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THE RELATIONSHIP BETWEEN THE EMPOWERMENT OF WOMEN AND PREFERENCES RELATED TO FERTILITY IN PAKISTAN

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ABSTRACT

This study examines the relationship between women's empowerment and reproductive choices among married Pakistani women aged 15 to 49. The study utilized the most recent Pakistan Demographic and Health Survey 2017–2018 data. Four proxies were used to measure women's empowerment: spending on husbands' earnings, visits to family, major family purchases, and health care decisions. Health care choices and spending on the husband's salary are both greatly influenced by fertility. Binary logistic regression reveals a substantial and unfavorable link in connection with empowerment and the various education levels of children, males, and spouses. By focusing on this topic, this study can see beyond the constraints that currently exist in the relationship between women's empowerment and fertility preferences. The findings of this study suggest that female participation in the labor force is essential to preserving balanced reproduction and decision-making regarding the home.

Contribution/Originality: Women's empowerment is a topic of contention and disagreement. This study employs binary logistic regression and a multi-variable empowerment model that accounts for all factors, and it focuses on low and high fertility in Pakistan. It also introduces a variable for fertility preference. The study also covers Gilgit-Baltistan, which has not been studied before in this perspective.

1. INTRODUCTION

In general, a movement's effectiveness is determined by how well it achieves its main objectives. However, the feminist movement for girls' rights in the nineteenth century fell short of its goal of achieving equal freedom, resources, and rights for men and women. Most of the world's regions, including wealthy European and North American nations, treat women unequally in both the social and domestic realms (Sen, 2001).

Researchers and decision-makers have concluded that women and society can advance only when their women are given more influence (Ashraf & Farah, 2007; Legler et al., 2015; Malhotra & Schuler, 2005; Sen, 1993); improve men's and women's health, such as death rate and disease rates; and abolish gender-based activity restrictions (Kawachi, Kennedy, & Glass, 1999).

Theories of fertility reduction have focused on the association between empowerment, fertility, and reproductive-related decisions. The assumption is that increased academic success and socioeconomic opportunities

for women will increase contraceptive use, which will reduce fertility. Despite extensive research, there is still disagreement over how gender equality impacts many elements of fertility for a variety of reasons.

Whatever the definition of girls' empowerment, research suggests a causal relationship between it and fertility as well as the polar opposite, i.e., that higher levels of girls' empowerment lead to decreased fertility rates. According to research, girls' employment and education, in particular, harm their fertility (Axinn & Barber, 2001; Oppenheim Mason, 1987). With more girls attending school, they have more possibilities to learn about modern ideas and ideals that support individualism and equality. Additionally, having financial independence as a result of employment empowers women to make private choices, such as the use of contraception and the number of children they want. Similar results have been observed in Turkey (Hollos & Larsen, 2008; Lee, 2009). Gordon et al. (2010) According to empirical research from China (Yang et al., 2012), as family size is low, fathers and mothers invest more equally in early childhood, increasing the chances for girls to have equal opportunities in education and employment.

Ashraf and Farah (2007); Sen (1993) Malhotra and Schuler (2005) stated that, According to numerous international gender equality indices, no nation has ever achieved perfect gender equality. The most fundamental and profound social split in the world now is gender inequality. Different scholars and policymakers investigated whether women's empowerment benefits both women and society as a whole and also if it improves the status of women (Bongaarts (2003); Subbarao and Raney (1995); Axinn and Barber (2001)).

According to studies, women who have higher educational equality, work, and decision-making power have lower fertility, less chance of their children being malnourished, more time for their girls to spend in school, and equal inheritance rights for their boys Allendorf (2012); Dixon-Mueller (1993). The empowerment of women is also correlated with birth gender ratios that are more evenly distributed (Dasgupta, 2019). Women's empowerment and its influence on fertility needs to be thoroughly examined in light of the substantial benefits it offers and the fact that women still do not enjoy all of their legal rights.

Table 1. Gender inequality index (GII) and its ranking.

Pakistan's GII relative to particular countries of the world (2018)									
Region	**GII v**	**rank**	**MMR**	**BR**	**SFP**	**SE**		**PLF**	
Different countries' scores						**Female**	**Male**	**Female**	**Male**
Pakistan	0.54	136.0	178	38	20	26	47	23	81
Bangladesh	0.53	129.0	176	83	20	45	49	36	81
India	0.5	122.0	174	13	11	39	63	23	78
South Asia	0.51	--	176	26	17	39	60	25	78
Med HDI	0.50	----	198	34	20	39	58	32	78

Note: MMR = maternal mortality ratio, BR = birth ratio, SFP = seats of females in parliament (%), SE = secondary education (%), PLF = particiation in the labor force.

Table 1 presents the Gender Inequality Index (GII) and its rankings in Pakistan, India and Bangladesh. The GII was created in the 2010 (Human Development Report (HDR)) to attract attention to the reproductive health of women, empowerment, and economic involvement where gender inequity is present. Women's representation in parliament and gender-specific accomplishments at all levels of education are used to measure empowerment. The labor force ratio of men and women is another indicator of economic activity. Human development loss caused by discrepancies in male and female achievements in the different GII qualities is known as the GII enlargement loss. Pakistan ranks 136th out of 162 nations in the 2018 evaluation with a GII score of 0.547.

Table 2 presents the Global Development Index of Pakistan with reference to particular countries. In Pakistan, women have 20.0% of the seats in parliament, and 26.7% of adult women have completed secondary education, compared to 47.3% of men. 38.8 teens give birth for every 1,000 people. Women aged 15 to 19 and the pregnancy-related mortality rate is 178.0 per 100,000 live births. In comparison with 81% of men, women make up 23.9%. India and Bangladesh, in contrast, are ranked 122nd and 129th on this metric, respectively.

Table 2. Pakistan's global development index (GDI) with reference to particular countries of the world.

