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The role of women's empowerments on reproductive healthcare-seeking behaviour in Mali

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Abstract
This article analyses the importance of women empowerment in the reproductive healthcare seeking behavior in Mali. The methodology used logistic regression based on data from the 2018 Malian Demographic and Health Survey. The principal compenent analysis method was used to construct a multidimensional empowerment index. The results show that women's empowerment is strongly associated with the use of health services and the use of modern contraception, after controlling for sociodemographic factors. In the multivariate model, the lack of association between women's household decision making and health service use and between labor force participation and modern contraceptive use. Women's participation in decision making, within the household, women's activity, area of residence, education level of the household head, and maternal health insurance are factors that, if improved, could significantly reduce reproductive healthcare-seeking behavior. The results suggest that efforts should be made to improve women's autonomy in Mali, to achieve both gender equality and wider use of health care. In addition, improving women's education can play a role in empowering women and increasing their health care-seeking behavior.
Keywords : Women's empowerments, reproductive healthcare-seeking behavior, Mali

Resumé
Cet article analyse l'importance de l'autonomisation des femmes dans le comportement de recherche de soins de santé reproductive au Mali La méthodologie a utilisé une régression logistique basée sur les données de l'Enquête démographique et de santé malienne de 2018. La principale méthode d'analyse des composants a été utilisée pour construire un indice d'autonomisation multidimensionnel. Les résultats montrent que l'autonomisation des femmes est fortement associée à l'utilisation des services de santé et à l'utilisation de la contraception

moderne, après contrôle des facteurs sociodémographiques. Dans le modèle multivarié, l'absence d'association entre la prise de décision des femmes au sein du ménage et l'utilisation des services de santé et entre la participation au marché du travail et l'utilisation de contraceptifs modernes. La participation des femmes à la prise de décision au sein du ménage, l'activité des femmes, la zone de résidence, le niveau d'éducation du chef de ménage et l'assurance maladie maternelle sont des facteurs qui, s'ils étaient améliorés, pourraient réduire considérablement les comportements de recours aux soins de santé reproductive. Les résultats suggèrent que des efforts devraient être faits pour améliorer l'autonomie des femmes au Mali, afin d'atteindre à la fois l'égalité des sexes et un recours plus large aux soins de santé. En outre, l'amélioration de l'éducation des femmes peut jouer un rôle dans l'autonomisation des femmes et dans l'augmentation de leur comportement en matière de recours aux soins de santé.
Mots-clés : *Autonomisation des femmes, comportement de recours aux soins de santé reproductive, Mali*

1. Introduction

The International Conference on Population and Development in 1994 and the Beijing Platform for Action in 1995 made the empowerment of women a central pillar of development projects worldwide. It emphasises the advancement of women in all reproductive, economic and political dimensions. In 1996, the 49th World Health Assembly declared that violence against women is now a public health problem that the whole world must address. This scourge has harmful effects on maternal, family and therefore community health (Margolin, 2000; Furuta, 2006; Hou, 2011).

Family planning is a dimension of reproductive health care that can help reduce mortality by preventing undesired pregnancies and abortion-related deaths. Family planning can save children's lives by helping to space births (Cleland J, 2006). Similarly, prenatal care is a key maternal service in improving a wide range of health outcomes for women and children. This should lead to interventions to improve maternal nutrition and encourage skilled birth attendance and use of emergency obstetric care facilities (AbouZahr, 2003). While some studies have examined factors influencing reproductive health care utilization, others have examined the nature of the relationship between women's autonomy and health service utilization (Dharmalingam, 1996; Furuta, 2006). In addition, research has highlighted the important role of women's empowerment on reproductive health (Kishor, 2008).

