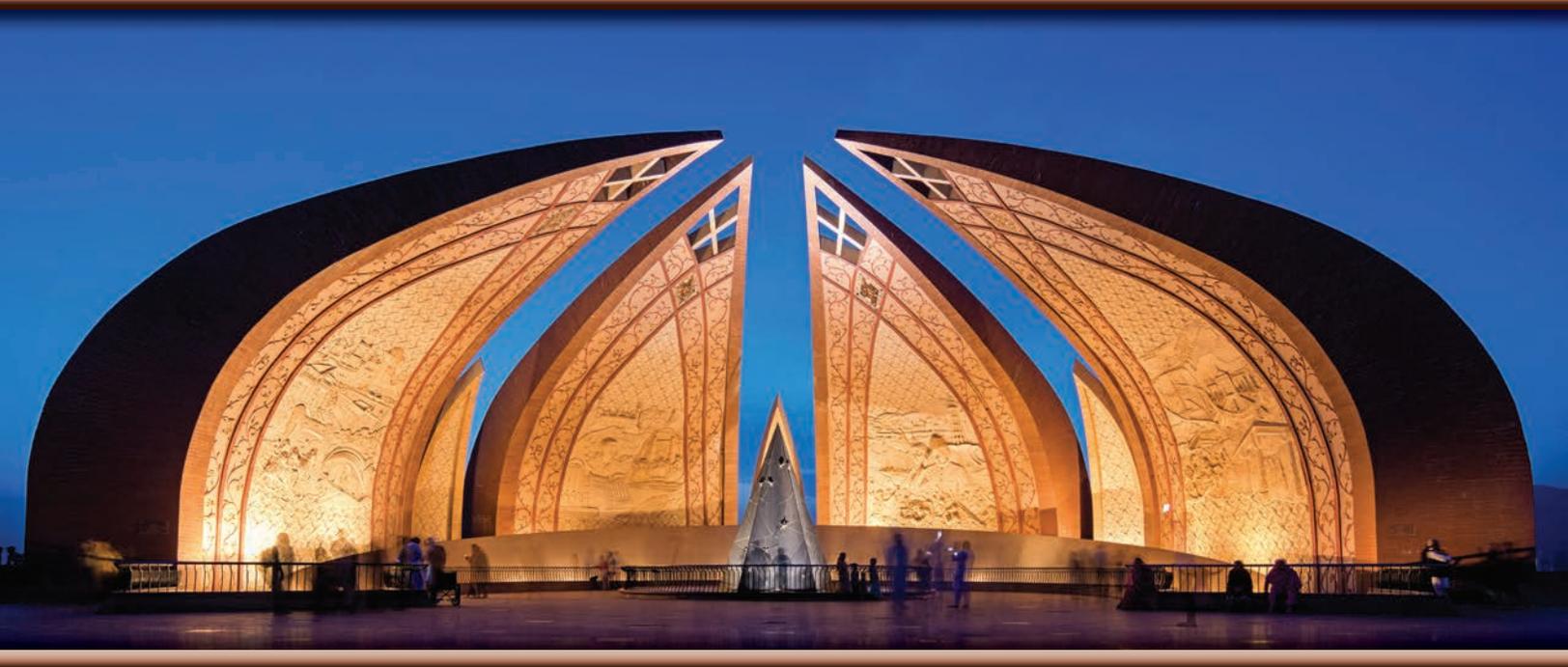# Trends in Internal Migration and Women's Empowerment in Pakistan, 2012-2018

DHS Further Analysis Reports No. 130

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Trends in Internal Migration and Women's Empowerment in Pakistan, 2012-2018

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ABSTRACT

Background: For nearly three decades, gender equality and women's health and well-being have been priorities on the international agenda. Empowered women have better health outcomes, such as the use of modern contraception and skilled birth attendance, and women who migrate can access opportunities that minimize inequality. Pakistan, the fifth most populous country in the world, is ranked low on the two indices that rank country progress in gender equality, the Gender Inequality Index and the Gender Development Index. This study describes and examines internal migration's relationship with empowerment of women.

Methods: This study analyzed data from currently married women who ever migrated in the Demographic and Health Surveys conducted in Pakistan in 2012-13 and 2017-18. We describe migration flows of currently married women who have ever moved internally within Pakistan, as well as trends of high empowerment in three empowerment domains: attitude to violence, social independence, and decision making, by background characteristics. After testing for difference of proportions, we illustrate trends over time in figures that display significant changes between surveys. We conduct multinomial logistic regression to compare the most empowered and moderately empowered with the least empowered women in terms of empowerment's relationship with our key independent variable, migration, while controlling for age, working status, region, and wealth.

Results: Some migration distinctions are significantly associated with high empowerment. Rural-urban migrants have decreased risk of high empowerment in the social independence domain, while urban-rural had an increased risk in the 2017-18 Pakistan Demographic and Health Survey. In the 2012-13 Pakistan Demographic and Health Survey, urban-urban migrant women had higher risk of high empowerment than their non-migrant counterparts in two empowerment domains: attitude to violence and decision making. Wealth and age were strong determinants of empowerment.

Conclusions: Overall, we find that migrant women who originated in urban areas had positive associations with empowerment and that rural-urban movers were disadvantaged. Though women can access opportunities to better empower themselves through migration, migrant woman may also be disadvantaged and vulnerable. Policy makers should focus on creating pathways that increase the success of women's migration strategies.

KEY WORDS: Pakistan, empowerment, migration, gender

ACRONYMS AND ABBREVIATIONS

AJK	Azad Jammu and Kashmir
CI	confidence interval
DHS	Demographic and Health Survey(s)
FATA	Federally Administered Tribal Areas
GB	Gilgit Baltistan
GDI	Gender Development Index
GII	Gender Inequality Index
ICPD	International Conference on Population and Development
ICT	Islamabad Capital Territory
KPK	Khyber Pakhtunkhwa
NIPS	National Institute of Population Studies
PDHS	Pakistan Demographic and Health Survey
SDG	Sustainable Development Goals
SWPER	Survey-based Women's emPowERment Index
UN	United Nations
UN	United Nations Development Programme
UNFPA	United Nations Population Fund

1   INTRODUCTION

1.1   Women's Empowerment in Pakistan

For nearly three decades, of gender equality and women's health and well-being have been priorities on the international agenda. The 1994 International Conference on Population and Development emphasized the empowerment of women and their ability to control their own fertility (United Nations 2014). The Millennium Development Goals and more recently the Sustainable Development Goals (SDG) have established targets for attaining the empowerment of women and gender equality globally (United Nations 2015, 2019). Empowered women have better health outcomes, such as use of modern contraception and skilled birth attendance (Do and Kurimoto 2012; Msuya, Adinan, and Mosha 2014; Pratley 2016; Shimamoto and Gipson 2015; Tadesse et al. 2013).

Measuring the empowerment of women is imperative, though the process remains difficult. The subject of women's autonomy appeared in the literature as early as the 1970s (Cornwall 2016). In the decades that followed, numerous definitions of empowerment and approaches to understanding its dimensions have emerged. Some measurements of gender equality, such as the Gender Inequality Index (GII) or the Gender Development Index (GDI) describe equality on a national level (United Nations Development Programme 2019). Many studies have attempted to measure individual-level empowerment in low- and middle-income countries by using the Demographic and Health Surveys (DHS) data which have included an empowerment module since 1999 (Do and Kurimoto 2012; Ewerling et al. 2017; Msuya, Adinan, and Mosha 2014; Na et al. 2015; Shimamoto and Gipson 2015; Tadesse et al. 2013). The empowerment module asks women about their employment, control over cash earnings, ownership of assets, participation in decision making, and attitude toward wife beating (Kishor and Subaiya 2008).

Because empowerment is multi-faceted, studies have often created measures that incorporate multiple aspects of empowerment. Previously used measures of empowerment included additive scores based on the number of decisions in which women participate (0 to 3 decisions), or the number of reasons a woman agrees would justify wife beating (0 to 6 reasons). In addition, it is widely accepted that empowerment is context specific (Agarwala and Lynch 2006; Ewerling et al. 2019 PREPRINT), and using single indicator proxies may have problematic implications for the relevance of policies (Agarwala and Lynch 2006). Factors that limit or promote empowerment in one context may have opposite or null effects elsewhere and internationally comparable measures of empowerment are even more scarce (Agarwala and Lynch 2006; Ewerling et al. 2019 PREPRINT; Ewerling et al. 2017; Gaye and JHA 2011). Some measures may include several dimensions of empowerment including spousal age gap, spousal education gap, and labor force engagement. The Survey-based Women's Empowerment (SWPER) index has been a recent attempt to include all dimensions of empowerment captured by DHS data. The SWPER index measures empowerment in three dimensions: attitude to violence, decision making, and social independence (Ewerling et al. 2019 PREPRINT; Ewerling et al. 2017). For international or regional comparability, weights have been created for each world region that adjusts for the relative empowerment in different regions of the world (Ewerling et al. 2019 PREPRINT).

Pakistan, the fifth most populous country in the world (World Population Review 2020), is ranked low on the two gender indices that rank country progress in gender equality, the GII and GDI. Pakistan ranked 136

of 162 countries on the GII and ranked in the lowest group of countries on the GDI (United Nations Development Programme 2019). The country's plan for future progress, the Pakistan Vision 2025, has specific goals for the promotion of women's empowerment, which include "activities that promote women's self-worth, right to determine their choices, access to opportunities and resources, right and power to control their lives – both within and outside the home – and ability to influence social change" (UNFPA 2020). Article 34 of the Constitution of Pakistan has also recognized the importance of women's empowerment by stating that women should have full participation in all spheres of national life (National Assembly of Pakistan 2018). Further, women are protected legally against harassment in the workplace (Government of Pakistan 2014). Though women are acknowledged in legal and political conversations and print, continued lack of enforcement and environment that fails to encourage women's prosperity ensure that women in Pakistan remain unempowered.

