

Multidimensional measurement of women's empowerment in West African Economic and Monetary Union (WAEMU)

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Outline

1. Context & problem
2. Research objective
3. Methodology
4. Data
5. Results
6. Conclusion
7. Policy implication

1. Context & problem

(1/5)

- Women's empowerment is key objective of development policies :
 - Essential to the fulfilment of democratic and human rights and the development of societies.
 - Both an intrinsic (an end in itself) and an instrumental goal (a pathway to other development goals (Duflo, 2012)
 - Significant implications in terms of well-being outcomes such as food security, nutrition, Intimate Partner violence, etc. (Aziz et al., 2020; Grosso et al., 2020; Garcia-Moreno et Amin, 2016).
- Women in developing world:
 - represent 49 % to 51 % of the population (Ritchie et Roser, 2019);
 - but, are among the most disadvantaged and vulnerable social groups in terms of economic and social prospects
- West Africa in particular is one of the world's regions with the highest levels of gender inequality (Martin et al., 2021).

1. Context & problem

(2/5)

- Some indicators of women status in West Africa:
 - **Education:** Girls are 58% less likely to be enrolled in secondary school. Which implies a greater possibility (20%) of having children in adolescence, and low future income compared to men, whatever the sector (World Bank, 2023).
 - **Employment:** 52% of women are employed, compared with 67% of men (aged 15 and over), (OECD et al., 2021). Mostly vulnerable employment(42% to 96% depending on the country) (Mbaye, 2018).
 - **Time allocation:** Disproportionate burden of unpaid care and domestic work : up to 6 times more than men (Easley, 2020)
 - **Access to productive resources:** 9% of agricultural land titles versus 86% for men (OECD et al., 2021). Etc.
- These gaps limit women's ability to ensure their own well-being and contribute to that of their children, household and their community (Annan et al., 2019 ; Fielding et Lepine, 2017; Sraboni et al., 2014; van den Bold et al., 2013).

1. Context & problem

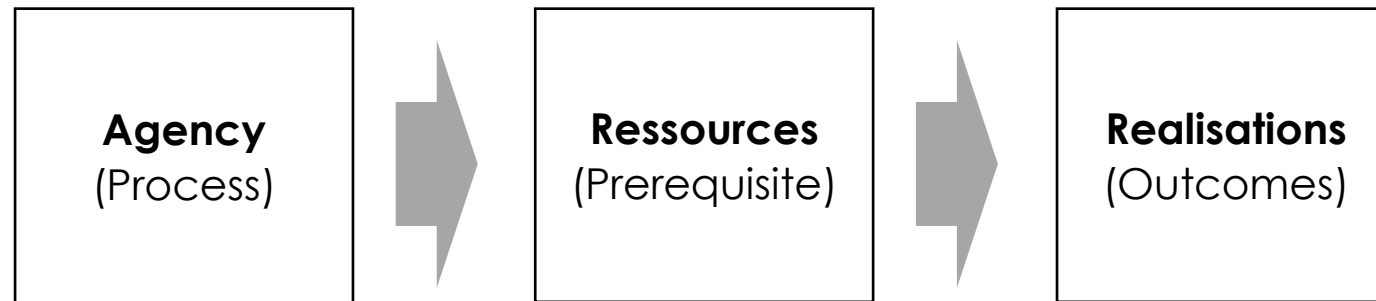
(3/5)

- Empowering women by enabling them a greater access to resources can help bridge these gaps and strengthen their decision-making and bargaining power.
- To support women through appropriate policies, it is therefore necessary to understand the drivers of women's empowerment, and to define tools for assessing progress.
- However, women's empowerment is not intuitively easy to understand :
 - Multitude of definitions,
 - Abstract, complex and multidimensional nature of the empowerment process,
 - variability of its different dimensions depending on the context,
 - Lack of consensus on which elements matter most and how to measure it.

1. Context & problem

(4/5)

- According to Kabeer (1999) :
 - empowerment refers to a process of change that involves transition from a condition of powerlessness to one of autonomy.
 - In a context of inequality, it implies for women the acquisition of resources and the ability to make strategic choices.



