyzstan?

- Extensive research on the determinants of child health and how a mother's status within the household shapes nutritional child outcomes conducted in Latin America, South Asia and Sub-Saharan Africa, but **not in Central Asia**.
- In Kyrgyzstan, 18% of children under age five are stunted, 3% are wasted, 9% are overweight, and 3% are underweight (DHS Kyrgyzstan, 2012) and undernourishment remains an issue.
- The 'Life in Kyrgyzstan' Study :)
 - Kyrgyzstan is one of the few countries in the region that has a rich high-quality micro panel survey publicly available for the use to researchers
 - Data representative at the national and regional level

Research questions

1. What measures/proxies of women's bargaining power to use in the context of Kyrgyzstan?
2. Is there an association between mother's bargaining power* within households and their children's long-term nutritional status** in Kyrgyzstan?

* as measured by decision-making index and her position in the household

** as measured by height-for-age Z score

Objectives

- To understand context-specific factors of intrahousehold bargaining in Kyrgyzstan
 - For example, a bargaining process in most African countries involves a husband and a wife whereas in many South Asian societies, the negotiation happens on an extended family level
- To inform future program design and evaluation procedures intended to strengthen women's bargaining power in Kyrgyzstan
 - Positive association between women's bargaining power and child nutrition \Rightarrow policies like microfinance projects could be very effective.
 - Negative association between women's bargaining power and child nutrition \Rightarrow policies should point at a change in social norms.

Scope and limitations

Only **2012 wave** of the 'Life in Kyrgyzstan' Study (LiK) is used as:

- no information on decision making and gender attitudes in 2010 and 2011 waves
- 2013 wave conducted under the consortium of a different research institution and has inconsistent educational attainment data compared to 2012 data
- Focus on households with children aged **0-12 y.o.** whose anthropometric measures were taken and who have mothers who have answered decision-making questions
 - **Findings are mere associations, NOT causal relationships**
 - Not all daughters- and mothers-in-law could be detected for cases where the heads of household were not in-laws themselves
 - No macro level factors were taken into account
 - No data on pre-marital social status and individual level assets were given (e.g. 'kalym' price, assets brought to marriage, etc)

Empirical strategy

Ordinary Least Squares with household level cluster robust standard errors:

$$HAZ_{imfhc} = \alpha_0 + \alpha_1 BP_{mhc} + \alpha_2 CH_{imfhc} + \alpha_3 M_{mhc} + \alpha_4 F_{fhc} + \alpha_5 X_{hc} + \varepsilon_{imfhc}$$

HAZ – health of a child i of mother m father f in household h in community c

BP – a measure of mother's bargaining power

CH – is a vector of child and household's characteristics

M and F – mother and father characteristics respectively

X – community and oblast characteristics,

α_0 – constant term

ε – the disturbance term.

Sample size – 2,806 observations

Key Dependent variable

Height for age Z score (measure of stunting)

- used to assess the quality of diet and growth in children
- based on reference data from WHO Child Growth Charts /Reference 2007 Charts
- 7% of children under 12 y.o. are stunted in this study population

Descriptive Statistics for Child Anthropometric Indicators in Kyrgyzstan, 2012

	N	Mean	SD
HAZ	2806	-.362	1.511
WAZ	2517	.340	1.213
WHZ	1731	.739	1.536
% below_haz -2 S.D.		6.9	.253
% below_waz-2 S.D.		1.1	.103
% below_whz -2 S.D.		1.8	.134

Key Independent variables

How to measure women's bargaining power (BP)?