1.2 Migration and Empowerment in Pakistan

It is important to understand if some groups of women in Pakistan are more empowered than others. Among the different strata of women are those who have migrated internally. Though international migration has been found to have more negative effects for women than for men (Adanu and Johnson 2009), migration within a country can also increase women's access to social, economic, or educational opportunities that were previously inaccessible in their original location (Eryar, Tekgüç, and Toktas 2018). Poor populations can access opportunities that minimize poverty through migration strategies (Hagen-Zanker, Postel, and Vidal 2017). Rural communities consider migration as a process through which they can be free from the vicious cycle of poverty (Islam and Azad 2008). One study in the Faisalabad district of Pakistan found that internal migration had a significant effect on reducing poverty in rural areas (Kousar et al. 2016). Other studies have demonstrated the association of rural-urban migration on fertility (Brockerhoff and Yang 1994), child health outcomes (Brockerhoff 1994), health service utilization (Stephenson and Matthews 2004), and mortality (Stephenson, Matthews, and McDonald 2003). Though women may move to secure better opportunities for themselves, oppositely, migrants may not be representative of the population and may be prone to positive selection based on wealth or education, which enable them to move (Ssengonzi, De Jong, and Shannon Stokes 2002).

Despite the benefits of migration, studies have found that migrants remain among the most vulnerable members of society (Adanu and Johnson 2009). In Pakistan, most women move for marriage, while few move to pursue work or educational opportunities (Chen, Kosec, and Mueller 2019; National Institute of Population Studies (NIPS) and ICF International 2013; National Institute of Population Studies (NIPS) and ICF 2019). If women have no choice in migrating or do so to fulfill a need rather than personal advancement, moving may leave women ill-equipped to adapt and integrate into new environments.

The issue of international migration, which has been on the agenda of the international community for several decades (United Nations 2014), is a primary focus on the SDG agenda, which not only includes several health and migration-related targets, but also encourages countries to disaggregate targets by migratory status (UN 2015). We know that the vulnerability of women is negatively affected by discriminatory migration policies. Policies that protect or enable internal migrants to integrate successfully are rare despite the fact that the number of internal migrants is four times the total number of emigrants in Pakistan (International Organization of Migration 2019). This report examines the association of internal migration and women's empowerment, which can guide policies that promote and enable gender equality.

1.3   Objectives

This report considers the following question:

How does internal migration affect the empowerment of married women in Pakistan?

Objectives of the study are to:

1. Describe the migration and empowerment of married women in the 2012-13 and 2017-18 Pakistan Demographic and Health Surveys (PDHS).
2. Understand the association of migration and women's empowerment, while controlling for important factors.

2   DATA AND METHODS

2.1   Data

This analysis uses data from the two most recent PDHS surveys in 2012-13 and 2017-18. Each survey followed a two-stage sampling designed to obtain data that are representative at the national and provincial level (NIPS/Pakistan and ICF 2019; NIPS/Pakistan and ICF International 2013). After excluding international migrants and restricting the sample to currently married women, our study included 12,728 currently married women from the 2012-13 PDHS survey and 11,527 currently married women from the 2017-18 PDHS survey (**Table 1**).

Table 1   Description of the Pakistan Demographic and Health Surveys (PDHS) included in the analysis

Year	Date of fieldwork	Implementing organization	Number of households interviewed	Number of currently married women age 15-49 in interviewed HHs	% of women age 15-49 who are married in interviewed HHs	Number of women interviewed included in study[1]
2012-13	October 2012 - March 2013	National Institute of Population Studies	12,943	13,757	62.4	12,728
2017-18	November 2017 - April 2018	National Institute of Population Studies	14,540	12,304	63.5	11,527

[1] Excludes international migrants and women with missing responses

2.2   Measures

2.2.1   Empowerment

In this analysis, we examine three levels of empowerment (low, medium, and high) in three distinct domains of empowerment: attitude to violence, social independence, and decision making (**Table 2**). These measures are created using the SWPER index. The SWPER index is a measure of empowerment that has been validated for global comparisons with DHS data from 62 countries. This index uses 14 indicators to create three domains of empowerment (**Table 2**). This approach for measuring empowerment uses a principal component analysis to create scores for the three empowerment domains (Ewerling et al. 2017). Each domain is then weighted to reflect the empowerment norms of their geographic region (Ewerling et al. 2019 PREPRINT). For this analysis, we use the weighting system for South Asia. Each domain has standard cutoffs to create a three-category classification of empowerment: low, medium and high empowerment. Since some of the questions used to construct the index are asked only of currently married women, our analysis is restricted to currently married women. Additionally, if women had missing responses for any of the key indicators, they were excluded.

Table 2   **DHS indicators used to construct SWPER empowerment domains**

Domain	Variable	Unit or Response Code
1. Attitude to violence	Beating is justified if: 1) wife goes out without telling husband 2) wife neglects the children 3) wife argues with husband 4) wife refuses to have sex with husband 5) wife burns the food	Yes = -1 DK = 0 No = 1
2. Social independence	1) Frequency of reading newspaper or magazine	Not at all = 0 < once a week = 1 ≥ once a week = 2
	2) Education difference: woman's minus husband's years of schooling	Years
	3) Age difference: woman's minus husband's age years	Years
	4) Age at first marriage	Years
	5) Age of woman at first birth[1]	Years
3. Decision making	Who usually decides on: 1) respondent's health care 2) large household purchases 3) visits to family or relatives	Husband/other alone = -1 Respondent alone or joint with partner = 1

[1] This variable was imputed for women who had not had a child using the hotdeck approach, as specified in the SWPER index method.

2.2.2   Migration

Migration direction

Migration, the independent exposure of interest, is categorized into five distinctions according to the origin and direction of movement: urban-urban, rural-urban, rural-rural, urban-rural (origin-direction), and non-migrant. During the household interview, the interviewer records information about each household member's migration history:

- Was (NAME) born in this village/city?
- In which village/city was (NAME) born?
- From where did (NAME) move to this village/city the last time?
- In which year did (NAME) last move to this village/city?
- What was the primary reason for (NAME) to move to this village/city?

From these questions we can know where a household member moved from if they are not currently living in the village or city they were born. These questions also capture when and why they most recently moved. The city was recorded if a woman migrated from an urban location, while the district was recorded if a woman migrated from a rural location. Women who migrated from outside Pakistan were coded differently. Women who have migrated from within Pakistan are considered internal migrants. Women are considered lifetime migrants if they no longer live in the village or city where they were born. This study included both non-migrant women and internal, lifetime migrants, and excluded women who moved to Pakistan from outside of Pakistan.

Duration of continuous residence

The duration of time since a respondent moved from her most recent place of residence to her current residence was recorded in years. This was categorized as less than 1 year, 1-5 years, 6-9 years, and 10 or more years. Women who did not know or whose responses were missing are grouped in a separate category.

Reason for migration

Understanding the reasons for a woman's most recent migration, we grouped similar reasons into meaningful categories. Women who moved for better opportunities were grouped together, including women who moved for a job or school opportunity. Women who moved for marriage or due to a birth were grouped into one category. Some women cited moving with family or to join family. These women were grouped with women who cited moving in childhood, though there were few women in this category. There were also very few responses that cited moving because of violence, natural disaster, other reasons or offered "Don't Know" responses, and these were grouped together.

2.2.3   Sociodemographic characteristics

Age

Women's current age is presented in 5-year age groups, from ages 15 to 49. A respondent's age is based on her reported date of birth. The youngest age group in the study population, age 15-19, is the reference group.

Work status

A woman is coded as currently working if she reports having done any work in the previous 7 days, other than her own housework. Women who are not currently working are the reference category.

Region

The two PDHS collected data in at least five main regions. These include the four provinces of Punjab, Sindh, Khyber Pakhtunkhwa (KPK), and Balochistan, as well as the Islamabad Capital Territory (ICT). These five areas were included in this analysis, which used the most populous province, Punjab, as the reference category. Other areas, including the Azad Jammu and Kashmir (AJK), Federally Administrated Tribal Areas (FATA), and Gilgit Baltistan (GB), were also sampled in the 2017-18 PDHS. However, AJK and GB are weighted to be representative for their own area and should not be included in national estimates. Additionally, AJK and FATA were not included in the 2012-13 PDHS (NIPS/Pakistan and ICF 2019; NIPS/Pakistan and ICF International 2013). To compare both data from both surveys, we exclude data from AJK, FATA, and GB.

Wealth

Wealth quintiles are constructed using information from the household interview about household characteristics and household assets. Women in the poorest category are used as the reference group.

2.3   Analysis

We present trends and multivariable analyses of the empowerments indicators and migration distinctions using data from the two most recent PDHS surveys. First, we examine migration distinctions and

empowerment indicators over time and across sociodemographic characteristics, including age, working status, region, and wealth. We test the difference in proportions of the migration and empowerment indicators between the two surveys and by sociodemographic subgroups. We define significance as a p-value of less than 0.05. These trends are illustrated with solid lines for significant differences and dotted lines for the insignificant changes.

Further we assess migration's association with empowerment by performing bivariate analysis and multivariable multinomial logistic regression that controls for age, working status, region, and wealth. We examine the three empowerment domains in each survey in a separate model. Each domain has a three-category outcome: low, medium, and high empowerment with low empowerment is the reference category. The results from these models are presented as relative risk ratios (RRRs).

3   RESULTS

3.1   Descriptive Results

Table 3 presents the percentage of married women by age, working status, and region for the 2012-13 and 2017-18 PDHS. The age distribution of currently married women in the two surveys is similar. In both surveys, about two in five women were age 15-29. The percentage of working women decreased from 26% in 2012-13 to 17% in 2017-18. Most women live in Punjab (58% and 54% in 2012-13 and 2017-18 PDHS respectively). In both surveys approximately 23% of women were living in the second most populous region of Sindhi, followed by KPK, Balochistan, and finally ICT Islamabad where fewer than 1% of women lived in either survey. Wealth is not shown below because the wealth quintiles divide the population into approximately five, equal wealth divisions.