Conceptual model of empowerment (Kabeer, 1999)

1. Context & problem

(5/5)

- Lack of a standard and comparable measure of women's empowerment :

Existing measures are subjected to some limitations

Measures	Proposed by	Scope	Limitations
Global Gender Gap Index (GGI)	World Economic Forum	Global	<ul style="list-style-type: none"> - Not women's empowerment measures, but rather measures of gender gaps across various domains - Based on indirect indicators and aggregate data
Gender Development Index (GDI)	UNDP	Global	<ul style="list-style-type: none"> - Impossible to make sub-national or sub-group analysis (Malapit et al., 2019; Yount et al., 2016; Alkire et al., 2013)
Gender Inequality Index (GII)	UNDP	Global	
Oxfam Women Empowerment Index	OXFAM	Context-specific	<ul style="list-style-type: none"> - Empowerment outcome measure at individual level, but information needed to construct it are not available in all surveys.
Women Empowerment Index in Agriculture (WEAI)	Alkire et al. (2013)	Context-specific	<ul style="list-style-type: none"> - Well-constructed indicator, but it focuses on the agricultural domain (Phan, 2015)
Survey-based Women Empowerment index (SWPER)	Ewerling et al. (2017)	34 African Countries	<ul style="list-style-type: none"> - Selection of available ad 'hoc items - Application of Principal Component Analysis (PCA) can limit the validity of the construct - Inability to demonstrate measurement invariance across countries - Possibility that items relating to women's empowerment may prove incomparable across countries

(Asaolu et al., 2018; Miedema et al., 2018)

1. Research objective

(1/1)

- **Research Objective** : construct a measure of women's empowerment specific to WAEMU countries.
 - **Hypothesis** : Women's empowerment is multidimensional and occurs through various spheres of women's lives
 - **Contribution** : this work contribute to the comprehension and the measurement of women's empowerment especially in the west African context

2. Methodology

(1/2)

A Factor analysis (FA) based on the common factor method was used

- Comparison between factorial analysis and other method such as PCA

	Factorial Analysis (Asaolu et al., 2018 ; Miedema et al., 2018 ; Phan et al., 2016)	Principal Component Analysis (Sharanga et al., 2019 ; 2018 ; Ewerling et al., 2017)
Reducing the dimension of a set of items	✓	✓
Determining the underlying dimensions between observed variables	✓	✓
Proving the validity of constructs	✓	✗
Taking measurement errors into account	✓	✗

2. Methodology

(2/2)

- Classic FA model (Harman, 1976 ; Cudek, 2000) :

$$x_j = a_{j1}f_1 + a_{j2}f_2 + \dots + a_{jm}f_m + e_j \quad (1)$$

x_j : Observed variable; ($j = 1, 2, \dots, n$)

f_m : common factor; ($m < n$)

a_{jm} : factor loading

e_j : unique factor

- Matrix form of the model :

$$X = FA + E \quad (2)$$

- Variance of each observed variable :

$$\bullet \text{ Variance}_{total} = \text{Variance}_{Common} + \text{Variance}_{specific} + \text{Variance}_{error} \quad (3)$$

The aim is to extract factors in a way that explains the greatest possible variance.

Step 1: Exploratory Factor analysis (EFA)

- Identification of women's empowerment variables,
- Test of data suitability for factor analysis (Bartlett's sphericity test, Kaiser-Meyer-Olkin test),
- Calculate the correlation matrix and analyze factor loadings,
- Factor extraction (principal axis factorization method),
- Factor rotation (Oblique rotation).

Step 2: Confirmatory Factor analysis

- Test of the factor structure identified by EFA :
 - Test of model reliability
 - Quality of model fit.