Region	GDI value f-m ratio	HDI value		LEB		EYS		YS		GNI	
		Fe	Me	Fe	Me	Fe	Me	Fe	Me	Fe	Me
Pakistan	0.747	0 .464	0	68	66	7	9	3	6	1570	8605
Bangladesh	0.895	0.575	0.642	74	70	11	10	5	6	2373.0	5701.0
India	0.829	0.574	0.692	70	68	12	11	4	8	2625.0	10712.0
South Asia	0.828	0.570	0.688	71	68	12	11	5	8	2639.0	10693.0
Medium HDI	0.845	0.571	0.676	70	67	11	11	5	7	2787.0	9528.0

Note: LEB = life expectancy at birth, EYS = expected years of schooling, YS = mean years of schooling, GNI = gross national income per capita.

In 2014, the Global Development Index (GDI) introduced the female to male HDI ratio. The GDI examines inequalities related to gender in different key areas of human development (HD), including wellbeing, economic expansion, education, and financial resource management. This was introduced by Pakistani economist Mahbub ul Haq. The absolute gender parity difference in the Human Development Index (HDI) is used to group nations into categories.

A key topic of investigation regarding the theories of fertility decline is empowerment and decisions regarding fertility. It is believed that women's elevated status will improve their economic and educational opportunities, which will lead to an advanced occurrence of contraception use and, ultimately, less fertility. Despite substantial research, there is still debate about the precise consequences of empowerment on various elements of fertility for several different reasons. First, there are numerous frameworks and conceptualizations for measuring the empowerment of women. The impact of the empowerment of women on fertility and reproductive options is still unknown, which is the second argument. Women's empowerment is defined by certain intergovernmental and non-governmental organizations, the United Nation Development Program (UNDP) and the United Nation Population Fund (UNFP), offering people options and the power to decide how they want to conduct their lives, but others argue that it also refers to the choices that are being made available to them (Swedish International Development Agency (SIDA)). Regardless of the many definitions, women's empowerment is essential to socioeconomic development, and all organizations that offer intervention programs in this area, in both rich and poor countries, agree. The issue of women's empowerment affects more than just non-governmental organizations (NGOs). There are many different connotations of the empowerment of women in academic literature. For the measurement of empowerment, the Global Development Index (GDI) is an important instrument many authors used it for their studies (Bradley, 1995). Some academics have criticized these indices for exaggerating the effects of economic issues, focusing exclusively on national women's empowerment and providing very little data for underdeveloped countries (Cueva Beteta, 2006; Klasen, 2006). In response, many researchers have proposed numerous enhancements to the idea (Phan, 2016). Charmes and Wieringa (2003); Kabeer (2001) however, there hasn't been a comprehensive and well-recognized measurement that takes into consideration both the national and individual levels of empowerment.

2. LITERATURE REVIEW

Women's ability to make decisions in the house is a major factor in their level of empowerment. Theoretically, domestic decision making is the source of this conundrum. Thus, we consider all individuals that make up the family, not just the head of the household, with whom there are power dynamics. According to Almås, Armand, Attanasio, and Carneiro (2018), all members of the household must agree on decisions before they are made, while Deaton and Paxson (1997) believe that the household head is the only person with all the authority necessary to make judgments on behalf of the entire family. Becker (1974) and Becker (1991) posit that decision making is based on the household head's altruism. However, according to other researchers (Galiè et al., 2019), the negotiating power of actors, which is based on the resources that each household and its members jointly and individually own, affects how decisions are made in households. Increased household knowledge, negotiating power, and resultant empowerment in domestic decision making are all benefits of education for women. However, some feminist

researchers are hesitant to accept the conclusions of older theories, especially because women's relative control in the house is influenced by several gender-specific contextual factors, such as land ownership rules, labor laws, and so on Folbre (1986). According to Longwe (1998) the formal education system teaches women to submit to men since they are led to assume that a place of a woman in society is based on her level of education. Only those who achieve independence through social advancement through education disseminate this ideology. As a result, modern formal education promotes autonomy rather than empowerment because it lacks feminism. The author suggests that to achieve this, attitudes and beliefs ingrained in the conventional school system should be reversed through educational institutions and training for women's empowerment.

It is clear from numerous readings that education has an important and positive (significant) impact on the empowerment of women. First off, education helps to increase equity and raises the status of women in the home (Bhat, 2015). Therefore, education gives people a higher place within the family, protecting them from domestic abuse (Kishor & Gupta, 2004; Kishor & Johnson, 2006). Education also helps women become more empowered because it offers them many benefits. It gives individuals the ability to overcome challenges, handle their everyday obligations, and make wiser judgments (Ahmad & Sultan, 2004; Chaudhry & Nosheen, 2009; Furuta & Salway, 2006). In addition to formal education, informal education can provide women more power by enhancing their abilities, expanding their access to knowledge, and enhancing their financial and economic conditions (Heaton, Huntsman, & Flake, 2005). Furthermore, as women are more capable of defending their civic rights, education for women has a significant positive impact on society (Yamauchi & Liu, 2018).

There aren't many studies on this subject in Sub-Saharan Africa. In Sierra Leone, women's education increases not only their use of contemporary contraceptives but also their knowledge of their human immunodeficiency virus (HIV) status, their refusal of genital mutilation, and their refusal to engage in sexual activity if they are tired or if their husband is infected with a sexually transmitted disease (STD). According to the research, education also lowers the number of children in need and the tolerance of violence. According to Heshmati (2017) in Rwanda, women's education is positively correlated with better decision making in marriage, higher self-esteem, and less physical abuse. Others will show that, in addition to the work indicated above, the impact of education on the empowerment of women depends on the educational dimension. As a result, some features of women's empowerment have yielded negligible gains. Similar to this, Agadjanian and Yabiku (2015) discovered that, when women's education is represented by a synthetic indicator, it has no meaningful impact on their empowerment.

Samarakoon and Parinduri (2015) investigated the impact of various education-related strategies on women's empowerment in Indonesia. The researchers found that adding a year of full-time education and completing secondary school decreases the fertility among women, boosts contraception use, and encourages reproductive health behaviors. There is a lot of literature that stresses the association between reproductive control, empowerment, and equality related to gender (Malhotra & Malhotra, 2012). Due to the birth control pill's ability to separate sexual activity from pregnancy, it helped women become more independent.