Table 3   Percentage of women in the study population by characteristics, Pakistan 2012-13 and 2017-18

	PDHS 2012-13		PDHS 2017-18	
	%	N	%	N
Age				
15-19	4.6	584	4.9	568
20-24	15.9	2022	15.7	1804
25-29	20.6	2621	21.1	2434
30-34	19.0	2414	19.7	2275
35-39	16.5	2104	17.3	1993
40-44	12.5	1596	11.2	1291
45-49	10.9	1388	10.1	1162
Work Status				
Not working	74.0	9410	83.3	9605
Working	26.0	3305	16.7	1921
Region				
Punjab	57.6	7333	54.1	6239
Sindhi	23.3	2964	23.7	2729
KPK	14.4	1828	16.0	1839
Balochistan	4.3	543	5.4	619
ICT Islamabad	0.5	60	0.9	102
Total[1]	**100%**	**12,728**	**100%**	**11,527**

[1] International migrants (women who migrated into Pakistan from outside of the country) are excluded

Table 4 shows the reason for and the type of internal migration of married women in the two PDHS. According to the 2012-13 and 2017-18 PDHS, approximately one in five married women have moved within Pakistan at some point during their lifetime. In 2012-13, the migration streams of married women who are living in urban areas showed that 6% migrated from urban to urban areas, and another 6% moved from rural to urban areas. Among migrants who live in rural areas, 3% moved from rural to rural areas, while 5% moved from urban to rural areas. The percentage of migrants by duration of residence shows that over half of urban (57%) and rural (54%) migrants reported that they moved 10 or more years ago to their current place of residence. Similar patterns were observed in the 2017-18 PDHS. In the earlier survey, approximately 6% of rural migrants and 6% of urban migrants moved within the past year. In contrast, less than 1% of respondents in the most recent survey moved in the past year.

An important aspect of studying migration is identifying the reasons for moving from one location to another. In the 2012-13 PDHS, urban migrants cite moving for marriage (71%) as the most common reason for migration, followed by moving with family (26%). In the same survey, eight in 10 rural migrants (82%) cited moving for marriage as the most important reason for moving to their current residence and 16% cited moving with family. In the 2017-18 PDHS, two-third of the urban migrants and 80% of the rural migrants cited moving for marriage as a reason to migrate to their current residence. A slightly higher percentage of urban migrants (31%) cited moving with family as a reason to migrate compared to those surveyed in PDHS 2012-13 (26%).

Table 4   **Percentage of married women who have moved or not by place of residence and reason and years since moved among migrant women, Pakistan 2012-13 and 2017-18**

	PDHS 2012-13	PDHS 2017-18
	%	%
Migrant status		
Ever migrated	19.3	20.2
Migrant direction		
Non-migrant	80.7	79.8
Moved urban to urban	5.7	4.2
Moved rural to urban	6.0	7.1
Moved rural to rural	2.8	3.5
Moved urban to rural	4.8	5.4
Total	100.0	100.0
Total number of married women	12,728	11,527

	Urban migrants[1]	Rural migrants[2]	Urban migrants	Rural migrants
	%	%	%	%
Years since moving				
<1 year	5.6	5.6	0.3	<0.1
1-5 years	17.3	17.1	22.5	20.6
5-9 years	16.8	20.6	22.1	24.7
10+ years	57.4	54.3	54.2	54.2
Don't know/missing	2.9	2.3	0.9	0.5
Reason for moving[3]				
Better opportunities	2.6	1.2	2.9	1.7
With family	26.0	16.0	31.0	18.1
Marriage	70.5	82.2	65.6	79.2
Escape violence, other/don't know	0.9	0.7	0.5	0.9
Total	100	100	100	100
Total number of internal migrant women	**1,346**	**1,117**	**1,109**	**1,220**

[1] Urban migrants are women who have migrated and currently reside in a urban area
[2] Rural migrants are women who have migrated and currently reside in a rural area
[3] Reasons for moving are grouped. Better economic opportunities include those who cited moving for a job, school, or better economic opportunity or infrastructure. Moving with family include women who moved to join family or who moved during childhood. Moving for marriage also includes a few respondents who cited moving for a birth. The last category includes women who moved to escape violence, natural disaster, other and "Don't Know" responses.

Table 5 shows the percentage of all women who did not agree with each of the five separate reasons that justify a husband beating his wife for the 2012-13 and 2017-18 PDHS. Results show that the majority of currently married women do not agree that any of the specified reasons justify wife beating. Notably, eight of 10 women agree that wife beating is not justified if the wife burns food.

The majority of women do not read. The frequency of reading newspapers or magazines among currently married women in Pakistan is generally low, with 76% in 2012-13 PDHS and 86% in the 2017-18 PDHS reporting that they did not read at all. **Table 5** also shows the percentage of currently married women who read newspapers or magazines at least once a week declined from 20% in 2012-13 to 9% in 2017-18.

In both surveys, nearly 8 in ten women in the study were age 16-29, while 16% were age 15 or younger at their first marriage. The age difference of couples in **Table 5** shows that 14% were the same age as their husband, about 30% had an age difference of 1-4 years and 5-9 years, respectively, in both surveys. Education is associated with higher empowerment, but equality in education between the spouses is more important in decision making. Nearly 40% of couples had the same level of education in both surveys, while 14% in the 2012-13 PDHS and 18% of women in the most recent survey, had more education than their husbands.

The distribution of currently married women by type of participation in decision making according to three types of decisions−healthcare, large purchases, and visits to family—shows that approximately half of currently married women made decisions alone or jointly with their husband in both surveys.

Table 5   Percentage of married women and empowerment indicators, Pakistan 2012-13 and 2017-18

	PDHS 2012-13	PDHS 2017-18
	%	%
Think beating is NOT justified if		
wife goes out without telling husband	69.2	67.3
wife neglects the children	67.7	70.6
wife argues with husband	64.9	67.2
wife refuses to have sex with husband	67.0	70.1
wife burns the food	80.9	80.1
Frequency of reading newspaper or magazine at all		
not at all	76.1	85.4
less than once a week	19.9	9.4
at least once a week	4.0	5.2
Woman's years of education		
no education	56.8	48.0
1-6 years	16.9	18.1
7-12 years	21.1	26.3
>12 years	5.2	7.6
Age of respondent at marriage		
15 or younger	15.7	15.6
16-19	46.3	40.3
20-29	36.3	42.5
30-39	1.5	1.5
40 or older	0.1	0.0
Age difference: woman's minus husband's age		
husband is older by 10 years or more	17.8	17.3
husband is older by 5-9 years	31.3	32.0
husband is older by 1-4 years	29.6	28.2
woman and husband are the same age	13.8	14.1
woman is older	7.5	8.4
Education difference: woman's minus husband's years of schooling		
husband has more education by 5 years or more	33.1	29.6
husband has more education by 1-4 years	14.6	15.0
woman and husband have the same education	38.2	36.7
woman has more education	14.1	18.7
Respondent solely or jointly decides on		
respondent's health care	52.0	51.5
large household purchases	47.1	44.9
visits to family or relatives	50.0	49.3
Total	**100**	**100**
Number of married women age 15-49	**12,728**	**11,527**

3.2   Trends in Empowerment

Figure 1 shows the proportion of women who had high empowerment in each of the empowerment domains. High empowerment denotes the most empowered women. High empowerment has significantly increased in only one of three of the SWPER domains between the 2012-13 and 2017-18 PDHS. The social independence domain has significantly increased from 34% to 41%. The empowerment domain with the highest proportion of women in both surveys is the attitude to violence domain. Approximately 56% of women in 2012-13 PDHS and 58% of women in the 2017-18 PDHS had high empowerment in the attitude to violence domain. The social independence empowerment and decision-making domains were more similar in prevalence, with approximately 2 in 5 women having high empowerment in these domains in the most recent survey.

Figure 1   Trends in high empowerment, Pakistan 2012-13 and 2017-18
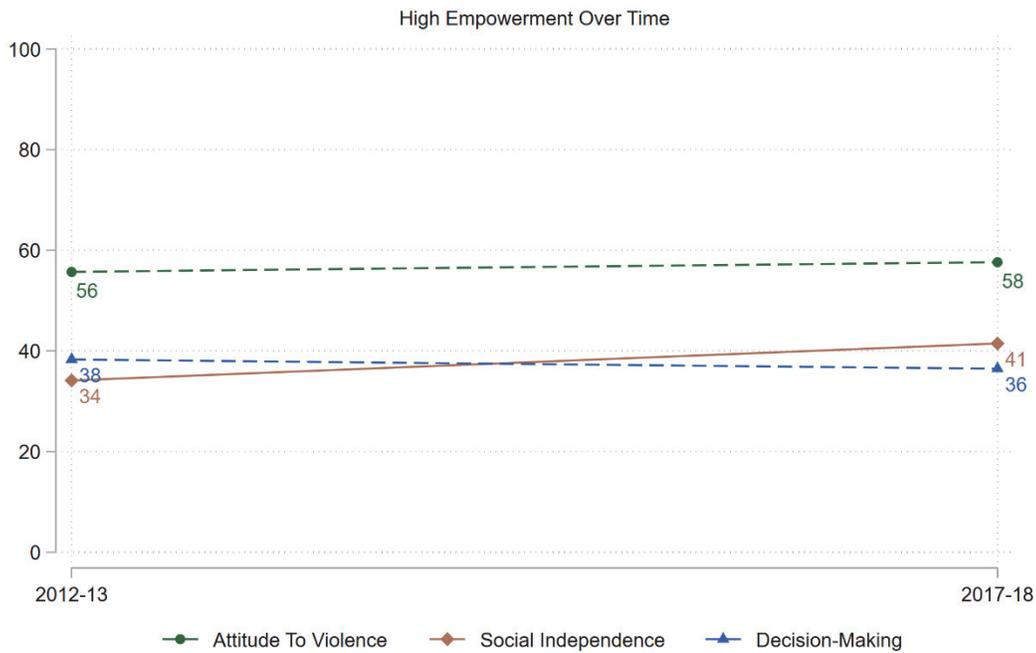
3.2.1   Trends in the attitude to violence empowerment domain

Overall, the attitude to violence domain did not significantly increase between the two PDHS (**Figure 1**). **Figure 2** shows among migrant distinctions, urban-urban migrant women had the largest proportion of women with high empowerment in either survey (2012-13: 78%; 2017-18: 76%) (**Figure 2**). In both surveys, rural-urban migrant women had the second largest proportion with high empowerment, followed by urban-rural migrants. Non-migrants and rural-rural migrants had the smallest proportions of women with high empowerment.