3. Data

(1/2)

- **Source:** Demographic and Health Surveys (DHS) from 07 West African countries (WAEMU):

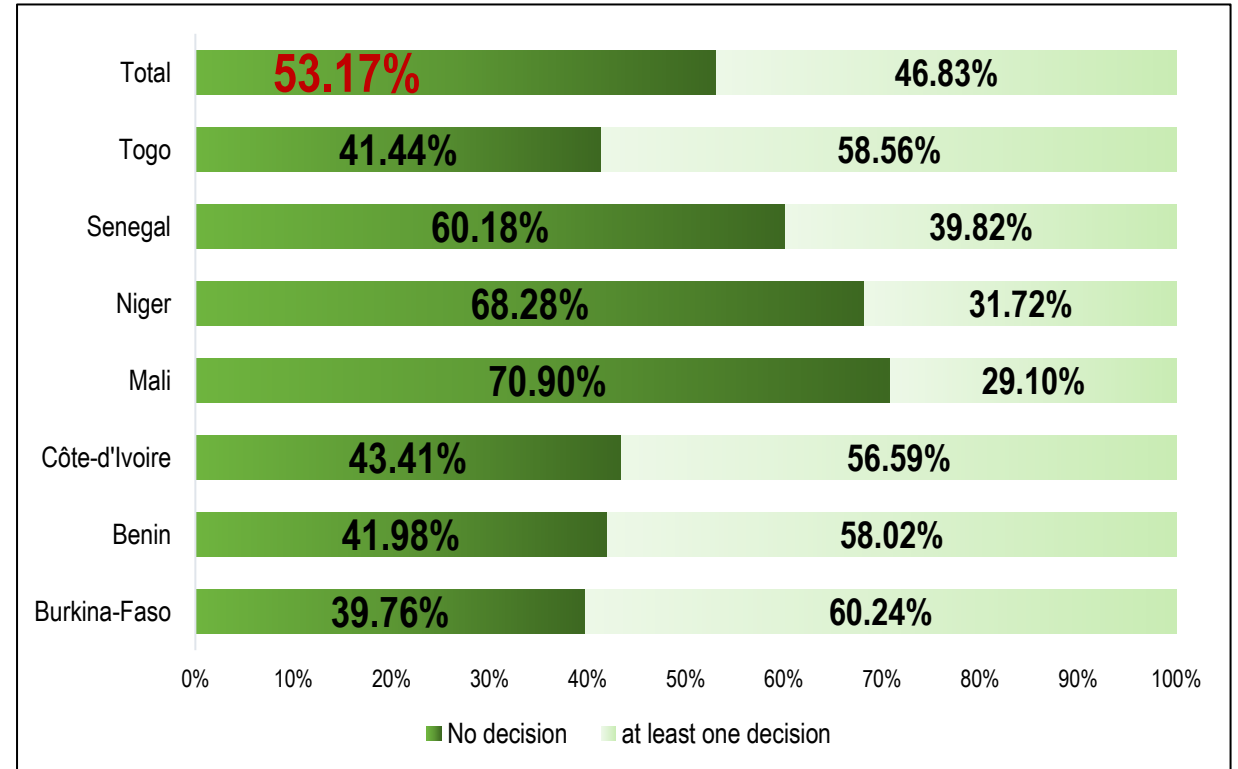
Table 1: sample distribution

Country	Year	Sample (married or living with a partner)
Benin	2018	4.341
Burkina-Faso	2010	12.176
Cote-d'Ivoire	2012	5.672
Mali	2018	6.911
Niger	2012	9.111
Senegal	2011	10.372
Togo	2011	5.606
Total	-	54.189

32 variables related to women's empowerment were identified on the basis of theoretical and empirical literature