- Income & Employment
- Asset ownership
- Human Capital

Conventional, commonly used measures of BP

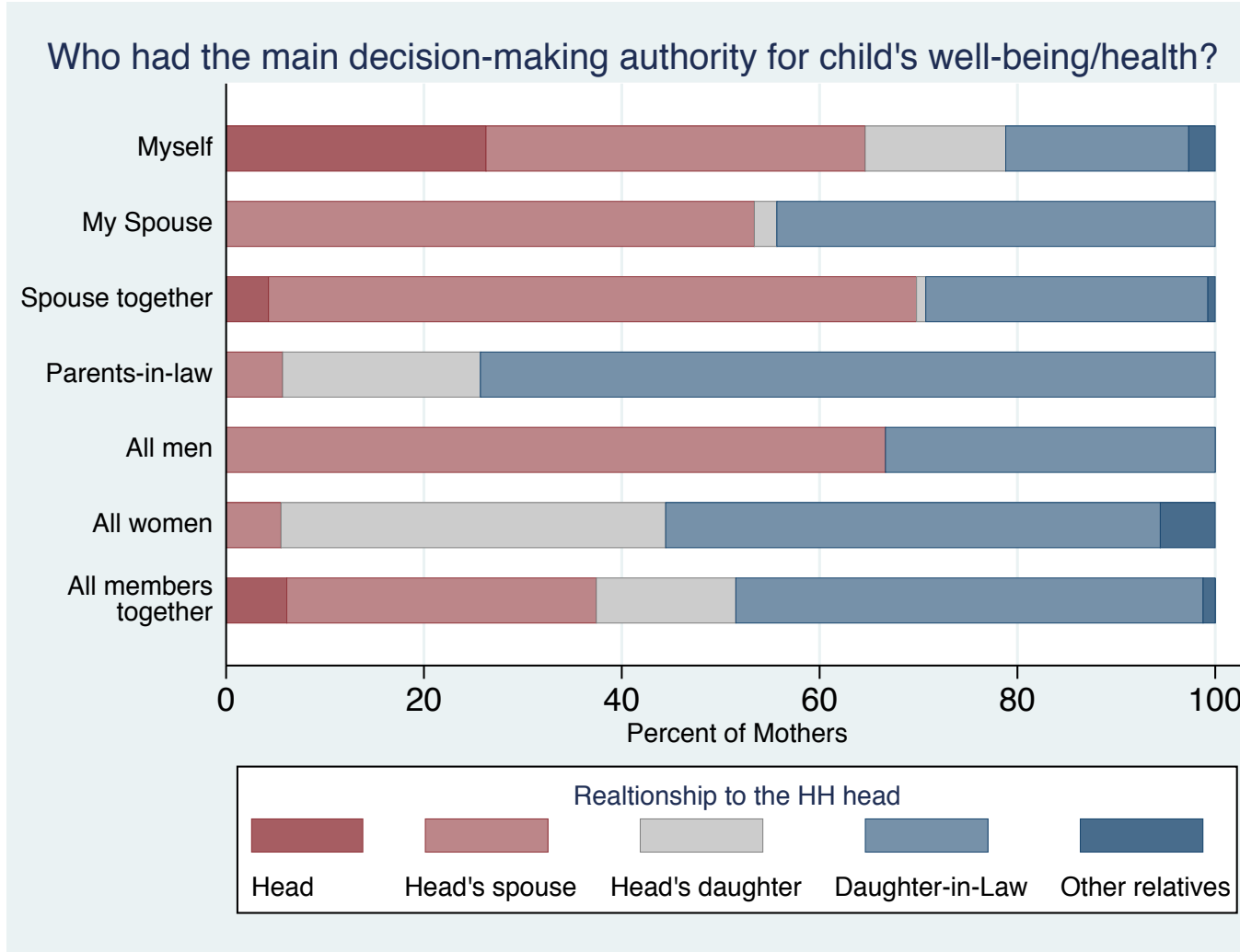
- Decision-making & attitudes → **Decision-making index** based on 25 DM questions from LiK (continuous 0-1 index)
- Other context specific measures → Given the patriarchal context of Kyrgyzstan, **mother's position** to the head of the household

Variation of Mother's DM index

	Mean	SD	Min	Max	N
Mother's DM index by the relationship to the household head					
Head	0.969	0.078	0.363	1	164
Head's Spouse	0.822	0.248	0	1	993
Head's Daughter	0.641	0.350	0	1	113
Head's Daughter-in-Law	0.548	0.338	0	1	541
Others*	0.884	0.248	0.182	1	21
Mother's DM index by stunted children					
HAZ \geq -2 (<i>not stunted</i>)	.754	0.298	0	1	3936
HAZ $<$ -2 (<i>stunted</i>)	.703	0.332	0	1	291

Others*: mother, sister, grandchild, niece and other relatives.

DM about child health by mother's position



Structural hierarchies in the household
do matter!

(Desai and Johnson, 2005; Doan and
Bisharat, 1990)



Crucial to take into account social
structures prevailing in the households
in the context of Kyrgyzstan

Findings: Which BP proxies matter?