Health indicators in Mali are of concern and progress towards development goals is slow. The majority of the population of the country lives in rural areas and works in the informal sector, making it difficult to access basic health services and financial protection mechanisms for health. Overall, 33% of women gave birth at home in the five years prior to the Mali Demographic and Health Survey (INSTAT). The 2018 Mali DHS survey showed critical data indicating that only 15% of married women were using a modern contraceptive method. In addition, antenatal care coverage is better in urban areas (93%) than in rural areas (76%) and only 43% of pregnant women had at least 4 antenatal visits during their pregnancy period. In

Mali, between 2017 and 2018 the contraceptive prevalence increased from 20% to 21% and the use of the curative consultation is 0.40 NC/year/hbt in 2018 (SLIS, 2018).

In addition, women's participation in household decisions and the extent of their empowerment promotes their participation in economic growth (UN, 2014), which is one of the Sustainable Development Goals (SDG). Mali is characterized by persistent unemployment and underemployment of women. Women are more affected than men (28.8% and 25.8% respectively) and represent the 15 to 59 age groups. The low participation of women in the labor market is due to their occupation at home and 16.7% of the inactive population are housewives (INSTAT). This research is of interest to policymakers and researchers and improving maternal health not only reduces maternal deaths but also allows women from disadvantaged backgrounds to access care. Using econometric modelling on 2018 Demographic and Health Survey data, this study intends to make an empirical contribution to understanding the association between women's autonomy and health care seeking behavior in Mali while controlling for socioeconomic and demographic characteristics. So, the study addresses the following research questions. Firstdoes women's autonomy influence the use of health services in Mali? Second, is women's autonomy associated with the use of modern contraception? Third, which index of women's autonomy is most important in influencing health care seeking behavior in Mali? We hypothesize that (i) an increase in women's autonomy based on the education index is associated with the use of health services in Mali. (ii) an increase in women's autonomy based on the education and household decision-making indices positively and significantly influences the use of modern contraception. (iii) The education index is more important than the other dimensions in influencing health care seeking behavior in Mali.

The overall objective of this study is to analyze the importance of women's empowerment in reproductive health care-seeking behavior in Mali. The rest of our paper is structured as follows after the introduction. After the conceptual framework in the second section, the third section outlines the method used. The fourth and fifth sections present the results and discussion respectively. The sixth section concludes.

2. Conceptual framework

The conceptual analysis focuses on the relationship between women's empowerment and the reproductive healthcare seeking behavior in Mali shown in Figure 1. Basically, women's empowerment has four dimensions. Generally, women's empowerment modifies health care seeking behavior through the use of health services and the use of modern contraception. In addition, household wealth, partner's education level, woman's occupation, place of residence, health insurance, number of children in the household, and gender of the of the household head affect health care seeking behavior.In this conceptual framework, a woman's empowerment is measured by four dimensions: women's labor force participation, household decision-making, attitude toward domestic violence, and women's education (Upadhyay UD, 2014; LD., 2016). The first dimension includes the type of income generated from the respondent's work, ownership of a house alone or condominium, and ownership of land alone or condominium.

The second involves health decision making, decision making about household expenses, decision making about visiting people, decision making about large purchases, and managing the husband's income. The third considers the wife beaten if she argues with her husband, the wife beaten if she goes out without preventing her friend and the wife is beaten if she refuses to have sexual relations with her husband. Lastly, there is the literacy of women and the completion of the level of education. Women's decision-making power affects their reproductive health behavior (Beegle, 2001; Dharmalingam, 1996; Upadhyay, 2005; Woldemicael, 2009). Women's empowerment is positively and significantly associated with the use of health services (Beegle, 2001; Balk, 1994).