Some descriptives statistics

Figure 1: Sole or joint participation in household decisions

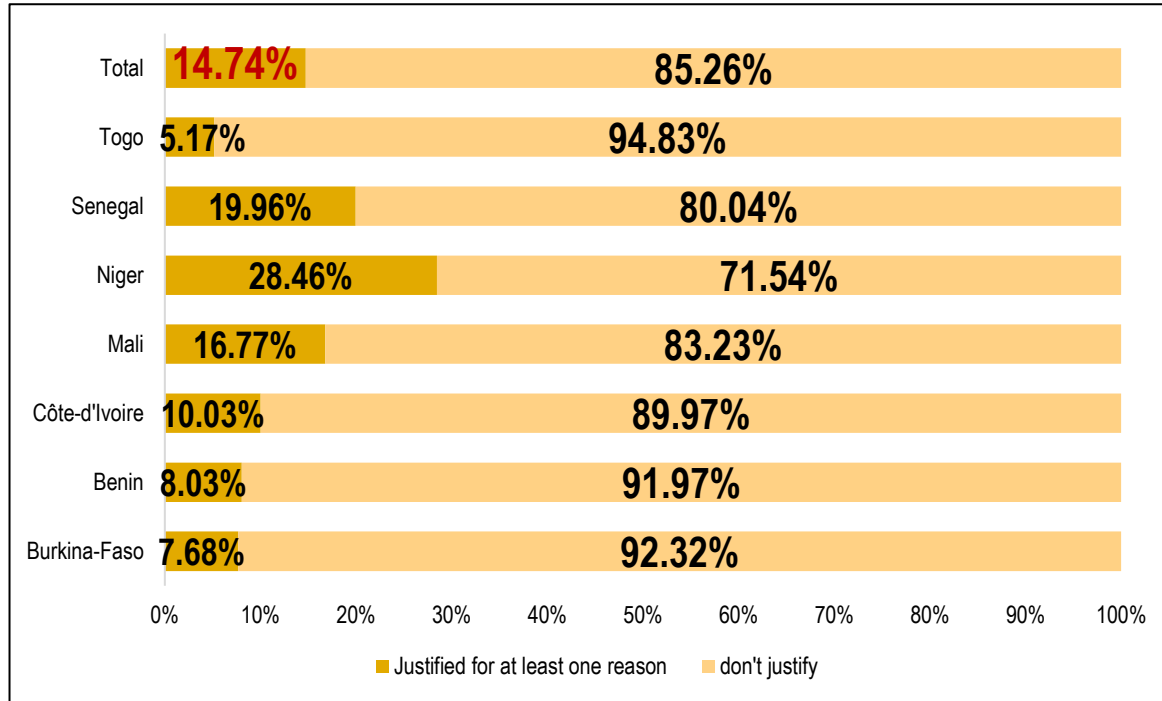


Type of decision: 1- Women's health care. 2- Major household purchases.
3- Use of spouse's income

Source: Author based on DHS data

Some descriptives statistics

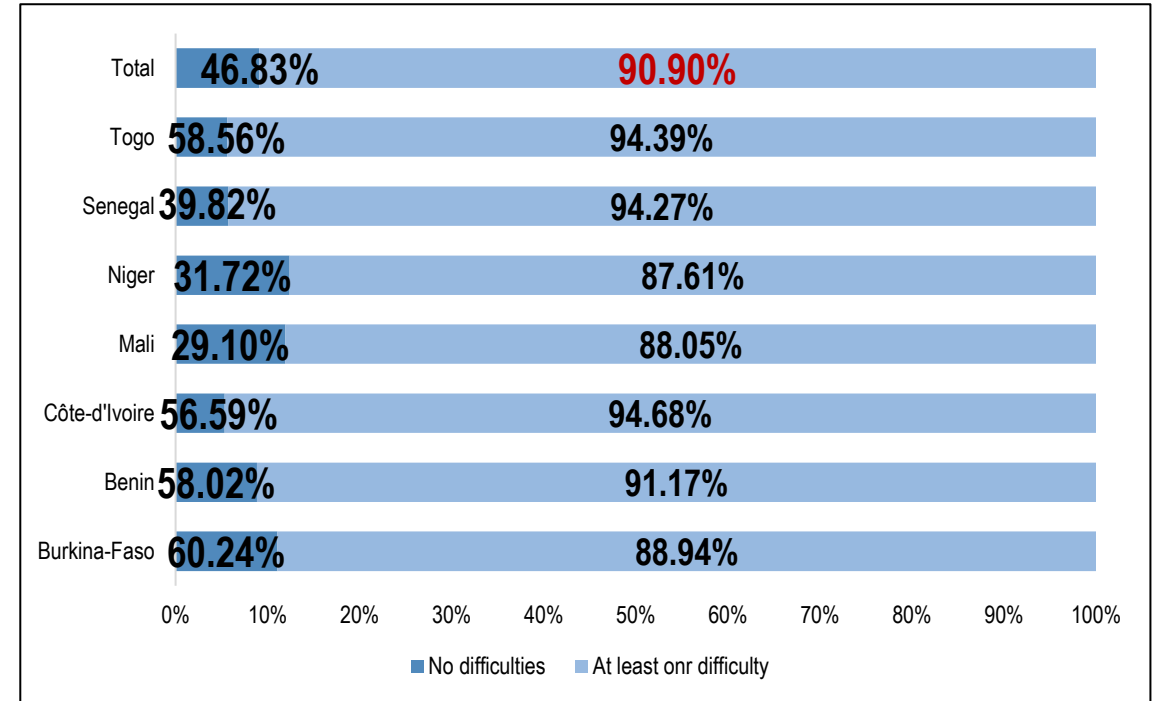
Figure 2: Women's opinion on partner violence