Women who were poorest saw a significant decrease in the proportion of women with high empowerment in the most recent survey, decreasing from 43% to 35% (see **Appendix Table 1** for full details). While the poorest became less empowered, the richer women significantly increased in high empowerment attitude to violence from 63% to 69%. High empowerment was most common among women living in ICT Islamabad where 74% of women had high empowerment in the 2017-18 survey. Punjab follows closely with 65% of women with high empowerment, and KPK with lowest proportion of women empowered in either survey.

Figure 2   **Trends in high empowerment in the attitude to violence empowerment domain by sociodemographic characteristics, Pakistan 2012-13 and 2017-18**
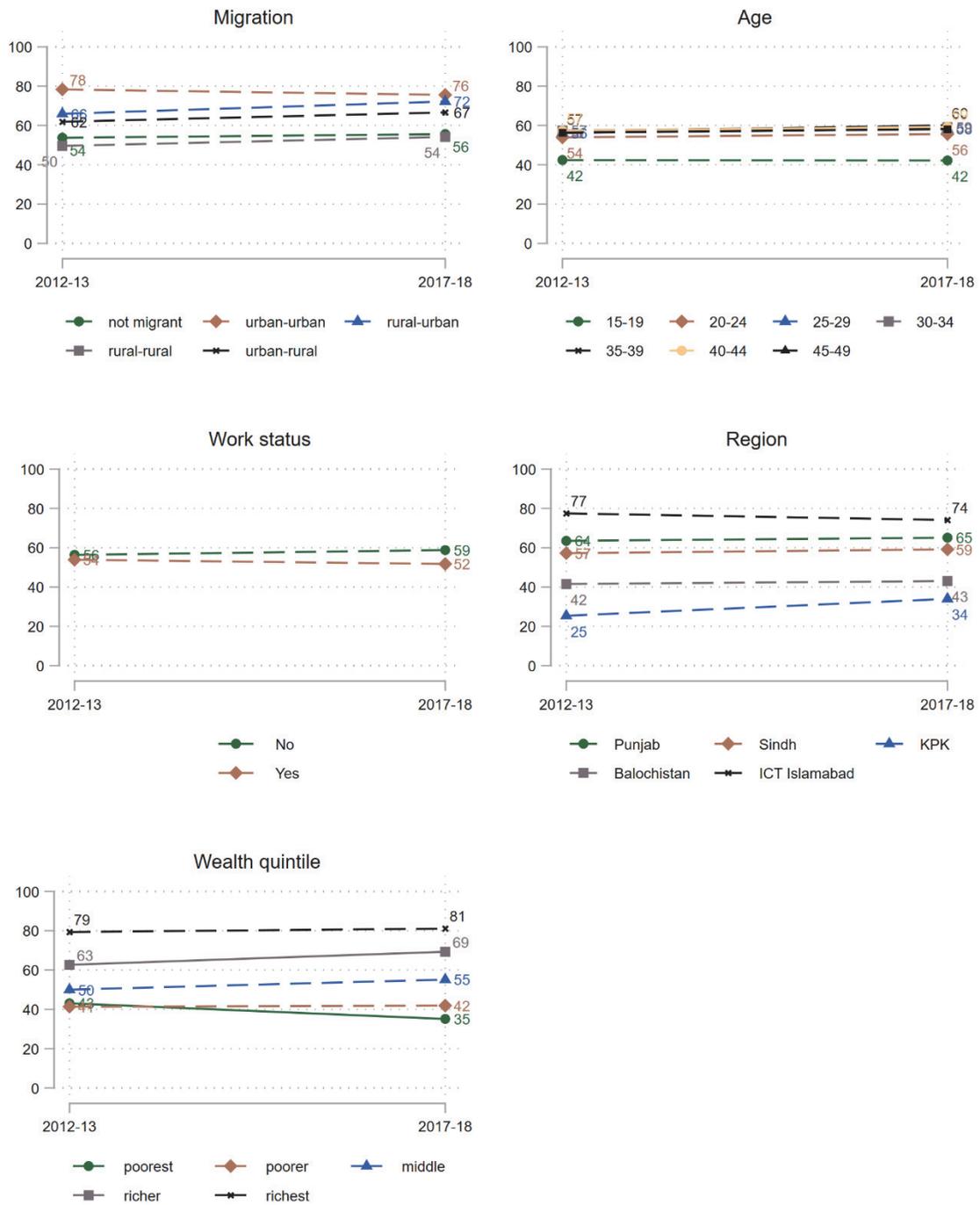
3.2.2   Trends in the social independence empowerment domain

There is evidence that many subgroups saw a significant increase in the social independence empowerment domain between the two surveys (**Figure 3**). Among women who moved within urban areas, 65% had high

empowerment in the social independence domain in the most recent survey, the highest among any group. In both surveys women who were not currently working had higher social independence than women who were currently working, though employed women had a greater increase from 24% in 2012-13 to 36% in 2017-18 (**Appendix Table 2**).

Women in ICT Islamabad and Punjab had the highest proportions, while Balochistan and KPK had the lowest proportions of women with high social independence in either survey. There were significant increases in high social independence among women in Punjab, Sindh, and Balochistan. Women in all categories of wealth increased in high social independence, and proportions of social independence were higher with each increased category of wealth. There remains a large inequity between the richest women, where 71% of women have high empowerment, and the poorest women with 17% of women empowered in the most recent survey. Supporting details can be found in **Appendix Table 2**.

Figure 3 **Trends in high empowerment in the social independence domain by sociodemographic characteristic, Pakistan 2012-13 and 2017-18**
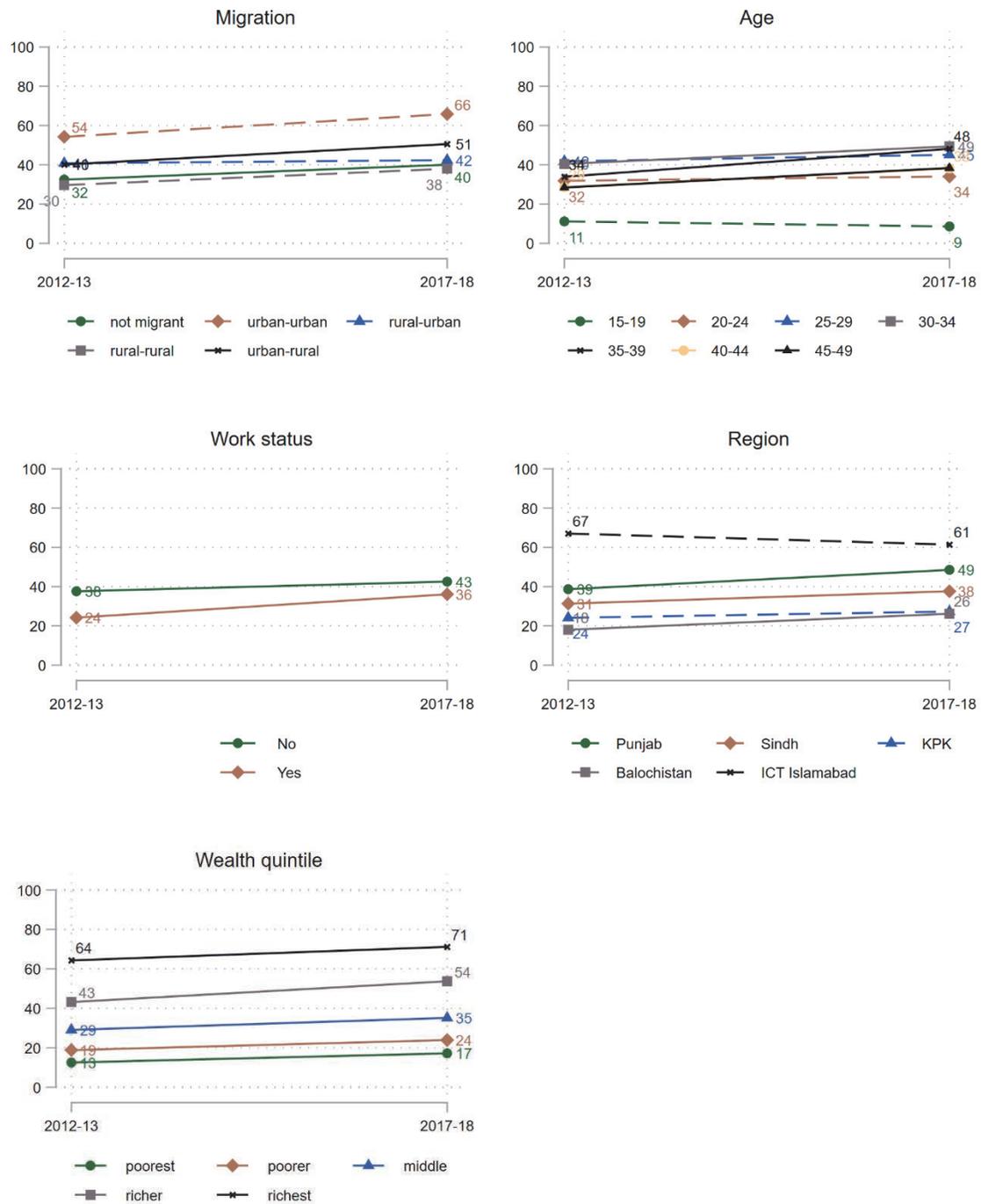
3.2.3 Trends in the decision-making empowerment domain

Though the overall level of high decision-making empowerment did not change over time, subgroups of women experienced significant changes in empowerment (**Figure 4**, with supporting details in **Appendix Table 3**). Decision-making is highest among older women, while only women age 25-29 experienced an increase in high decision-making (2012-13: 29.1%; 2017-18: 33.2%). Women age 35-39 and 40-44 experienced a significant decrease in proportion of women with high decision-making empowerment.