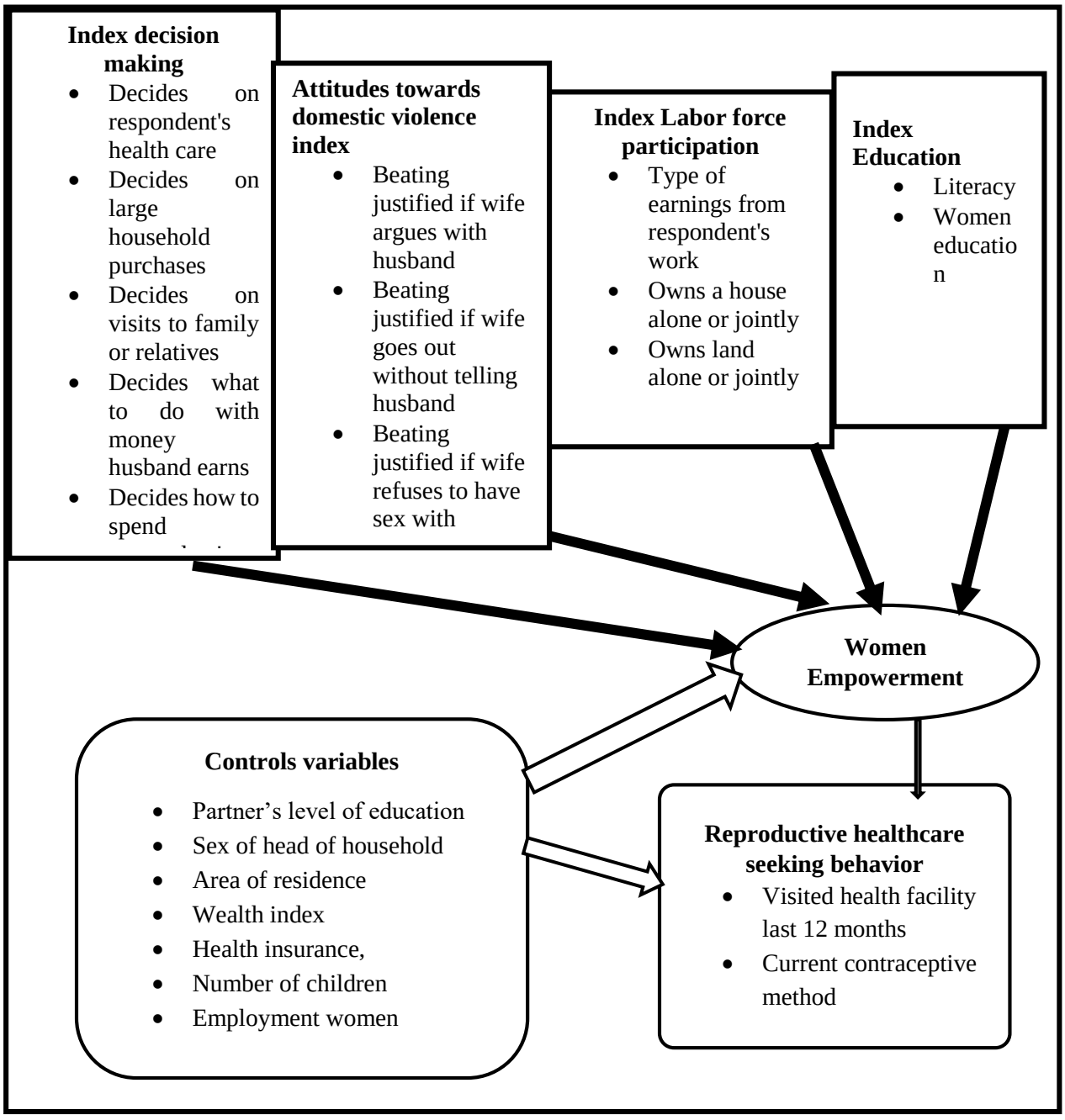

Figure 1 : Relationship between women's empowerment and the reproductive healthcare seeking behavior

3. Method

This section describes the variables used, the empowerment index, the methods of analysis, and the data source.