Reasons: 1-argue with him, 2- burn food, 3- neglect children, 4- go out without telling him, 5-refuse sex

Source: Author, based on DHS data

Figure 3: Women's difficulty in accessing healthcare



Difficulties: 1-Getting money for care, 2-Getting permission to see a doctor, 3-Distance from the health facility, 4-Getting to the health facility alone

Source: Author, based on DHS data

4. Results

(1/4)

- EFA was performed on each sub-sample (similar results for all seven sub-samples), then on the overall sample
- CFA on the overall sample :
- 4 Factors retained (16 variables)
- Acceptable overall reliability: Cronbach's alpha = 0.789
- Total variance explained : 89.40%.

CFA results on overall sample

Variables	Standardized coefficients	Factors label
Go out without telling your partner	0,815	Factor 1/ Attitude to violence
Neglect the children	0,838	
Argue with spouse	0,790	
Refuse to have sex with spouse	0,835	
Burn food	0,613	
Decisions regarding respondent's health care	0,827	Factor 2/ Participation in decision-making
Decisions about major household purchases	0,745	
Decisions about use of spouse's income	0,453	
Getting money for health care	0,547	Factor 3/ Access to health care
Distance to health care facility	0,764	
Getting to health care facility alone	0,436	
Obtaining permission to see a doctor	0,429	
Respondent's education	0,553	Factor 4/ Education and media exposure
Listen to radio	0,344	
Read newspapers/magazines	0,42	
Watch television	0,657	

p-value

(p<0,001)