Contraception use and empowerment of women, measured by elements such as education and employment, are positively correlated (Kabeer, 2005; Mason, Backer, & Georges, 1991). Increased usage of contraceptives is largely to blame for the reduction in fertility in developing countries. More women of reproductive age in developing nations utilize contraception, with the figure rising from 9% in 1960 to 61% in 2009 (Garikipati, 2012). Women with low household status, on the other hand, are less in favor of utilizing contraceptive methods and, if they do, are less in favor of using more modern methods. (Sareen et al., 2007) state that Egyptian women with less power to use modern methods of contraceptive methods are more in favor of embracing passive lactation amenorrhea (exclusive breastfeeding of infants under six months) as a form of contraception. Even though there is strong proof in the previous work to support the claims that empowered women have fewer children and fertility control empowers women, the association between the empowerment of women, the use of contraception, and decreased fertility may in some cases be explained by other aspects such as age. In Kenya, family planning users are more likely to be older

women with higher socioeconomic standing, even if statistics seem to show a connection between family planning and things that give women more power. Women most likely wish to stop having children as they get older and have more influence over their lives. Because of this, it is yet unknown how empowerment influences the use of contraception, and this relationship needs to be carefully considered. Population policy may affect the opportunities and incentives that motivate people to change their fertility on their own, or the imposition of governmental restrictions on fertility, or both (Grown, Gupta, & Pande, 2005). Some governments employ forced population control measures, such as birth quotas, to alter fertility patterns and rapidly reduce birth rates. There is a limit on the children per partner in different countries, including China and Vietnam, for example. Each marriage in China is typically only permitted to have one child, but if one of the partners is an only child, the couple is permitted to have two. A couple's socioeconomic status and geographic location could affect the total. In Vietnam, a couple is only permitted to have two children together. Given that China's and Vietnam's fertility had already started to decrease before the law's implementation, some academics have questioned the effectiveness of population control measures, notably birth quotas (Cai, 2010).

Numerous studies have found that although China's and Vietnam's fertility rates would have fallen regardless, these policies significantly aided in the swift decline. Wu, Ye, and He (2012) contend that government birth control policies and education were primarily responsible for China's sharp decline in fertility. Since the 1970s, the average Vietnamese family has become smaller. The total fertility rate in Vietnam had already decreased below four births per woman by the end of 1988, compared to roughly six in the decade before, when the "one or two child" policy was implemented. Similar results were observed in Taiwan, where the family planning program commenced in 1964 but fertility had already started to decline ten years earlier (Wang & Lee, 2009). Some academics claim that societal development and the spread of new ideas, rather than population plans, are the primary causes of decreasing fertility in emerging countries. Pritchett and Summers (1994) and Montgomery and Casterline (1993) claim that effective family programs adopted by governments, along with other incentives and disincentives, brought in lower costs for contraception and a quicker decline in fertility. Governmental initiatives altered the number of children being born, significantly reducing the number of undesired births (Bongaarts, Cleland, Townsend, Bertrand, & Gupta, 2012).

India's north and south regions have different patterns of fertility, and it can be seen from this comparison that the south has lower fertility since there are more empowered women in this region. It is established that patriarchy in India is to blame for the disparity in education, the gender ratio at birth, age at marriage, and female labor. Particularly, according to the writers, social development, ethnicity, and class composition are also important fertility regulators in India in addition to patriarchy (Bradley, 1995; Kabeer, 2005).

Women's low self-esteem and the prevalence of child poverty in nations are closely related. The desire to have a son is a strong predictor of gender equality in society (Li & Lavely, 2003). They found that the choice to have a son is inversely connected to better scores on an index that covers factors such as autonomy, power, the degree to which their partner shares household duties, and media exposure. Patriarchal cultural traditions have a considerable impact on how the relationship is managed (Pelled & Xin, 2000).

This study attempts to operationalize the one-way relationship between the empowerment of women and fertility opportunities, even though research suggests that the effects of these two issues might sometimes overlap. In particular, the association between empowerment factors, best-in-class children, and a preference for boys as shown by the ratio of the best-in-class boys to the total number of children, piques interest in particular. According to Brewster and Rindfuss (2000) countries with high fertility rates have relatively low rates of female labor force participation, while the opposite is true for nations with low fertility rates. The lowest total fertility rates (TFRs), which range between 1.2 and 1.3, are found in Italy, Spain, Greece, and Japan. Numerous studies have shown that one of the most significant factors in fertility transitions is women's jobs. According to Haghighat (2013) women's employment is empowering or "status-enhancing", giving them more control over resources and income as well as a stronger voice in family decisions, including those regarding reproduction. Age, women's education, and

employment status are only a few of the variables that affect how much women participate in important home decisions. In Bangladesh, Kabeer (2005) found that educated women made more decisions than uneducated women. Women who haven't completed high school are typically involved in 1.1 decisions. The percentages increase with primary, middle, or secondary education, respectively. Al-Riyami and Afifi (2003) used a decision-making index to investigate the connection between education and employment in Oman. Comparing women who have university degrees with those who have some education, women with university degrees do better in this decision-making test. Employment, along with education, are key predictors of the women's decision-making index. The scores of women in this category are significantly higher when compared to women who do not work. Women who make more decisions about their fertility have fewer children. Higher education with female independence leads to more effective and fairer husband–wife relationships, in which husbands support decisions regarding the use of contraceptives and fertility control. Therefore, the wife's education and employment have a significant impact on the decision of the family to have children. However, there isn't much empirical research on how women influence family fertility choices. Although domestic decisions regarding family size are made, little study has been done in this area (Hollerbach, 1980) and few studies have used ethnographic or anthropological methods up to this point. Interviews with 20 Vietnamese women were conducted in 1996 to learn more about their decisions around reproduction. Both husbands and wives are involved in decision making when it comes to family size, including whether or not to undergo an abortion. Some of the males who were interviewed were convinced that they were in charge of making decisions, with the view that "I decide everything", while others were more egalitarian and argued that both the husband and wife should be involved in making the decision. While some couples stated that they decided together, others claimed that they talked about it together but the husbands made the final decision. The assertion that the wife should make the final choice about the abortion because she will suffer the most repercussions was made by just one woman. Despite having strong ideas regarding the significance of husbands in abortion decisions, several research participants went through with abortions without first speaking to their spouses because their husbands may have objected. In a Pakistani poll, more than half of the women claimed to have chosen their family size. However, because the results are self-reported and based on the women's judgments of their amount of autonomy, they may be biased. The effect of women's housing decisions on fertility has not been extensively studied. It appears that women who have more control over decisions affecting their fertility and other family problems choose to have fewer children, even if there are regional differences in the dynamics of women's involvement in decision making.