Women with no education significantly increased by 4.4 percentage points, resulting in 40% of women with no education having high social empowerment in the 2017-18 PDHS. Women with the highest education had the highest proportion of high decision-making in both surveys.

Women in Balochistan and KPK had the lowest proportion of women with high decision-making empowerment in either survey and both regions experienced significant decreases in the proportion of women with high empowerment. Women living in Sindh experienced the greatest increase high decision-making empowerment (2012-13: 35.2%; 2017-18: 46.4%) compared to any other subgroup. Women categorized in the poorer or middle wealth quintile experienced a significant decrease in high decision-making empowerment. Women in highest quintiles had the highest proportions of empowerment in either survey.

Figure 4   Trends in high empowerment in the decision-making domain by sociodemographic characteristics, Pakistan 2012-13 and 2017-18

Migration

not migrant   urban-urban   rural-urban
rural-rural   urban-rural

Age

15-19   20-24   25-29   30-34
35-39   40-44   45-49

Work status

No
Yes

Region

Punjab   Sindh   KPK
Balochistan   ICT Islamabad

Wealth quintile

poorest   poorer   middle
richer   richest
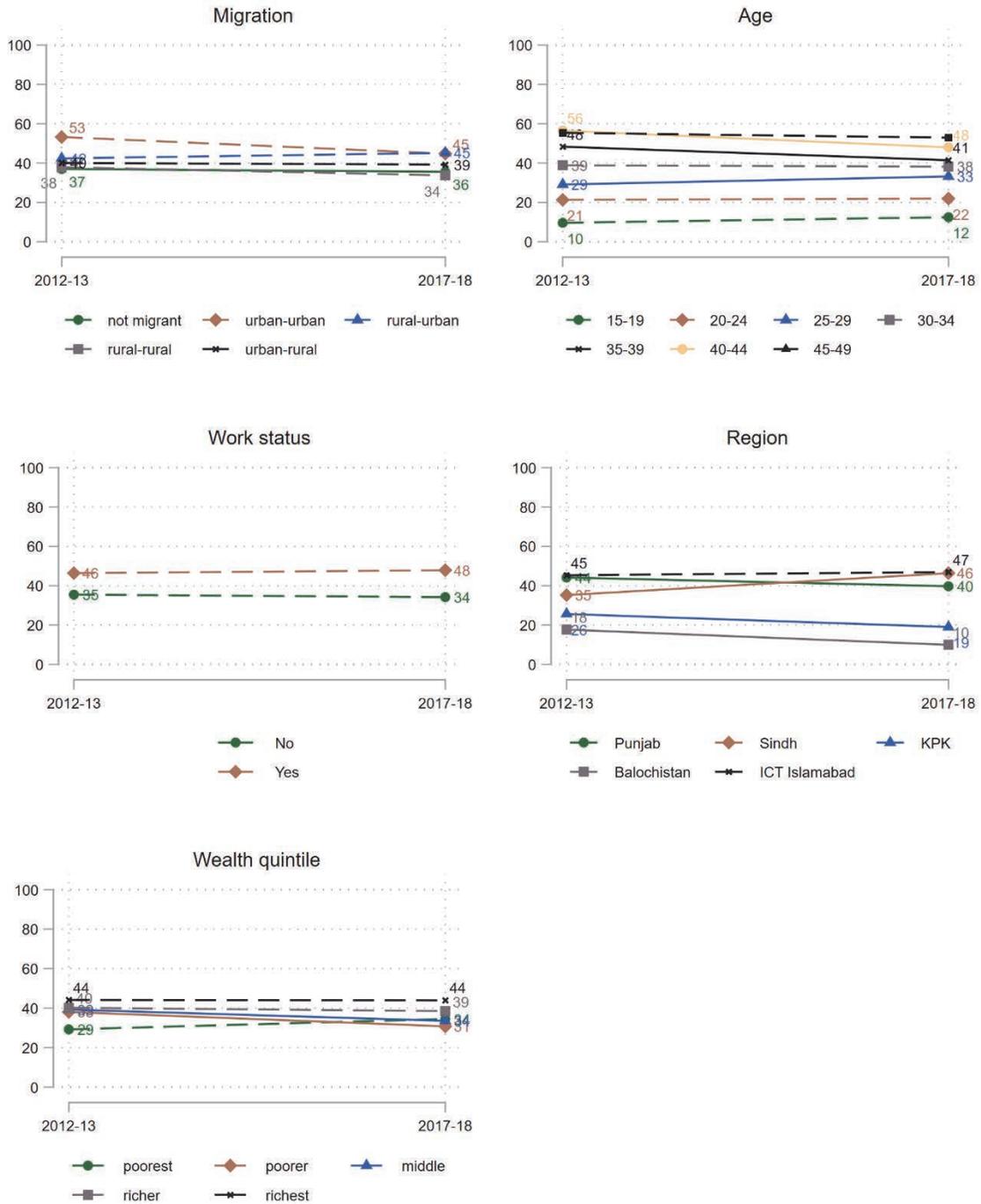
3.3 Multivariate Analysis

3.3.1 Attitude to violence

In **Figures 5-7**, we present the results from the three multinomial logistic regression models that examined attitude to violence, social independence, and decision-making. The results from the model that assessed women's attitude to violence were analyzed with results shown in in **Figure 5**. Women who moved from urban areas to urban areas in the 2012-13 PDHS have 2.3 times the risk of having attitude to violence that reflect high empowerment than low empowerment compared to women who have never migrated. However, in the more recent survey this effect is not apparent and there is some evidence that urban-urban migrant women have 1.7 times the risk of having medium empowerment attitude to violence than non-migrant women.

Age has little association overall with attitude to violence. Interestingly, women in age groups 30-34 and 35-39 have an increased risk of high empowerment than low empowerment, compared to the youngest women in both surveys (**Appendix Table 4**). Though there is no evidence of a relationship between work status and empowerment in the older survey, the 2017-18 PDHS shows evidence that women who work have an 18% decreased risk of having high empowerment than low empowerment compared to women who have not worked recently.

In both surveys, women living in KPK have decreased relative risk of high or medium empowerment than their Punjab counterparts. In fact, women living in KPK during the 2017-18 PDHS have a 73% decreased relative risk of having a high empowerment attitude to violence compared to women living in Punjab.

Wealth is significantly associated with medium and high empowerment attitude to violence. The magnitude of the relationship between wealth and empowerment increased with more wealth and over time. In the 2017-18 PDHS, the richest women had 13.9 times the risk of having high empowerment than low empowerment, compared to the poorest women.

Figure 5   Adjusted relative risk ratios of the multinomial regression examining the migration direction and attitude to violence empowerment domain, Pakistan 2012-13 and 2017-18
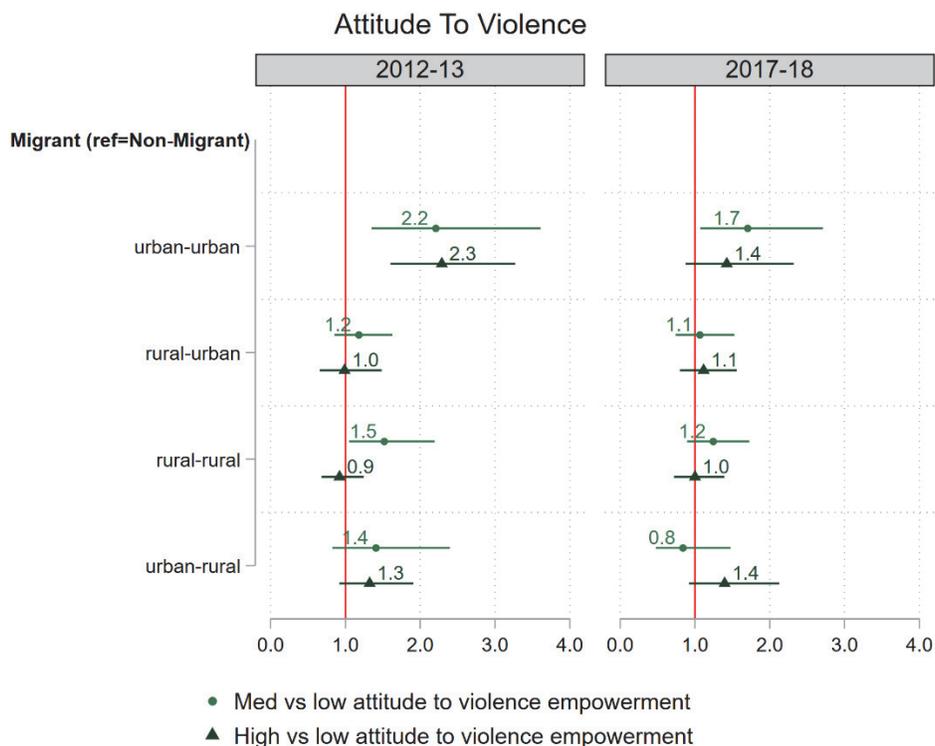
3.3.2   Social independence

The constructed empowerment domain that focuses on women's social independence is fully described in **Appendix Table 5**. Women who have moved from rural to urban areas have a significantly decreased risk of having high social independence empowerment rather than low empowerment, as compared to non-migrant women in the 2012-13 PDHS (RRR: 0.6) and the 2017-18 PDHS (RRR: 0.5) (**Figure 6**). Additionally, women who have moved from urban to rural areas have a 63% increased risk of high empowerment than low empowerment compared to non-migrant women.

Age has strong associations overall with social independence. Though all women had a increased risk of empowerment compared to the youngest age group, women in their twenties has the highest risk of having high empowerment compared to women age 15-19 in both surveys (**Appendix Table 5**). In the most recent survey, this association was large. For example, women age 25-29 have 12.0 times the risk of high empowerment compared to the youngest women.