3.1. Data collection

The study used secondary data from the sixth edition of the Demographic and Health Survey (DHS) conducted by ‘‘Institut National de la Statistique (INSAT)” in Mali**.** The survey covered 9,624 households and the data were collected from August to November, 2018. The objective of the Malian Demographic and Health Survey is to estimate numerous socioeconomic, demographic, and health indicators at the level of the general population and at the level of subpopulations of women aged 15-49 years, children under 5 years, and men aged 15-59 years. The Malian Demographic and Health Survey is a database and provides users with information on fertility, maternal and child health and nutritional status, pre- and post-natal care, immunizations, infant and child mortality, maternal mortality, malaria, planning attitudes and practices, women's status, female genital cutting, sexually transmitted infections and AIDS.

The Malian Demographic and Health Survey is based on a sample of 14,550 households divided into 574 clusters, of which 176 are urban and 345 are rural. Individual data were collected on 12,355 women and 56,788 men aged from 15-49 in the households. The study used a subsample of 960 married women aged from 15-49.

In this study, the dependent variable represented by child health concerns (2) health indicators : (1) use of health services and use of modern contraception. Contraception is measured by a binary variable that indicates whether the woman had used contraception or not. Women who had given birth in the 12 months prior to the survey were asked whether they had received health care or not. Demographic and Health Surveys (DHS) provide information on the two dependent variables, namely use of a health facility in the last 12 months and current use of a method to delay or avoid pregnancy. These questions can provide both numerical and categorical responses. Studies show higher levels of modern contraceptive use among more empowered women (Woldemicael, 2009; Mason, 1987; Hogan, 1999).

3.2. Women's Empowerment Index

To measure the women's empowerment index, we use the principal correspondence analysis (PCA) method to construct a single empowerment index (J., 2018; Atake, 2019). Principal correspondence analysis (PCA) is used to determine the dimensions of women's empowerment. PCA is a frequently used method to reduce the dimensionality of large data sets, while preserving most of the variability and statistical information for all variables (Kabeer, 1999). The DHS provides information on women's labor force participation, household decision making, contraceptive use, and women's education. A total of 13 variables were used based on the four dimensions of women's empowerment using the PCA technique. However, some variables were not included in the calculation of the indices due to the fact that they do not

influence health care seeking behavior and also due to subjectivity. The variables used in this study were conbined into a single index using the PCA technique and presented in Table 1.

3.3. Control variables

In this study, characteristics are considered as independent variables: the characteristics of the woman, including the mother's level of education (no primary, secondary and tertiary education), the woman's employment status (all years, seasonal and occasional ; Household characteristics, including area of residence (urban, rural), wealth index (poorest, poor, middle, rich and richest), sex of the head of household (male or, female), Health insurance (Yes or No) partner's level of education (no primary, secondary and tertiary education) and Number of children.

3.4. Econometric estimation

The regression model used to assess the effect of women's empowerment on health care-seeking behavior was a multivariate binomial regression model. Multivariate analysis was performed to identify the independent effects of the explanatory variables health service use and modern contraceptive use. Two models are presented for each dependent variable. Model 1 contains only the dimensions of women's empowerment and model 2 includes the control variables.

The choice of a simple or multiple linear regression model is inappropriate when the dependent variable is qualitative (dichotomous or multiple-choice), as it is flawed. Given this situation, analysis of the importance of women's empowerment in reproductive health care-seeking behaviour in Mali will require the use of a more appropriate model.

Thus, based on the characteristics of the dependent variable (nature: qualitative and modalities: two), binary (dichotomous) models seem the most appropriate. Indeed, in these models, the binary qualitative dependent variables reflect the presence or absence of a probabilistic event (Keita, 2015). Theoretically, three main models are mentioned: the probit model, the logit model and the linear probability model. In practice, however, two types of model are generally used: Probit and logit. In fact, the error distribution function of the probit model follows a reduced-centered normal distribution, while that of the logit model follows a logistic-type distribution (Bourbonnais, 2018). We can therefore deduce that one of the differences between these two models lies in their distribution function, and another in their random deviation variances. The variance of the random deviations of the normalized probit model is unit (1), whereas that of the logit is $\pi^2/_3$ (Doucouré, 2015).