3. METHODOLOGY

The Pakistan Demographic and Health Survey (PDHS) conducted in 2017–2018 provided the secondary data on which this study is based. The Pakistan Bureau of Statistics helped with the sample selection for this, the fourth survey in the Demographic Health Survey (DHS) International Series.

3.1. Logit Model

P(1/p) = (bo + b1age + b2 reg + b3 sec + b4 res + b5 edu + b6 H.edu + b7 Acc + b8 Benazir Income Support Program (BISP) + b9 emp + b10 vio + b11P.Med + b12E.Med + b13No of sons+b14F.pref + b15living s+ b16 prop)

Here, p is the likelihood that the characteristic of interest will exist. The logged odds are what make up the logit transformation.

Odd =p/1-p = probability of a characteristic being present versus a characteristic being absent.

Logit (p) = ln(p/1-p).

Four econometric models are employed because four separate variables were selected as proxies for women's empowerment. Table 3 presents the variable descriptions in detail.

Table 3. Variable descriptions.

Variables	Description of variables
Dependent variable	
WE = Women empowerment	Four proxies for decision making are used to assess women's empowerment: 1. Health care decisions 2. Major household purchases 3. Visiting family or relatives 4. Spending on husband's earnings
Independent variables	
Age of the respondent	1. 15–19 2. 20–24 3. 25–29 4. 30–34 5. 35–39 6. 40–44 7. 45–49
Education of the respondent	0. Uneducated 1. Primary 2. Secondary 3. Higher
Regions	0. Islamabad 1. Punjab 2. Sindh 3. Khyber Pakhtunkhwa 4. Baluchistan 5. Gilgit-Baltistan 6. Azad Jammu and Kashmir 7. FATA (Federally Administered Tribal Areas)
Employment status	0. Unemployed 1. Employed
Wealth status	Ownership of a radio, TV, refrigerator, bicycle, motorbike, and car/truck were used to determine the wealth position of women's households. The presence of these facilities is regarded as a sign of wealth and the absence of them as a sign of poverty.
Husband's education (HE)	0. Uneducated 1. Primary 2. Secondary 3. Higher level
Ownership of property (OP)	Having a home or land, whether individually or jointly, is classified as: 0. No 1. Yes
Number of sons	0. No son 1. One 2. Two 3. Three 4. Four 5. More than four
Fertility preferences	0. Have another 1. Undecided 2. No more
Exposure to media	This is divided into two categories: 1. Printed media (newspapers or magazines) 2. Electronic media (radio, television) is further classified into 0 and 1 categories.
Domestic violence	0. No 1. Yes
Benazir Income Support Program (BISP)	0. No 1. Yes
Bank account	0. No 1. Yes
Sectors	Unemployed Service sectors Industrial sectors Agriculture sectors
Place of residence	1. Rural 2. Urban
Bank accounts	0. No 1. Yes

Table 4. Women's involvement in health care decision making.

Respondents' social and economic characteristics	B	Sig.	Odds	95% C.I. for EXP(B)	
				Lower limit	Upper limit
Age					
15–19	Ref				
20–24	-0.797	0.105	0.451	0.172	1.182
25–29	-0.496	0.310	0.609	0.234	1.586
30–34	-0.620	0.211	0.538	0.203	1.422
35–39	-0.615	0.240	0.540	0.194	1.507
40–44	-0.793	0.154	0.453	0.152	1.347
45–49	-0.501	0.472	0.606	0.154	2.375
Place of residence					
Rural	Ref				
Urban	0.169	0.302	1.184	0.859	1.632
Level of education					
No education	Ref				
Primary	-0.275	0.290	0.760	0.457	1.263
Secondary	-0.265	0.166	0.768	0.528	1.116
Higher	0.101	0.587	1.106	0.768	1.593
Bank account					
No	Ref				
Yes	0.691	0.024	1.996	1.095	3.637
Husband's education					
No education	Ref				
Primary	-0.657	0.016	0.519	0.303	0.887
Secondary	-0.341	0.093	0.711	0.477	1.059
Higher	0.098	0.664	1.103	0.708	1.718
Currently working					
No	Ref				
Yes	0.618	0.115	1.855	0.860	4.001
BISP					
No	Ref				
Yes	-0.197	0.424	0.821	0.506	1.332
Exposure to printed media					
No	Ref				
Yes	0.361	0.446	1.434	0.568	3.623
No. of sons					
No sons	Ref				
One son	0.197	0.360	1.218	0.798	1.860
Two sons	-0.058	0.801	0.944	0.603	1.478
Three sons	-0.157	0.579	0.855	0.491	1.489
Four sons	-0.422	0.200	0.656	0.344	1.251
More than four sons	0.403	0.276	1.496	0.724	3.092
Domestic violence					
No	Ref				
Yes	-0.652	0.000	0.521	0.385	0.705
Fertility preference					
Have another	Ref				
Undecided	0.297	0.163	1.346	0.887	2.044
No more	0.170	0.344	1.185	0.834	1.685
Electronic media					
No	Ref				
Yes	0.546	0.001	1.726	1.265	2.354
Wealth status					
Poor	Ref				
Rich	0.229	0.501	1.257	0.645	2.448
Property ownership status					
Does not own property	Ref				
Owns property	-0.059	0.892	0.942	0.399	2.225

Table 5. Women's participation in decision making regarding major household purchases in Gilgit-Baltistan (GB).