Women who are working had a significant decrease in the risk of high empowerment compared to women who were not working in 2012-13 PDHS, though this was not significant in the most recent survey. Women who were living in Sindhi, KPK, and Balochistan had a decreased risk of having social independence empowerment than women who lived in Punjab in both surveys. However, women living in KPK have decreased relative risk of high or medium empowerment than their Punjab counterparts. In fact, women living in KPK during the 2017-18 PDHS have 73% decreased relative risk of having a high empowerment

attitude to violence compared to women living in Punjab. In the 2012-13 PDHS, there was evidence that women living in ICT Islamabad had a 42% increase in the risk of high empowerment than women living in Punjab, though there was no evidence of this relationship in the most recent survey. Wealth is significantly associated with high empowerment. There is strong evidence that the richest women had 17.2 times the risk of having high empowerment than the poorest women in the most recent survey.

Figure 6   Adjusted relative risk ratios of the multinomial regression examining the migration direction and the social independence empowerment domain, Pakistan 2012-13 and 2017-18
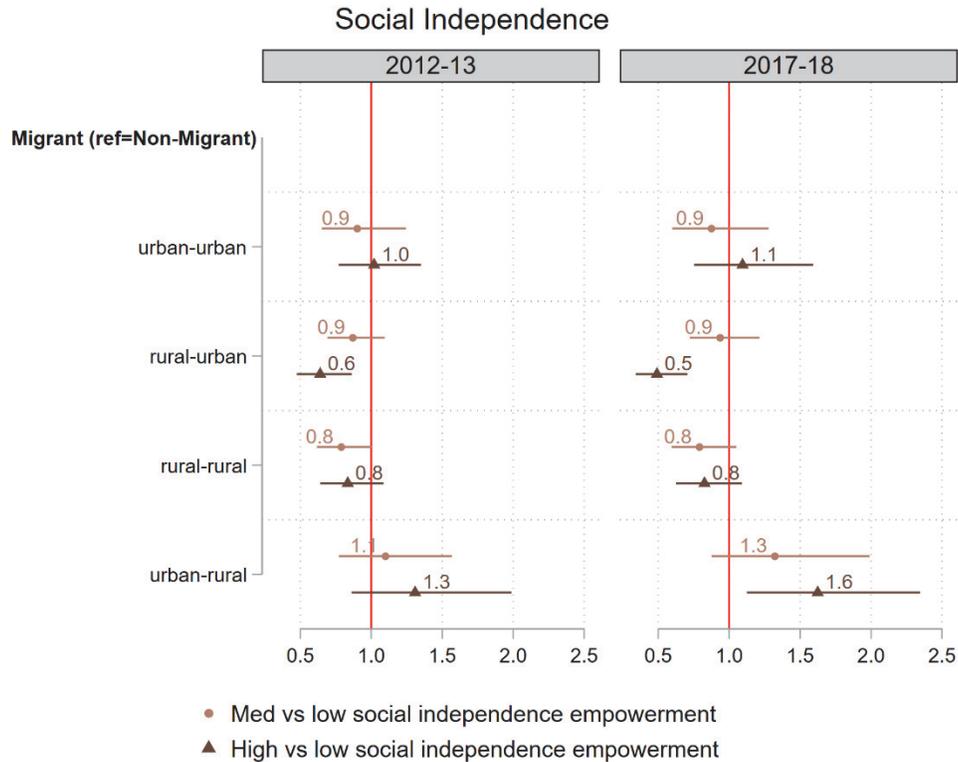
3.3.3 Decision-making

Only one category of migrant has a significant relationship with medium or high empowerment. Urban-urban migrants had 62% of an increase in the risk of being highly empowered (RRR 1.6) than non-migrant women in the 2012-13 PDHS (**Figure 7**). This effect is not present in the most recent survey.

However, all other covariates in both surveys are significantly associated with empowerment (**Appendix Table 6**). Older age groups have an increased risk for high empowerment than women age 15-19. In the 2012-13 PDHS, women age 45-49 have 16.5 times the risk of having high empowerment. This dramatic result persists into the more recent survey, where the oldest age group of women had 11.6 times the risk for high empowerment in making decisions compared to the youngest age group of women. Women who are working had an increased risk of having high empowerment compared to women who were not recently employed in both surveys (2012-13 RRR: 1.7; 2017-18 RRR 2.1).

Women living in Sindhi, KPK, and Balochistan during the 2012-13 PDHS had decreased risk to have high empowerment compared to their Punjab counterparts. In the more recent survey, there was lower risk of having high empowerment among those women living in KPK and Balochistan as compared to women living in Punjab. Women living in Sindhi had a 65% increase in risk of having high empowerment to make decisions compared to women in Punjab, which was a reversal of effect from the earlier survey. Wealth is significantly associated with empowerment, and in both surveys, the richest women had higher risk of empowerment compared to the poorest women.

Figure 7   **Adjusted relative risk ratios of the multinomial regression examining the migration direction and the decision-making empowerment domain, Pakistan 2012-13 and 2017-18**
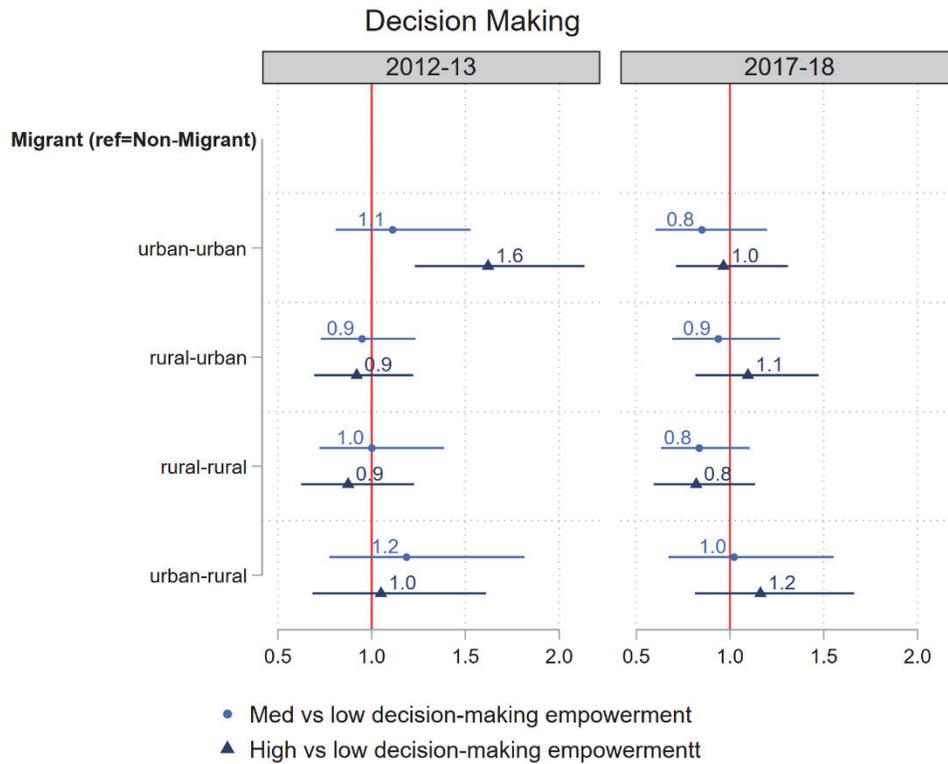
4   DISCUSSION

This study presented trends of empowerment among currently married women in Pakistan since 2012. We provided a snapshot of currently married women's internal migration patterns and sought to understand the association between women's migration and empowerment. Though the literature has found the empowerment of women to be vitally linked to positive maternal and child health outcomes (Do and Kurimoto 2012; Msuya, Adinan, and Mosha 2014; Pratley 2016; Shimamoto and Gipson 2015; Tadesse et al. 2013), it is critical to know if and how subgroups differ in empowerment in order for policy to target the least empowered women.

Migration and empowerment in Pakistan have changed very little over time. In either survey, one in five currently married women are internal migrants and the majority of women have migrated for marriage. However, there is evidence that internal migration is decreasing as the proportion of women who moved within a year before the survey decreased from 5% in the 2012-13 PDHS to less than 1% in the most recent survey. We found no improvement in the proportion of women considered to have high empowerment in the attitude to violence and decision-making domains between the two most recent PDHS. However, the social independence domain increased significantly and in 2017-18, 41% of women were considered to have high empowerment in this domain. The highest proportion of high empowerment was in the attitude to violence domain compared to the other two domains in either survey. This domain is largely influenced by the fact that nearly 7 in 10 women in either survey do not believe that wife beating is justified by a wife's actions.

Women who moved from and to an urban environment in the 2012-13 PDHS were the only sub-group to have significantly higher risk of high empowerment in the attitude to violence and decision-making domains. We cannot differentiate if urban-urban migrants may be empowered to move or empowered because they moved, though other literature has found higher child survival among positively selected urban-urban migrants in Uganda, which suggested that urban-urban movers may be advantaged before moving. (Ssengonzi, De Jong, and Shannon Stokes 2002). These two domains reflect women's spousal relationships – both her views on violence from a spouse and her engagement in decision making with or without her spouse. It is possible that these women moved from a less urban area to a more urban area, or to a wealthier urban area. Both would be an attempt to improve their situation reflected in their empowered attitude to violence and decision-making roles. Interestingly, this effect dissolves in the most recent survey, with urban-urban migrant women having no higher risk of empowerment than any other category.

In the 2017-18 PDHS, urban-rural migrant women have a 63% increased risk of high empowerment than women who have never moved. Women who originate in urban areas may be wealthier or more educated than their rural counterparts and therefore positively selected for migration. This domain of empowerment is largely influenced by the spousal age gap, spousal education gap, age at first marriage and birth, and exposure to media. Considering that most women move for marriage, it is possible that urban women are moving to rural areas where there is less likely to be an education gap or age gap between them and their spouses.

This work has several limitations. First, empowerment is difficult to capture. Since our approach uses a newer measurement, the SWPER index, there is a dearth of literature which would allow us to compare our

estimates of high empowerment in these unique domains. Secondly, we define migrant status based on any move regardless of time that has passed. Because migration's effect is diluted with time, we may have included women whose most recent migration was long enough ago that they have fully assimilated and are no different than non-migrants. Third, we do not adjust for important migration details, such as time since last migration and reason for migration. Since these details are not available for non-migrants, we only included covariates that were available for all categories of migrants, including non-migrants.