In this research, the model chosen was the logit model. This choice is justified by the fact that the logit model offers the advantage of several alternative interpretations (notably the signs of the coefficients, marginal effects and odds ratios) of the results (Maiga, 2018).

Table 1. Dimension of empowerment

Dimension	Items label	Response categories
Decision making	Person who usually decides on respondent's health care	Alone=1 ; jointly =0; Husband/partner alone and other=-1
	Person who usually decides on large household purchases	Alone=1 ; jointly =0; Husband/partner alone and other=-1
	Person who usually decides on visits to family or relatives	Alone=1 ; jointly =0; Husband/partner alone and other=-1
	Person who usually decides what to do with money husband earns	Alone=1 ; jointly =0; Husband/partner alone and other=-1
	Person who usually decides how to spend respondent's earnings	Alone=1 ; jointly =0; Husband/partner alone and other=-1
Attitudes towards domestic violence	Beating justified if wife argues with husband	Yes=1; No=0
	Beating justified if wife goes out without telling husband	Yes=1; No=0
	Beating justified if wife refuses to have sex with husband	Yes=1; No=0
Education	Literacy	cannot read at all=0;Able to read only parts of sentence=1; No card with required language/Blind/visually impaired=2
	Women education	Years
Labor force participation	Type of earnings from respondent's work	Not paid=0;Cash only=1 ; Cash and in-kind=2 ; in kind-only=3
	Owns a house alone or jointly	Does not own=0; Alone only=1 ;jointly only=2 ; both alone and jointly
	Owns land alone or jointly	Does not own; Alone only,jointly only, both alone and jointly==3

Source : Authors based on 2018 DHS data

4. Results

As shown in Table 2 below, the majority of women have more than six children (57.3%) and 47.9% have an economic activity during the whole year. More than three quarters of the heads of households (79.68%) had no education, 4.8% of the women were affiliated to a health insurance scheme and 16.2% were heads of households. Less than half of the households (36.3%) belonged to the poor and poorest wealth quintiles, compared to more than a third (47.2%) in the rich and richest quintiles. Finally, more than half of the women (66.6%) lived in rural areas.

Table 2. Percent distribution of women by selected socio-demographic characteristic, Mali, 2018

Variables	(%)
Health insurance	
No	95,2
Yes	4,8
Mean ideal number of children	2,5
Number of children	
0-2	7,4
3-5	35,3
>=6	57,3
Employment women	
Occasional	12,1
Seasonal	40,0
All yrears	47,9
Education of the Head of Household	
No level	79.68
Primary	9.28
Secondary	2.49
Higher	8.55
Gender of CM	
Male	83.80
Female	16.20
Standard of living of the Head of Household	
Poorest	18.80
Poor	17.50
Middle	18.60
Rich	23.30
Richest	23.90
Place of residence	
Urban	33.40
Rural	66.60

Source : Authors based on 2018 DHS data

Table 3. Coefficients estimated from logistic regression showing the relationship between empowerment women and reproductive healthcare-seeking behavior in Mali