Respondents' social and economic characteristics	B	Sig.	Odds	95% C.I. for EXP(B)	
				Lower limit	Upper limit
Age					
15-19	Ref				
20-24	-0.301	0.599	0.740	0.241	2.274
25-29	-0.322	0.572	0.725	0.238	2.211
30-34	-0.034	0.953	0.967	0.314	2.977
35-39	-0.095	0.874	0.909	0.280	2.954
40-44	-0.301	0.640	0.740	0.209	2.614
45-49	0.281	0.713	1.324	0.296	5.916
Place of residence					
Rural	Ref				
Urban	0.019	0.916	1.019	0.717	1.449
Education of respondent					
No education	Ref				
Primary	-0.519	0.079	0.595	0.333	1.063
Secondary	-0.096	0.647	0.908	0.601	1.371
Higher	0.220	0.276	1.247	0.839	1.853
Bank account					
No	Ref				
Yes	1.439	0.000	4.215	2.320	7.656
Husband's education					
No education	Ref				
Primary	-0.041	0.895	0.960	0.522	1.766
Secondary	0.182	0.439	1.200	0.756	1.904
Higher	0.635	0.012	1.887	1.152	3.092
Respondent currently working					
No	Ref				
Yes	0.465	0.205	1.592	0.775	3.272
BISP					
No	Ref				
Yes	-0.132	0.636	0.876	0.507	1.515
Exposure to printed media					
No	Ref				
Yes	-0.498	0.266	0.607	0.252	1.462
No. of sons					
No sons	Ref				
One son	0.253	0.302	1.288	0.797	2.082
Two sons	0.659	0.010	1.933	1.172	3.186
Three sons	0.251	0.433	1.286	0.686	2.410
Four sons	0.229	0.533	1.257	0.612	2.584
More than four sons	1.114	0.005	3.045	1.389	6.676
Domestic violence					
No	Ref				
Yes	-0.978	0.000	0.376	0.265	0.534
Fertility preference					
Have another	Ref				
Undecided	0.099	0.684	1.104	0.686	1.775
No more	0.428	0.029	1.534	1.044	2.253
Exposure to electronic media					
No	Ref				
Yes	0.191	0.279	1.211	0.857	1.710
Wealth status					
Poor	Ref				
Rich	-0.036	0.923	0.964	0.463	2.010
Ownership of property					
Does not own property	Ref				
Owns property	0.523	0.240	1.687	0.706	4.032

Table 6. Women's participation in decision making regarding visits to family or relatives in GB.

Respondents' social and economic characteristics	B	Sig.	Odds	95% C.I. for EXP(B)	
				Lower limit	Upper limit
Age					
15–19	Ref				
20–24	0.207	0.689	1.230	0.446	3.394
25–29	0.172	0.738	1.188	0.433	3.260
30–34	0.579	0.267	1.784	0.642	4.952
35–39	0.659	0.228	1.932	0.662	5.639
40–44	0.267	0.647	1.305	0.418	4.081
45–49	1.416	0.057	4.121	0.961	17.674
Place of residence					
Rural	Ref				
Urban	0.268	0.104	1.308	0.946	1.807
Education of respondent					
No education	Ref				
Primary	0.232	0.375	1.261	0.755	2.104
Secondary	0.012	0.950	1.012	0.695	1.474
Higher	0.265	0.157	1.304	0.903	1.882
Bank Account					
No	Ref				
Yes	0.785	.011	2.193	1.195	4.026
Husband's education					
No education	Ref				
Primary	-0.261	0.338	0.771	0.452	1.313
Secondary	-0.176	0.394	0.839	0.561	1.256
Higher	0.364	0.111	1.439	0.920	2.251
Currently working					
No	Ref				
Yes	0.416	0.268	1.516	0.726	3.163
BISP					
No	Ref				
Yes	0.001	0.998	1.001	0.615	1.628
Exposure to printed media					
No	Ref				
Yes	-0.563	0.202	0.569	0.239	1.353
No. of sons					
No sons	Ref				
One son	-0.194	0.370	0.823	0.538	1.260
Two sons	-0.112	0.626	0.894	0.571	1.400
Three sons	-0.330	0.249	0.719	0.411	1.259
Four sons	-0.430	0.193	0.650	0.341	1.242
More than four sons	-0.455	0.233	0.635	0.301	1.339
Domestic violence					
No	Ref				
Yes	-0.937	0.000	0.392	0.289	0.531
Fertility preference					
Have another	Ref				
Undecided	0.072	0.739	1.074	0.705	1.637
No more	0.183	0.307	1.201	0.845	1.708
Exposure to electronic media					
No	Ref				
Yes	0.350	0.028	1.418	1.037	1.939
Wealth status					
Poor	Ref				
Rich	-0.456	0.179	0.634	0.326	1.233
Ownership of property					
Does not own property	Ref				
Owns property	-0.483	0.275	0.617	0.259	1.469

Table 7. Women's decision-making regarding spending on husband's income.

Respondents' social and economic characteristics	B	Sig.	Odds	95% C.I. for EXP(B)	
				Lower limit	Upper limit
Age					
15–19	Ref				
20–24	-0.832	0.132	0.435	0.147	1.285
25–29	-0.453	0.405	0.636	0.219	1.845
30–34	-0.178	0.746	0.837	0.285	2.455
35–39	0.106	0.854	1.112	0.359	3.440
40–44	-0.536	0.398	0.585	0.169	2.027
45–49	-0.048	0.949	0.953	0.214	4.252
Place of residence					
Rural	Ref				
Urban	0.118	0.510	1.125	0.792	1.599
Education					
No education	Ref				
Primary	-0.035	0.904	0.966	0.550	1.697
Secondary	0.197	0.350	1.218	0.805	1.841
Higher	0.065	0.757	1.067	0.709	1.606
Bank account					
No	Ref				
Yes	0.934	0.002	2.545	1.422	4.555
Husband's education					
No education	Ref				
Primary	0.119	0.704	1.127	0.609	2.086
Secondary	0.314	0.195	1.369	0.852	2.202
Higher	0.772	0.003	2.164	1.304	3.592
Currently working					
No	Ref				
Yes	0.390	0.274	1.476	0.735	2.967
BISP					
No	Ref				
Yes	0.232	0.395	1.261	0.738	2.155
Exposure to print media					
No	Ref				
Yes	-0.307	0.476	0.735	0.316	1.713
No. of sons					
No sons	Ref				
One son	-0.004	0.987	0.996	0.624	1.590
Two sons	-0.037	0.883	0.963	0.588	1.580
Three sons	-0.263	0.405	0.768	0.413	1.429
Four sons	-0.482	0.200	0.617	0.295	1.292
Above four sons	0.762	0.057	2.142	0.976	4.698
Domestic violence					
No	Ref				
Yes	-0.935	0.000	0.393	0.276	0.559
Fertility preference					
Have another	Ref				
Undecided	0.545	0.023	1.724	1.079	2.754
No more	0.476	0.017	1.610	1.087	2.384
Exposure to electronic media					
No	Ref				
Yes	0.622	0.000	1.863	1.315	2.638
Wealth status					
Poor	Ref				
Rich	-0.180	0.633	0.836	0.399	1.748
Property ownership					
Does not own property	Ref				
Owns property	-0.475	0.293	0.622	0.257	1.506