RMSEA

0,040

SRMR

0,040

TLI

0,926

CFI

0,942

CD*

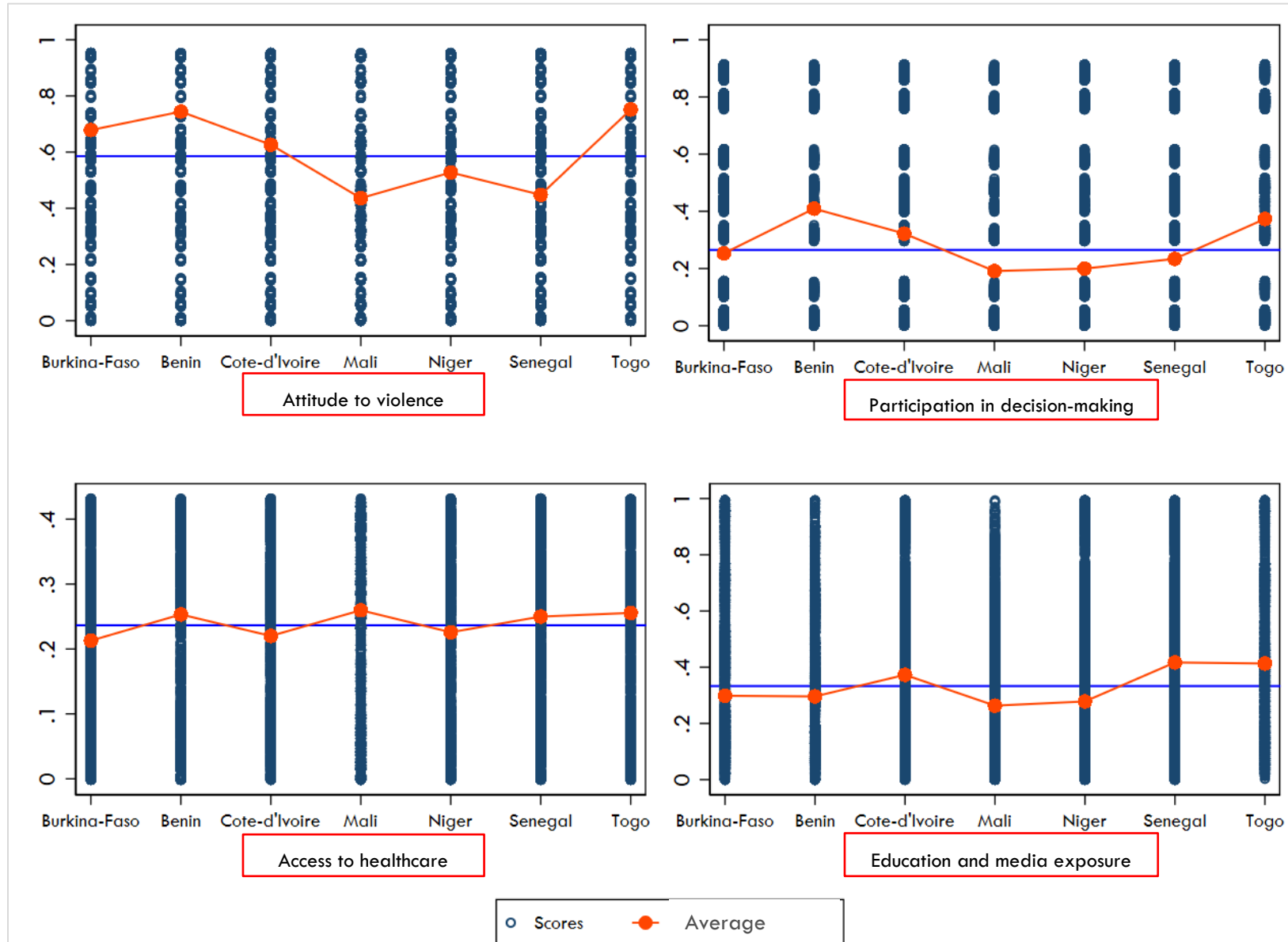
0,998

Good model fit

3. Results

(2/4)