Variables	health facility		Current contraceptive methodes	
	Model 1 OR	Model 2 95% CI	Model 1 OR	Model 2 95% CI
Women's empowement				
Decision making index	-0.12* (-0.26-0.005)	-0.18** (-0.33-0.04)	-0.08 (-0.22-0.06)	-0.15** (-0.29--0.01)
Attitudes towards domestic violence index	0.035 (-0.20-0.27)	0.11 (-0.12-0.35)	-0.21*(-0.46-0.02)	-0.13 (-0.38-0.12)
Education index	0.26*** (0.12-0.40)	0.17** (0.02-0.32)	0.19** (0.04-0.34)	0.17** (0.01-0.33)
Labor force participation index	0.17* (-0.02-0.37)	0.09 (-0.11-0.31)	0.19* (-0.02-0.41)	0.06 (-0.16-0.29)
Education of Head of Household (Ref: no level)				
Primary		-0.46** (-0.86—0.05)		0.03 (-0.42-0.49)
Secondary		-0.17 (-0.62-0.28)		0.58** (0.10-1.06)
Higher		-0.12 (-0.71-0.46)		0.93** (0.34-1.52)
Gender of CM (Ref: Male)				
Female		0.07 (-0.35-0.51)		-0.30 (-0.80-0.18)
Standard of living of head of household (Ref: Poorest)				
Poor		0.03 (-0.76-0.83)		-0.99** (-1.94--0.03)
Middle		0.22 (-0.51-0.97)		-0.51 (-1.31-0.29)
Rich		0.09 (-0.63-0.82)		-0.42 (-1.20-0.34)
Richest		0.79* (-0.08-1.61)		-0.26 (-1.14-0.61)
Health insurance (Ref: No insurance)				
Yes		0.21 (-0.23-0.67)		0.05 (-0.36-0.48)
Residence (Ref: urban)				
Rural		0.34 (-0.12-0.81)		0.25 (-0.21-0.73)
Number of children		-0.06 (-0.14-0.01)		0.20*** (0.11-0.28)
Constant	0.30 (-0.21-0.83)	0.32 (-0.69-1.33)	-1.40 (-2.00--0.81)	-1.61 (-2.43--0.80)
Number of women	960	960	960	960

Signficance levels : * < 01 ; **< 0.05 ; *** < 0.01 ; CI : Confidence interval
Note : Model 1 : explanatory variables (dimensions of women's empowerment), Model 2 : explanatory variables (control variables and dimensions of women's empowerment).

Our econometric analysis assessed the effect of female autonomy on health care seeking behavior, i.e., the use of health services in Mali and the use of modern contraception inTable 3. Our results show that health care utilization is positively and significantly affected by the labor force participation index and the education index in both Model 1 and Model 2. In contrast, the

effect is negative and significant only for the household decision-making index in both models. In the analysis of modern contraceptive use, women's education, labor force participation and attitude toward domestic violence are determinants for model 1. But we found that attitude toward domestic violence negatively and significantly influences modern contraceptive use. However, with respect to the dimensions of autonomy, the results show for both Model 1 and Model 2 that the factor that positively and significantly contributes to the use of modern contraception is the woman's education. Overall, the results also indicate that attitudes toward domestic violence have no effect on health care seeking behavior. In addition, education appears to be an instrument of women's empowerment that positively and significantly influences the use of health services and the use of modern contraception. In contrast, household decision making is negatively and significantly associated with health service use and has no effect on modern contraceptive use.

The primary education level of the household head is negatively and significantly associated with the use of health services. In contrast, household heads of with secondary and higher levels of education have a positive and significant effect on modern contraceptive use. This shows that household heads with low levels of education are not a determinant of health care seeking behavior. For example, a woman whose household head has a primary education is about 0.46 times less likely to use health services. On the other hand, a woman whose head of household has a secondary and tertiary level of education is 0.58 and 0.93 times more likely to use modern contraception, respectively. These results are consistent with previous studies in the empirical literature (Corroon, 2014).

The wealth index variable contributes weakly in the model ; this variable positively and significantly affects the use of health services. Women living in wealthier households have a greater incentive to use health care than those living in poor socioeconomic conditions. Indeed, women are 0.79 times more likely to use health services when their household economic status is poor and rich. In contrast, women from poor households are reluctant to use modern contraception. When considering the number of children living in the household, the results show that this variable is positively and significantly related to the use of modern contraception.

For example, a woman with more children in the household is 0.20 times more likely to use health services. This result is confirmed in the literature who estimates that the number of children living in the household is associated with continued use of modern contraception (Wado, 2018)

5. Discussion

The objective of this paper is to analyze the effect of women's empowerment on health service use and contraceptive use in Mali. Overall, the results show that women's empowerment through women's education positively and significantly influences the use of health services and contraceptive use. Our results show the lack of association between attitudes towards domestic violence index and health service use and between decision making and modern contraceptive. The results also show that the labor force participation index positively and

significantly affected health care seeking behavior in model 1 while the index had no effect after controlling for the control variables.