Table 4 presents women's involvement in health care decision making. Women in Gilgit-Baltistan don't appear to care about getting older. Despite the fact that residency no longer has a significant impact, urban girls are more likely to make decisions about their health care. Women with higher education have more influence than women without education. Digital media, domestic violence, spouse's education, and having a bank account are all associated with empowerment. One of the indicators of empowerment is property ownership. Although income is unimportant, women who have some wealth have greater freedom in making decisions. Having sons is also unrelated to empowerment, but women are more empowered in terms of reproductive choices.

Table 5 presents the women's participation in decision making regarding major household purchases in Gilgit-Baltistan (GB). Particularly intelligent women and women whose husbands have higher levels of education are the target market for the dominant circle of relatives' purchases. Compared to the rest of the group, they are more powerful. Despite the fact that employment status has little bearing on empowerment, working women are more empowered than jobless women. In the UK, girls' empowerment is rising as the proportion of sons rises. They are three times more likely to make decisions than people who have never had a son. In Gilgit-Baltistan, domestic abuse has a similar impact on girls as it does everywhere in the nation. Domestic abuse victims have a considerably lower level of empowerment than those who have not experienced domestic violence. Table 6 presents the women's participation in decision making regarding visits to family or relatives in GB.

Women in their forties and fifties are more objective when choosing where to go due to their older age range of 44 to 49 years. Urban women are more independent than rural women. On the other hand, girls with education have more power than girls without education. Women who are debt-ridden are more prone to make poor decisions than their debt-free counterparts, as financial independence empowers them. They have more authority over those without accounts because they are examiners. Girls are significantly less likely to travel outside the home due to societal customs and restraints. Additionally, empowerment and electronic media go hand in hand. Table 7 presents women's decision-making regarding spending on husband's income.

Spending on husband's earnings and women's ages have no impact on the results. When making decisions, urban women are more independent than rural women. Domestic abuse, bank accounts, and fertility choices are all closely related to empowerment. Women who have access to electronic media perceive their own authority as being greater.

4. RESULTS AND DISCUSSIONS

If paid job training and rural facilities were provided, the number of children could be significantly reduced. Additionally, many children's decisions may be influenced by their desire to participate in lucrative sports to raise their family's standard of living. The findings show that boosting the ability of women to have a preference for children poses a considerable problem that governments must carefully address (Mubeen & Quddus, 2021). Research on the idea of empowerment of women and its profoundly substantial impact on women's lives and overall socioeconomic growth spans decades (Malhotra & Schuler, 2005; Sen, 1993; Tandon, 2016). Reductions in fertility rates and the preference for sons have all been linked to improvements in women's empowerment, which includes employment and family decision making. (Jejeebhoy, 1995; Phan, 2013; Shirani, Pruitt Jr, & Mason Jr, 1987) revealed that, although using contraception was formerly thought to be empowering, since then it has spread, but the fact that it is used by more than half of married women in rural regions does not necessarily mean that there are more empowered women there. Because it is significantly more difficult for a poor country to perform well on such indexes, scholars have questioned the common component of existing women's empowerment indices that include a country's income as part of the measurement, even though ranking countries based on women's empowerment is useful and significant on a global scale (Lopez-Claros & Zahidi, 2005). Despite the significance of measuring it, a woman's level of empowerment may not always be immediately tied to her political representation. Her representation in the national legislature is one illustration of this. It is therefore critical to evaluate the

empowerment of women at the individual level using context-specific methodology, particularly in developing nations where the idea of empowerment can be quantified in a variety of different ways. This study is one of the few to assess the empowerment of women at the individual level using data from four small Southeast Asian countries. The gap in the knowledge on women's empowerment measurement indicators has been significantly filled. According to theories, employment in the workforce, education, domestic decision making, and the use of contraceptives are the four main modules of empowerment of women at the individual level. The findings demonstrate that the components of women's empowerment differ from what was previously thought. According to one study, awareness and use of contraceptives are not indications of women's empowerment in poor nations, but decisions related to household participation in the labor force and education are important.

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REFERENCES

Agadjanian, V., & Yabiku, S. T. (2015). Religious belonging, religious agency, and women's autonomy in Mozambique. *Journal for the Scientific Study of Religion*, *54*(3), 461-476.Available at: https://doi.org/10.1111/jssr.12210.

Ahmad, F., & Sultan, M. (2004). *Women's empowerment and mobility in Pakistan: Result from a National Survey*. Paper presented at the In Fifth Annual Research Conference on (pp. 14-16).

Al-Riyami, A. A., & Afifi, M. (2003). Determinants of women's fertility in Oman. *Saudi Medical Journal*, *24*(7), 748-753.

Allendorf, K. (2012). Women's agency and the quality of family relationships in India. *Population Research and Policy Review*, *31*(2), 187-206.Available at: https://doi.org/10.1007/s11113-012-9228-7.

Almås, I., Armand, A., Attanasio, O., & Carneiro, P. (2018). Measuring and changing control: Women's empowerment and targeted transfers. *The Economic Journal*, *128*(612), F609-F639.Available at: https://doi.org/10.2139/ssrn.2742567.

Ashraf, D., & Farah, I. (2007). Education and women's empowerment: Re-examining the relationship. *Education, Gender and Empowerment: Perspectives from South Asia*, *8*(2), 15-31.

Axinn, W. G., & Barber, J. S. (2001). Mass education and fertility transition. *American Sociological Review*, *66*(4), 481-505.Available at: https://doi.org/10.2307/3088919.