This study adds to the literature that seeks to understand how migrant women may differ in empowerment. Other studies have found positive associations between rural-urban migration and health outcomes, labor force engagement, and health care utilization (Bello-Bravo 2015; Brockerhoff 1994; Brockerhoff and Yang 1994; Stephenson and Matthews 2004; Stephenson, Matthews, and McDonald 2003). However, there is a distinct paucity of research on the migration and empowerment in Pakistan, even though internal migration is widespread and gender inequality remains high among international rankings. Additionally, this study utilizes the DHS data to understand the migration context of these issues. While studies on migration often use other data sources, DHS data are the most current source of migration data since the Pakistan census conducted in 2017 did not collect information about migration status (NIPS/Pakistan and ICF 2019).

Overall, we find that migrant women who originated in urban areas had positive associations with empowerment and that rural-urban movers were disadvantaged. Though women can access opportunities to better empower themselves through migration, migrant woman may also be disadvantaged and vulnerable. Policy makers should focus on creating pathways that make women's migration strategies more successful.

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APPENDICES

Trends in proportion of women with high empowerment in the SWPER attitude to violence empowerment domain, Pakistan 2012-13 and 2017-18

Variable	2012-13 % [95% C.I.]	p[1]	2017-18 % [95% C.I.]	p[1]	Difference[2] 2017-18 – 2012-13
Total	55.7 [53.4,58.0]		57.6 [54.5,60.7]		1.9
Age		**		***	
15-19	42.7 [37.3,48.3]		42.2 [37.0,47.6]		0-.6
20-24	53.9 [50.0,57.8]		55.6 [51.3,59.9]		1.8
25-29	56.2 [52.7,59.7]		58.2 [53.9,62.5]		1.9
30-34	57.4 [54.1,60.7]		59.1 [55.0,63.2]		1.8
35-39	56.8 [53.4,60.2]		60.1 [56.1,63.9]		3.2
40-44	57.3 [53.6,60.9]		59.3 [54.5,63.8]		2.0
45-49	56.3 [52.4,60.2]		58.1 [53.6,62.6]		1.7
Education		***		***	
No education	44.9 [42.1,47.7]		43.0 [39.6,46.4]		0-1.9
Primary	57.9 [54.2,61.5]		59.1 [54.7,63.4]		1.1
Secondary	73.1 [69.9,76.1]		72.9 [68.9,76.6]		0-.2
Higher	84.4 [81.1,87.2]		83.2 [79.9,86.0]		0-1.0
Currently working				**	
No	56.4 [54.0,58.7]		58.8 [55.6,61.9]		2.4
Yes	54.0 [50.4,57.5]		51.8 [46.9,56.6]		0-2.1
Region		***		***	
Punjab	63.5 [60.5,66.4]		65.1 [60.5,69.5]		1.6
Sindh	57.3 [52.6,61.9]		59.2 [53.5,64.6]		1.8
KPK	25.4 [21.0,30.2]		34.0 [26.5,42.4]		8.7
Balochistan	41.5 [34.7,48.7]		43.1 [33.5,53.2]		1.3
Ict Islamabad	77.5 [72.3,81.9]		74.1 [67.4,79.9]		0-3.5
Wealth Quintile		***		***	
Poorest	43.1 [36.9,49.7]		35.1 [30.7,39.8]		0-8.0*
Poorer	41.4 [37.4,45.4]		41.9 [37.6,46.3]		0.6
Middle	50.0 [46.3,53.7]		55.1 [50.8,59.4]		5.1
Richer	62.7 [59.1,66.1]		69.3 [65.4,72.9]		6.6*
Richest	79.4 [76.6,81.8]		81.1 [78.0,83.9]		1.7

Notes: *p<0.05, **p<0.01, ***p<0.001
[1] p-value significance of the covariate in each survey
[2] Difference between the two surveys with the p-value of the difference.

Appendix Table 2	Trends in proportion of women with high empowerment in the SWPER social independence empowerment domain, Pakistan 2012-13 and 2017-18				
	2012-13		**2017-18**		**Difference[2]**
Variable	% [95% C.I.]	p[1]	% [95% C.I.]	p[1]	2017-18 – 2012-13
Total	34.1 [32.0,36.4]		41.4 [38.8,44.0]		7.3***
Age		***		***	
15-19	11.4 [8.4,15.3]		8.2 [5.6,11.8]		0-3.2
20-24	32.0 [28.5,35.6]		34.2 [30.3,38.3]		2.3
25-29	41.6 [38.3,45.1]		44.7 [41.0,48.4]		2.9
30-34	40.5 [37.1,44.1]		49.3 [45.5,53.2]		9.0***
35-39	33.9 [30.6,37.3]		48.2 [44.8,51.6]		14.4***
40-44	28.5 [25.5,31.8]		38.1 [34.1,42.3]		9.6***
45-49	28.4 [25.0,32.1]		38.3 [34.2,42.7]		9.9***
Education		***		***	
No education	13.0 [11.6,14.6]		16.6 [15.0,18.3]		3.6**
Primary	33.0 [30.0,36.3]		34.6 [31.8,37.5]		1.6
Secondary	70.5 [67.6,73.3]		67.8 [65.2,70.3]		0-2.7
Higher	94.2 [92.3,95.6]		95.2 [93.6,96.4]		1.1
Currently working		***		**	
No	37.6 [35.6,39.6]		42.4 [39.8,45.1]		4.9**
Yes	24.4 [20.9,28.2]		36.3 [32.3,40.4]		11.9***
Region		***		***	
Punjab	38.8 [35.2,42.5]		48.6 [44.6,52.6]		9.9***
Sindh	31.1 [27.9,34.6]		37.4 [33.3,41.8]		6.4*
KPK	23.9 [21.4,26.7]		26.6 [21.6,32.2]		2.6
Balochistan	18.3 [15.1,22.0]		26.6 [23.3,30.1]		8.2**
Ict Islamabad	67.0 [60.7,72.8]		61.4 [56.6,65.9]		0-5.7
Wealth Quintile		***		***	
Poorest	12.4 [10.0,15.3]		17.4 [15.2,19.8]		5.0**
Poorer	18.9 [16.5,21.6]		24.2 [21.9,26.7]		5.3**
Middle	28.7 [26.4,31.3]		34.4 [31.4,37.5]		5.6**
Richer	43.5 [40.5,46.4]		53.7 [49.8,57.6]		10.3***
Richest	64.4 [61.5,67.1]		71.0 [67.9,73.9]		6.8**

Notes: *p<0.05, **p<0.01, ***p<0.001
[1] p-value significance of the covariate in each survey
[2] Difference between the two surveys with the p-value of the difference.

	Appendix Table 3		**Trends in proportion of women with high empowerment in the SWPER decision-making empowerment domain, Pakistan 2012-13 and 2017-18**		

	2012-13		**2017-18**		
Variable	**% [95% C.I.]**	**p[1]**	**% [95% C.I.]**	**p[1]**	**Difference[2] 2017-18 – 2012-13**
Total	38.3 [36.5,40.1]		36.5 [34.4,38.6]		0-1.8
Age		***		***	
15-19	9.6 [6.6,13.8]		12.5 [9.3,16.5]		2.8
20-24	21.3 [18.4,24.5]		21.9 [18.7,25.6]		0.7
25-29	29.1 [26.4,32.0]		33.2 [30.4,36.2]		4.1*
30-34	38.9 [35.7,42.1]		38.2 [35.0,41.5]		0-.5
35-39	48.3 [44.7,52.0]		41.5 [38.0,45.0]		0-6.9**
40-44	56.5 [52.8,60.1]		48.0 [44.0,52.0]		0-8.6**
45-49	55.4 [51.8,59.0]		52.9 [48.7,57.1]		0-2.5
Education		*		***	
No education	37.1 [34.9,39.3]		32.6 [30.1,35.2]		0-4.5**
Primary	38.1 [35.0,41.3]		36.4 [32.6,40.4]		0-1.8
Secondary	38.7 [35.5,42.0]		37.5 [33.9,41.2]		0-1.3
Higher	45.4 [40.4,50.4]		48.7 [43.9,53.5]		3.5
Currently working		***		***	
No	35.5 [33.7,37.3]		34.2 [32.1,36.4]		0-1.3
Yes	46.4 [42.8,50.0]		47.9 [44.0,51.8]		1.5
Region		***		***	
Punjab	44.2 [41.5,46.9]		39.7 [36.5,43.1]		0-4.4*
Sindh	35.2 [31.8,38.8]		46.4 [43.0,49.8]		11.1***
KPK	25.6 [22.3,29.3]		19.0 [15.6,23.0]		0-6.6*
Balochistan	17.7 [13.2,23.4]		10.0 [6.2,15.7]		0-7.8*
Ict Islamabad	45.4 [41.2,49.7]		46.9 [42.0,51.9]		1.5
Wealth Quintile		***		***	
Poorest	29.2 [26.0,32.6]		34.5 [30.3,38.9]		5.3
Poorer	38.1 [34.9,41.4]		30.8 [27.3,34.5]		0-7.3**
Middle	39.3 [36.1,42.5]		33.6 [30.1,37.2]		0-5.7*
Richer	40.2 [37.4,42.9]		38.5 [35.4,41.7]		0-1.7
Richest	44.2 [40.5,47.9]		44.0 [39.5,48.5]		0-.2

Notes: *p<0.05, **p<0.01, ***p<0.001
[1] p-value significance of the covariate in each survey
[2] Difference between the two surveys with the p-value of the difference.