Significant determinants of child long-term nutritional status

- Mother's position in the HH
- Head of the household being female +
- Mother's level of education
 - Being illiterate compared to having secondary educ decreases HAZ by 1.4 SD
 - Having university degree compared to having secondary educ decreases HAZ by 0.46 SD in urban sample

• **Mother's decision-making index**

- In rural subsample, DM index –

Insignificant determinants of child long-term nutritional status

- Mother's logged monthly income +
 - Mother's income as a contribution to total household monthly income +
 - Mother's employment dummy –
-
- In urban subsample, DM index + but insignificant

Dependent variable: HAZ	(4)	(5)	(6)
	DM index	Position in the HH	Pooled (all BP proxies)
Mother's DM index	-0.213 (0.145)		-0.241* (0.145)
Mother's Position in the HH (1= head)		0.271 (0.253)	0.240 (0.258)
Mother's Position in the HH (3= daughter)		-0.702* (0.372)	-0.740** (0.369)
Mother's Position in the HH (4= daughter-in-law)		-0.312* (0.182)	-0.337* (0.186)
Mother's Position in the HH (5= other relatives)		-0.539* (0.301)	-0.523* (0.299)
Child's Age (in years)	-0.235*** (0.048)	-0.244*** (0.048)	-0.234*** (0.048)
Child's Age Squared	0.013*** (0.003)	0.014*** (0.003)	0.013*** (0.003)
HH Head's Sex (ref: female)	0.311*** (0.112)	0.304** (0.124)	0.316** (0.126)
Log of total consumption per HH member (monthly)	0.170** (0.085)	0.162* (0.083)	0.160* (0.085)
Asset index (PCA based)	0.007 (0.021)	0.014 (0.021)	0.013 (0.022)
	(1.266)	(1.263)	(1.281)
Obs.	2434	2458	2434
R-squared	0.069	0.071	0.075
Oblast dummies	YES	YES	YES
Number of HH Clusters	1,254	1,269	1,254
F-statistic	4.31***	4.16***	4.38***

Robust standard errors are in parenthesis: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Child's gender, birth order; both parent's age, ethnicity and father's education; HH size, HH head's age, rural area and distance to the main road are controlled in every specification.

➤ Reference group for Mother's Position in the HH: 2=Head's spouse

➤ **Pooled**: all bargaining power proxies except for income variables added

➤ Mother's decision-making index becomes statistically significant at 10% level.

➤ Being a daughter to the HH head reduces child's HAZ by **0.74 SD** compared to head's spouse's child.

➤ Being a daughter-in-law to the HH head reduces child's HAZ by **0.34 SD** compared to head's spouse's child.

Conclusions and recommendations

- Vertically-extended familial units are more rigidly patriarchal in the context of Kyrgyzstan.
- Neither income nor education are as important as mother's position in the household in determining her power to act for the benefit of her child's health
- Lower degree of bargaining power of young mothers in households discourages them from taking initiatives on behalf of their children **BUT** more qualitative research is needed + panel data (dynamic) analysis!

Importance of my study

- The many other papers, which are less econometrically rigorous, provide additional useful information towards policy making.
- Given that we have convincing evidence that bargaining power is important in some specific cases, we should be more **willing to accept that bargaining power plays a role, even when the evidence is based more on correlation than causation.**
- This study is the first one to uncover the relationship between women's bargaining power and child health in the context of Central Asia, in particular in Kyrgyzstan.

References

- Ahmed, M., 2006. Intra-household Bargaining and Investment in Child Health.
- Desai, S., Johnson, K.L., 2005. Women's decision-making and child health: familial and social hierarchies.
- Doan, R.M., Bisharat, L., 1990. Female autonomy and child nutritional status: the extended-family residential unit in Amman, Jordan. Soc. Sci. Med. 1982 31, 783–789. [https://doi.org/10.1016/0277-9536\(90\)90173-p](https://doi.org/10.1016/0277-9536(90)90173-p)
- Doss, C., 2013. Intrahousehold Bargaining and Resource Allocation in Developing Countries. World Bank Res. Obs. 28, 52–78.
- Duflo, E., 2000. Child Health and Household Resources in South Africa: Evidence from the Old Age Pension Program. Am. Econ. Rev. 90, 393–398.
- Hoddinott, J., & Haddad, L. (1991). Household expenditures, child anthropometric status and the intrahousehold division of income: Evidence from the Cote D'Ivoire. Research Program in Development Studies, Woodrow Wilson School, Princeton University.
- Kinyoki, D.K. et al. Mapping child growth failure across low- and middle-income countries. Nature 577, 231–234 (2020) doi:10.1038/s41586-019-1878-8.
- Life in Kyrgyzstan. (2019). The 'Life in Kyrgyzstan' Study | A research-based, open access knowledge infrastructure for Central Asia. [online] Available at: <https://lifeinkyrgyzstan.org/>.