Becker, G. S. (1974). A theory of social interactions. *Journal of Political Economy*, *82*(6), 1063-1093.

Becker, G. S. (1991). *A treatise on the family* (Enlarged ed.): Harvard University Press.

Bhat, R. A. (2015). Role of education in the empowement of women in India. *Journal of Education and Practice*, *6*(10), 188-191.

Bongaarts, J. (2003). Completing the fertility transition in the developing world: The role of educational differences and fertility preferences. *Population Studies*, *57*(3), 321-335.Available at: https://doi.org/10.1080/0032472032000137835.

Bongaarts, J., Cleland, J. C., Townsend, J., Bertrand, J. T., & Gupta, M. D. (2012). Family planning programs for the 21st century: rationale and design.

Bradley, C. (1995). Women's empowerment and fertility decline in western Kenya. *Situating fertility: Anthropology and Demographic Inquiry*, 157-178.Available at: https://doi.org/10.1017/cbo9780511621611.008.

Brewster, K. L., & Rindfuss, R. R. (2000). Fertility and women's employment in industrialized nations. *Annual Review of Sociology*, *26*(1), 271-296.Available at: https://doi.org/10.1146/annurev.soc.26.1.271.

Cai, F. (2010). Demographic transition, demographic dividend, and Lewis turning point in China. *China Economic Journal*, *3*(2), 107-119.Available at: https://doi.org/10.1080/17538963.2010.511899.

Charmes, J., & Wieringa, S. (2003). Measuring women's empowerment: An assessment of the gender-related development index and the gender empowerment measure. *Journal of Human Development*, *4*(3), 419-435.Available at: https://doi.org/10.1080/1464988032000125773.

Chaudhry, I. S., & Nosheen, F. (2009). The determinants of women empowerment in Southern Punjab (Pakistan): An empirical analysis. *European Journal of Social Sciences*, *10*(2), 216-229.

Cueva Beteta, H. (2006). What is missing in measures of women's empowerment? *Journal of human development*, *7*(2), 221-241.Available at: https://doi.org/10.1080/14649880600768553.

Dasgupta, S. (2019). Impact of exposure to mass media on female empowerment: Evidence from India. *International Journal of Development Issues*, *18*(2), 243-258.Available at: https://doi.org/10.1108/ijdi-10-2018-0156.

Deaton, A. S., & Paxson, C. H. (1997). The effects of economic and population growth on national saving and inequality. *Demography*, *34*(1), 97-114.Available at: https://doi.org/10.2307/2061662.

Dixon-Mueller, R. (1993). *Population policy & women's rights: Transforming reproductive choice*: ABC-CLIO.

Folbre, N. (1986). Cleaning house: New perspectives on households and economic development. *Journal of Development Economics*, *22*(1), 5-40.

Furuta, M., & Salway, S. (2006). Women's position within the household as a determinant of maternal health care use in Nepal. *International Family Planning Perspectives*, *32*(1), 17-27.

Galiè, A., Teufel, N., Korir, L., Baltenweck, I., Webb Girard, A., Dominguez-Salas, P., & Yount, K. M. (2019). The women's empowerment in livestock index. *Social Indicators Research*, *142*(2), 799-825.

Garikipati, S. (2012). Microcredit and women's empowerment: Through the lens of time-use data from rural India. *Development and Change*, *43*(3), 719-750.Available at: https://doi.org/10.1111/j.1467-7660.2012.01780.x.

Gordon, M. S., Sweeney, C. J., Mendelson, D. S., Eckhardt, S. G., Anderson, A., Beaupre, D. M., . . . Deng, H. (2010). Safety, pharmacokinetics, and pharmacodynamics of AMG 102, a fully human hepatocyte growth factor–neutralizing monoclonal antibody, in a first-in-human study of patients with advanced solid tumors. *Clinical Cancer Research*, *16*(2), 699-710.Available at: https://doi.org/10.1158/1078-0432.ccr-09-1365.

Grown, C., Gupta, G. R., & Pande, R. (2005). Taking action to improve women's health through gender equality and women's empowerment. *The Lancet*, *365*(9458), 541-543.Available at: https://doi.org/10.1016/s0140-6736(05)17872-6.

Haghighat, E. (2013). Social status and change: The question of access to resources and women's empowerment in the Middle East and North Africa. *Journal of International Women's Studies*, *14*(1), 273-299.

Heaton, T. B., Huntsman, T. J., & Flake, D. F. (2005). The effects of status on women's autonomy in Bolivia, Peru, and Nicaragua. *Population Research and Policy Review*, *24*(3), 283-300.Available at: https://doi.org/10.1007/s11113-005-4082-5.

Heshmati, A. (2017). Introduction to studies on economic development and growth in selected African countries. In Studies on Economic Development and Growth in Selected African Countries (pp. 1-7). Singapore: Springer.

Hollerbach, P. E. (1980). Power in families, communication, and fertility decision-making. *Population and Environment*, *3*(2), 146-173.Available at: https://doi.org/10.1007/bf01254155.

Hollos, M., & Larsen, U. (2008). Motherhood in sub-Saharan Africa: The social consequences of infertility in an urban population in northern Tanzania. *Culture, Health & Sexuality*, *10*(2), 159-173.Available at: https://doi.org/10.1080/13691050701656789.

Jejeebhoy, S. J. (1995). *Women's education, autonomy, and reproductive behaviour: Experience from developing countries*: OUP Catalogue.

Kabeer, N. (2001). Conflicts over credit: Re-evaluating the empowerment potential of loans to women in rural Bangladesh. *World Development*, *29*(1), 63-84.Available at: https://doi.org/10.1016/s0305-750x(00)00081-4.

Kabeer, N. (2005). Gender equality and women's empowerment: A critical analysis of the third millennium development goal 1. *Gender & Development*, *13*(1), 13-24.Available at: https://doi.org/10.1080/13552070512331332273.

Kawachi, I., Kennedy, B. P., & Glass, R. (1999). Social capital and self-rated health: A contextual analysis. *American Journal of Public Health*, *89*(8), 1187-1193.Available at: https://doi.org/10.2105/ajph.89.8.1187.