Distribution of average women's empowerment scores by field and country

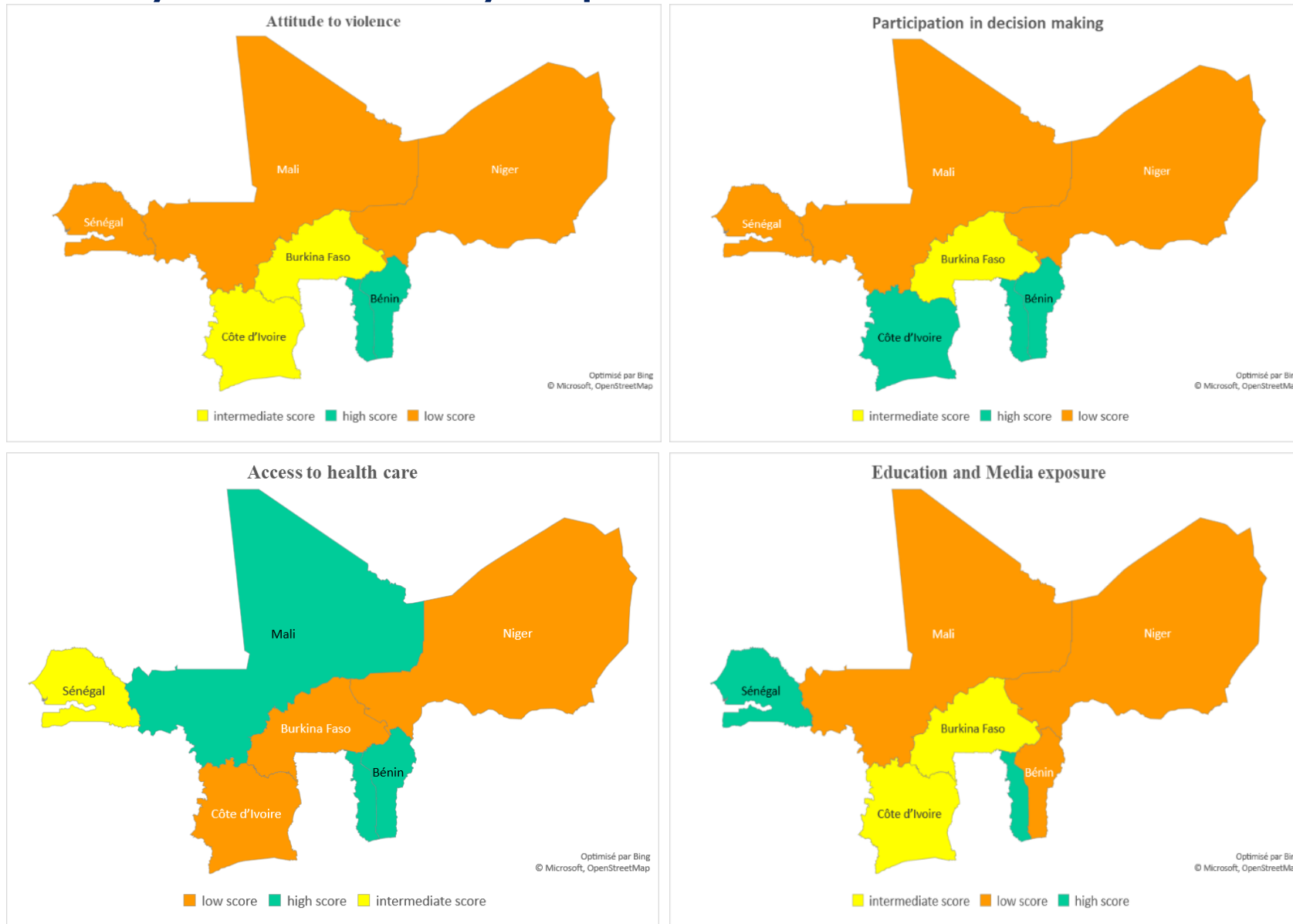


Average scores are generally low especially for the domains “Autonomy in access to healthcare” and “Participation in household decision-making”

3. Results

(3/4)

Country classification by empowerment domain



Country classification is heterogeneous across domains

3. Results

(4/4)

Country ranking by women's empowerment domain

Country	Ranking			
	Attitude to violence	Participation in decision-making	Access to health care	Education and media exposure
Burkina-Faso	3	4	7	4
Benin	2	1	3	5
Cote-d'Ivoire	4	3	6	3
Mali	7	7	1	7
Niger	5	6	5	6
Senegal	6	5	4	1
Togo	1	2	2	2

Country rankings are also heterogeneous across domains

4. Conclusion

(1/1)

- Results revealed a four-dimensional model of women's empowerment that includes:
 - Attitude to violence
 - Participation in household decision-making
 - Autonomy in access to healthcare
 - Education and Media exposure
- This multidimensional measure provides a tool that can be used to assess progress in enhancing women's status, particularly in domestic and social spheres.

5. Policy Implication

(1/1)

- Actions aimed at promoting women's empowerment could be consolidated through initiatives likely to increase women's status in the domains included in the proposed model. These could include :
 - Promoting perception change through education, information and awareness programs that promote more egalitarian gender beliefs and the rejection of norms that maintain women under subordination, including the acceptance of violence.
 - Enhancing women's access and control over resources, to increase their bargaining and decision-making capacities within household.
 - Facilitate women's access to healthcare services, for example, by removing constraints related to cost and physical accessibility.
 - Further promote education and training and access to information for women and girls. Effectively use the media as a vector for this purpose.

THANK YOU

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