Our results are consistent with previous studies that women's education level is strongly associated with the use of modern contraception and prenatal care (Mistry, 926-933.). In addition, research on women's empowerment positively associated with contraceptive use was education (Gage, 1995; Kabir, 2005). On the other hand, our results are contrary to reproductive decision-making and empowerment scores were positively associated with contraceptive use (Khan, 1997). Previous literature estimates that women with employment status were likely to use modern contraception (Hindin, 2000). In addition, financially empowered women are assumed to invest more resources in their health and that of their children compared to their less empowered counterpart (Golla, 2018). Across DHS data from four African countries (Namibia, Zambia, Ghana, and Uganda), no significant relationship between household decision-making or mobility and current use of controlled methods by women or couples (Do, 2012). A woman's employment status contributes to her economic autonomy, improves her decision-making power, and promotes access to health care (LD., 2016).

The political commitment for Mali is that greater gains can be made in health policy by improving the social status of women. The great challenge for Malian authorities is to be able to identify the ways in which women's empowerment might affect health care seeking behavior. As such, the following results were obtained: the education index is more important than other dimensions in influencing health care seeking behavior in Mali; household decision making negatively influences health care seeking behavior; family planning indices do not effectively affect health service utilization and modern contraceptive use; and attitudes toward domestic violence are not associated with health care seeking behavior. Through our findings, we propose targeted programs that can improve socio-cultural and economic empowerment to promote effective use of health services and contraception. This situation allows women to have access to financial resources and consequently improves their power relations with men. The association between women's level of autonomy measured by participation in domestic decision making, attitudes towards battered women, attitudes having refused sex with her husband, and whether women obtained permission for health care is a problem and the use of reproductive health care is very low (Wado, 2018). Furthermore, previous studies have found a strong association between women's autonomy, particularly women's participation in decision-making, and contraceptive use (Woldemicael, 2009; Upadhyay, 2005). In addition, freedom of movement is an important asset for women's reproductive health care (Dharmalingam, 1996).

6. Conclusion

The purpose of this paper was to examine the relationship between women's autonomy and health care seeking behavior in Mali. This study shows that improving household decision making, attitudes towards domestic violence, and women's participation in the labor market will play a key role in improving women's autonomy and health-seeking behavior in Mali. However, the results show that women's education positively and significantly influences the use of health services and the use of contraception. Additionally, the results show that the level

of education of the head of household, the sex of the head of household, health insurance, place of residence and employment status are not associated with health care seeking behavior in Mali. In this regard, policy programs should focus on strengthening the level of education, particularly in the rural area, and adopting a targeting policy for maternal health insurance.

The results call on the authorities to integrate gender into sectoral policies, programs and development projects. Health policies must redouble their efforts to promote training programs for medical staff whose work is based on reproductive health. Public policies must increase awareness of the need for schooling and rural areas to preserve the health of the community. Finally, the results also show that the number of children in the household and the education of the head of household are important determinants of modern contraceptive use.

References

AbouZahr, C. &. (2003). Antenatal care in developing countries: promises, achievements and missed opportunities-an analysis of trends, levels and differentials, 1990-2001. .

Atake, E. H. (2019). Women's empowerment and fertility preferences in high fertility countries in Sub-Saharan Africa. *BMC women's health, 19*(1), 1-14.

Balk, D. (1994). Individual and community aspects of women's status and fertility in rural Bangladesh. *Population studies, 48*(1), 21-45.

Beegle, K. F. (2001). Bargaining power within couples and use of prenatal and delivery care in Indonesia. *Studies in family planning,, 32*(2), 130-146.

Bourbonnais, R. (2018). Économétrie (10ème éd.). Paris: Dunod

Cleland J, B. S. (2006). Family planning : the unfinished agenda. *The lancet*.