Kishor, S., & Gupta, K. (2004). Women's empowerment in India and its states: Evidence from the NFHS. *Economic and Political Weekly*, *39*(7), 694-712.

Kishor, S., & Johnson, K. (2006). Reproductive health and domestic violence: Are the poorest women uniquely disadvantaged? *Demography*, *43*(2), 293-307.

Klasen, S. (2006). UNDP's gender-related measures: Some conceptual problems and possible solutions. *Journal of Suman Development*, *7*(2), 243-274.Available at: https://doi.org/10.1080/14649880600768595.

Lee, K. (2009). Gender differences in Hong Kong adolescent consumers' green purchasing behavior. *Journal of Consumer Marketing*, *26*(2), 87-96.Available at: https://doi.org/10.1108/07363760910940456.

Legler, J., Fletcher, T., Govarts, E., Porta, M., Blumberg, B., Heindel, J. J., & Trasande, L. (2015). Obesity, diabetes, and associated costs of exposure to endocrine-disrupting chemicals in the European Union. *The Journal of Clinical Endocrinology & Metabolism*, *100*(4), 1278-1288.Available at: https://doi.org/10.3410/f.725377409.793504815.

Li, J., & Lavely, W. (2003). Village context, women's status, and son preference among rural Chinese women. *Rural Sociology*, *68*(1), 87-106.Available at: https://doi.org/10.1111/j.1549-0831.2003.tb00130.x.

Longwe, S. H. (1998). Education for women's empowerment or schooling for women's subordination? *Gender & Development*, *6*(2), 19-26.Available at: https://doi.org/10.1080/741922726.

Lopez-Claros, A., & Zahidi, S. (2005). *Women's empowerment: Measuring the global gender gap*. Geneva: World Economic Forum.

Malhotra, A., & Schuler, S. R. (2005). Women's empowerment as a variable in international development. *Measuring Empowerment: Cross-Disciplinary Perspectives*, *1*(1), 71-88.

Malhotra, N. K., & Malhotra, N. K. (2012). Basic marketing research: Integration of social media.

Mason, D. J., Backer, B. A., & Georges, C. A. (1991). Toward a feminist model for the political empowerment of nurses. *Image: The Journal of Nursing Scholarship*, *23*(2), 72-77.Available at: https://doi.org/10.1111/j.1547-5069.1991.tb00646.x.

Montgomery, M. R., & Casterline, J. B. (1993). The diffusion of fertility control in Taiwan: Evidence from pooled cross-section time-series models. *Population Studies*, *47*(3), 457-479.Available at: https://doi.org/10.1080/0032472031000147246.

Mubeen, S., & Quddus, M. A. (2021). Gender equality but never-ending inequity in FATA, Pakistan. *Journal of Business and Social Review in Emerging Economies*, *7*(2), 375-388.Available at: https://doi.org/10.26710/jbsee.v7i2.1666.

Oppenheim Mason, K. (1987). The impact of women's social position on fertility in developing countries. In Sociological forum (Vol. 2, pp. 718-745): Kluwer Academic Publishers.

Pelled, L. H., & Xin, K. R. (2000). Relational demography and relationship quality in two cultures. *Organization Studies*, *21*(6), 1077-1094.Available at: https://doi.org/10.1177/0170840600216003.

Phan, L. (2013). Women's empowerment and fertility changes. *International Journal of Sociology of the Family*, 49-75.

Phan, L. (2016). Measuring women's empowerment at household level using DHS data of four Southeast Asian countries. *Social Indicators Research*, *126*(1), 359-378.Available at: https://doi.org/10.1007/s11205-015-0876-y.

Pritchett, L., & Summers, L. H. (1994). *Desired fertility and the impact of population policies* (Vol. 1273): World Bank Publications.

Samarakoon, S., & Parinduri, R. A. (2015). Does education empower women? Evidence from Indonesia. *World Development*, *66*, 428-442.Available at: https://doi.org/10.1016/j.worlddev.2014.09.002.

Sareen, J., Cox, B. J., Stein, M. B., Afifi, T. O., Fleet, C., & Asmundson, G. J. (2007). Physical and mental comorbidity, disability, and suicidal behavior associated with posttraumatic stress disorder in a large community sample. *Psychosomatic Medicine*, *69*(3), 242-248.Available at: https://doi.org/10.1097/psy.0b013e31803146d8.

Sen, A. (1993). Capability and well-being 73. *The Quality of Life*, *30*, 1-445.

Sen, A. (2001). The many faces of gender inequality. *New Republic*, *225*(4522), 35-40.

Sen, A. (1993). Internal consistency of choice. *Econometrica: Journal of the Econometric Society*, *61*(3), 495-521.Available at: https://doi.org/10.2307/2951715.

Shirani, K. Z., Pruitt Jr, B. A., & Mason Jr, A. D. (1987). The influence of inhalation injury and pneumonia on burn mortality. *Annals of Surgery*, *205*(1), 82-87.Available at: https://doi.org/10.21236/ada183028.

Subbarao, K., & Raney, L. (1995). Social gains from female education: A cross-national study. *Economic Development and Cultural Change*, *44*(1), 105-128.Available at: https://doi.org/10.1086/452202.

Tandon, T. (2016). Women empowerment: Perspectives and views. *The International Journal of Indian Psychology*, *3*(3), 6-12.

Wang, G., & Lee, P. D. (2009). Psychological empowerment and job satisfaction: An analysis of interactive effects. *Group & Organization Management*, *34*(3), 271-296.Available at: https://doi.org/10.1177/1059601108330089.

Wu, X., Ye, H., & He, G. G. (2012). Fertility decline and women's empowerment in China. *International Center for Research on Women Fertility & Empowerment Working Paper Series*, *6*, 1-35.

Yamauchi, F., & Liu, Y. (2018). Gender asymmetries: Impacts of an early-stage school intervention in the Philippines. *Review of Development Economics*, *22*(1), 220-241.Available at: https://doi.org/10.1111/rode.12337.

Yang, B., Wu, Y.-J., Zhu, M., Fan, S.-B., Lin, J., Zhang, K., . . . Chen, H.-F. (2012). Identification of cross-linked peptides from complex samples. *Nature Methods*, *9*(9), 904-906.