Corroon, M. S. (2014). The role of gender empowerment on reproductive health outcomes in urban Nigeria. *Maternal and child health journal, 18*(1), 307-315.

Dharmalingam, A. &. (1996). Women's work, autonomy, and birth control: Evidence from two south Indian villages. *Population Studies, 50*(2), 187-201. doi:https://doi.org/10.1080/0032472031000149296

Do, M. &. (2012). Women's empowerment and choice of contraceptive methods in selected African countries. *International perspectives on sexual and reproductive health*, 23-33. doi:https://doi.org/10.1363/3802312

Doucouré, F. B. (2015). Méthodes éconmétriques : cours et exrecices résolus. Dakar : Édition Arima

Furuta, M. S. (2006). Women's position within the household as a determinant of maternal health care use in Nepal. . *International family planning perspectives*.

Gage, A. J. (1995). Women's socioeconomic position and contraceptive behavior in Togo. *Studies in family planning*, 264-277. .

Golla, A. M. (2018). Understanding and Measuring Women's Economic Empowerment. . *International Centre for Research on Women.*

Hindin, M. J. (2000). Women's autonomy, women's status and fertility-related behavior in Zimbabwe. *Population Research and Policy Review, 19*(3), 255-282.

Hogan, D. P. (1999). Household organization, women's autonomy, and contraceptive behavior in southern Ethiopia. *Studies in family planning, 30*(4), 302-314.

Hou, X. M. (2011). Empowering women: the effect of women's decision-making power on reproductive health services uptake--Evidence from Pakistan. . *World Bank Policy Research Working Paper.*

INSTAT. (2018). Enquête Démographique et de Santé. 2018.

J., K. (2018). Going beyond Functionings to capabilities: an econometric model to explain and estimate capabilities. *J Hum Dev.*

Kabeer, N. (1999). Resources, agency, achievements: Reflections on the measurement of women's empowerment. . *Development and change, 30*(3), 435-464.

Kabir, M. A. (2005). Impact of woman's status on fertility and contraceptive use in Bangladesh: Evidence from Bangladesh Demographic and Health Survey. *Journal of Family Welfare*, 1999-2000.

Keita, M. (2015). Introduction to econometrics. France : École d'Économie, Université d'Auvergne

Khan, H. A. (1997). A hierarchical model of contraceptive use in urban and rural Bangladesh. *Contraception, 55*(2), 91-96.

Kishor, S. &. (2008). Understanding women's empowerment: a comparative analysis of Demographic and Health Surveys (DHS) data (No. 20). . *Macro International.* .

LD., P. (2016). Women's empowerment and fertility preferences in Southeast Asia:. *The University of Sidney*.

Margolin, G. G. (2000). The effects of family and community violence on children. . *Annual review of psychology*.

Mason, K. O. (1987). The impact of women's social position on fertility in developing countries. *In Sociological forum, 2*(4), 718-745.

Mistry, R. G. (926-933.). Women's autonomy and pregnancy care in rural India: a contextual analysis. *Social science & medicine, 69*(6).

SLIS. (2018). Annuaire statistique 2018 du Système Local d'information saniataire du Mali, Ministère de la santé et de l'hygiène publique.

UN. (2014). Women in power and decision making : strengthening voices for democracy. .

Upadhyay UD, G. J. (2014). Women's empowerment and fertility: a review of the literature. . *Soc Sci Med. 2014.* .

Upadhyay, U. D. (2005). Do higher status and more autonomous women have longer birth intervals?: Results from Cebu, Philippines. *Social science & medicine, 60*(11), 2641-2655.

Wado, Y. D. (2018). Women's autonomy and reproductive health-care-seeking behavior in Ethiopia. *Women & health, 58*(7), 729-743.

Woldemicael, G. (2009). Women's autonomy and reproductive preferences in Eritrea. *Journal of biosocial science, 41*(2), 161-181.