Appendix Table 4   **Migration and SWPER attitude to violence empowerment domain. Adjusted relative risk ratios from multinomial logistic regression, Pakistan 2012-13 and 2017-18**

| | PDHS 2012-13 | | | | PDHS 2017-18 | | | |
| | med vs low | | high vs low | | med vs low | | high vs low | |
	RRR	[95% CI]	RRR	[95% CI]	RRR	[95% CI]	RRR	[95% CI]
Migration								
Non-migrant (ref)								
Moved urban to urban	2.21**	[1.35 - 3.61]	2.29***	[1.60 - 3.27]	1.70*	[1.07 - 2.71]	1.43	[0.88 - 2.32]
Moved rural to urban	1.18	[0.85 - 1.63]	0.99	[0.66 - 1.49]	1.06	[0.74 - 1.53]	1.12	[0.80 - 1.56]
Moved rural to rural	1.52*	[1.05 - 2.19]	0.92	[0.68 - 1.24]	1.24	[0.89 - 1.73]	1.00	[0.72 - 1.39]
Moved urban to rural	1.41	[0.83 - 2.40]	1.32	[0.92 - 1.91]	0.84	[0.48 - 1.47]	1.40	[0.92 - 2.12]
Age								
15-19 (ref)								
20-24	0.85	[0.52 - 1.38]	1.34*	[1.00 - 1.80]	0.83	[0.58 - 1.20]	1.23	[0.93 - 1.63]
25-29	0.99	[0.60 - 1.62]	1.41*	[1.06 - 1.88]	0.87	[0.62 - 1.22]	1.33	[0.97 - 1.82]
30-34	1.04	[0.61 - 1.77]	1.50**	[1.12 - 2.01]	1.12	[0.76 - 1.65]	1.45*	[1.04 - 2.03]
35-39	0.93	[0.61 - 1.44]	1.46**	[1.10 - 1.95]	1.00	[0.69 - 1.45]	1.55**	[1.13 - 2.13]
40-44	0.94	[0.59 - 1.49]	1.39*	[1.04 - 1.86]	0.97	[0.68 - 1.39]	1.40	[0.99 - 1.99]
45-49	0.67	[0.42 - 1.08]	1.20	[0.89 - 1.62]	0.95	[0.65 - 1.39]	1.30	[0.92 - 1.83]
Currently working								
No (ref)								
Yes	1.18	[0.95 - 1.46]	0.99	[0.82 - 1.20]	0.99	[0.77 - 1.27]	0.82*	[0.68 - 0.99]
Region								
Punjab (ref)								
Sindhi	0.97	[0.73 - 1.28]	0.73*	[0.54 - 0.99]	1.46*	[1.09 - 1.96]	1.21	[0.89 - 1.63]
KPK	0.54***	[0.41 - 0.73]	0.19***	[0.14 - 0.26]	0.67**	[0.49 - 0.91]	0.27***	[0.18 - 0.40]
Balochistan	1.78**	[1.18 - 2.68]	0.64*	[0.42 - 0.98]	1.38	[0.94 - 2.05]	0.72	[0.43 - 1.21]
ICT Islamabad	1.15	[0.77 - 1.72]	1.09	[0.76 - 1.57]	1.15	[0.72 - 1.84]	0.93	[0.58 - 1.49]
Wealth								
Poorest (ref)								
Poor	0.99	[0.75 - 1.30]	0.95	[0.69 - 1.32]	1.61**	[1.21 - 2.14]	1.70***	[1.34 - 2.16]
Middle	1.38*	[1.04 - 1.83]	1.36	[1.00 - 1.87]	2.34***	[1.71 - 3.19]	3.14***	[2.40 - 4.13]
Rich	1.81***	[1.36 - 2.41]	2.24***	[1.61 - 3.11]	2.78***	[2.01 - 3.84]	5.63***	[4.14 - 7.65]
Richest	3.83***	[2.72 - 5.40]	7.14***	[5.04 - 10.11]	4.71***	[3.26 - 6.81]	13.93***	[9.96 - 19.49]

Notes: *p<0.05, **p<0.01, ***p<0.001

Appendix Table 5   **Migration and SWPER social independence empowerment domain. Adjusted relative risk ratios from multinomial logistic regression, Pakistan 2012-13 and 2017-18**

	PDHS 2012-13				PDHS 2017-18			
	med vs low		high vs low		med vs low		high vs low	
	RRR	[95% CI]	RRR	[95% CI]	RRR	[95% CI]	RRR	[95% CI]
Migration								
Non-migrant (ref)								
Moved urban to urban	0.90	[0.65 - 1.25]	1.02	[0.77 - 1.35]	0.87	[0.60 - 1.28]	1.09	[0.75 - 1.59]
Moved rural to urban	0.87	[0.69 - 1.09]	0.64**	[0.47 - 0.86]	0.94	[0.72 - 1.21]	0.49***	[0.34 - 0.71]
Moved rural to rural	0.79	[0.62 - 1.01]	0.83	[0.64 - 1.09]	0.79	[0.59 - 1.05]	0.83	[0.63 - 1.09]
Moved urban to rural	1.10	[0.77 - 1.57]	1.31	[0.86 - 1.99]	1.32	[0.88 - 1.99]	1.62**	[1.12 - 2.35]
Age								
15-19 (ref)								
20-24	1.46**	[1.11 - 1.93]	3.46***	[2.34 - 5.13]	1.93***	[1.44 - 2.60]	8.00***	[4.86 - 13.19]
25-29	1.60***	[1.22 - 2.09]	5.16***	[3.54 - 7.54]	1.71***	[1.32 - 2.21]	11.90***	[7.30 - 19.39]
30-34	1.40*	[1.05 - 1.86]	4.52***	[3.00 - 6.79]	1.62***	[1.22 - 2.16]	13.39***	[8.04 - 22.30]
35-39	1.33*	[1.01 - 1.75]	3.21***	[2.13 - 4.83]	1.39*	[1.03 - 1.88]	12.46***	[7.53 - 20.62]
40-44	1.52**	[1.14 - 2.03]	2.28***	[1.50 - 3.45]	1.27	[0.94 - 1.73]	6.70***	[4.02 - 11.17]
45-49	1.11	[0.83 - 1.50]	1.95**	[1.27 - 2.99]	1.32	[0.94 - 1.86]	7.01***	[4.02 - 12.22]
Currently working								
No (ref)								
Yes	0.77***	[0.67 - 0.88]	0.67***	[0.55 - 0.80]	0.79*	[0.66 - 0.95]	0.84	[0.69 - 1.01]
Region								
Punjab (ref)								
Sindhi	0.94	[0.74 - 1.18]	0.70**	[0.54 - 0.89]	0.70***	[0.57 - 0.85]	0.66***	[0.52 - 0.84]
KPK	0.71***	[0.58 - 0.86]	0.54***	[0.43 - 0.68]	0.61***	[0.50 - 0.74]	0.35***	[0.26 - 0.46]
Balochistan	0.79	[0.61 - 1.02]	0.46***	[0.33 - 0.64]	0.61***	[0.49 - 0.76]	0.49***	[0.36 - 0.67]
ICT Islamabad	0.92	[0.70 - 1.20]	1.44*	[1.04 - 1.99]	0.88	[0.65 - 1.19]	0.93	[0.69 - 1.25]
Wealth								
Poorest (ref)								
Poor	1.04	[0.81 - 1.35]	1.56*	[1.11 - 2.18]	1.00	[0.83 - 1.22]	1.60***	[1.28 - 2.00]
Middle	1.09	[0.82 - 1.44]	2.65***	[1.81 - 3.90]	1.17	[0.92 - 1.48]	2.75***	[2.11 - 3.59]
Rich	1.37*	[1.02 - 1.82]	5.34***	[3.65 - 7.83]	1.34*	[1.05 - 1.71]	6.49***	[4.89 - 8.60]
Richest	1.78***	[1.31 - 2.43]	15.92***	[10.77 - 23.54]	1.95***	[1.51 - 2.54]	17.37***	[12.91 - 23.36]

Notes: *p<0.05, **p<0.01, ***p<0.001

| | **Appendix Table 6** | **Migration and SWPER decision-making empowerment domain. Adjusted relative risk ratios from multinomial logistic regression, Pakistan 2012-13 and 2017-18** | | | | | | |

| | **PDHS 2012-13** | | | | **PDHS 2017-18** | | | |
| | **med vs low** | | **high vs low** | | **med vs low** | | **high vs low** | |
	RRR	[95% CI]	RRR	[95% CI]	RRR	[95% CI]	RRR	[95% CI]
Migration								
Non-migrant (ref)								
Moved urban to urban	1.11	[0.81 - 1.53]	1.62***	[1.23 - 2.14]	0.85	[0.60 - 1.20]	0.97	[0.71 - 1.31]
Moved rural to urban	0.95	[0.73 - 1.23]	0.92	[0.69 - 1.22]	0.94	[0.69 - 1.27]	1.10	[0.82 - 1.47]
Moved rural to rural	1.00	[0.72 - 1.39]	0.87	[0.62 - 1.23]	0.84	[0.63 - 1.11]	0.82	[0.59 - 1.13]
Moved urban to rural	1.19	[0.77 - 1.82]	1.05	[0.68 - 1.61]	1.02	[0.67 - 1.55]	1.16	[0.81 - 1.66]
Age								
15-19 (ref)								
20-24	0.96	[0.70 - 1.31]	2.44***	[1.58 - 3.78]	1.62**	[1.16 - 2.24]	1.92**	[1.27 - 2.89]
25-29	1.39*	[1.03 - 1.88]	4.04***	[2.55 - 6.41]	2.01***	[1.44 - 2.80]	3.74***	[2.62 - 5.33]
30-34	1.68**	[1.22 - 2.32]	6.75***	[4.38 - 10.41]	2.75***	[2.00 - 3.78]	5.20***	[3.60 - 7.52]
35-39	1.87***	[1.36 - 2.58]	10.46***	[6.72 - 16.29]	2.95***	[2.12 - 4.13]	6.26***	[4.37 - 8.95]
40-44	2.22***	[1.55 - 3.17]	15.80***	[9.96 - 25.06]	3.82***	[2.75 - 5.33]	9.53***	[6.38 - 14.24]
45-49	2.51***	[1.79 - 3.52]	16.53***	[10.16 - 26.89]	4.06***	[2.84 - 5.82]	11.62***	[7.84 - 17.22]
Currently working								
No (ref)								
Yes	1.32**	[1.09 - 1.61]	1.66***	[1.41 - 1.96]	1.89***	[1.51 - 2.37]	2.07***	[1.69 - 2.54]
Region								
Punjab (ref)								
Sindhi	0.79	[0.61 - 1.03]	0.64***	[0.49 - 0.82]	1.39**	[1.10 - 1.76]	1.65***	[1.29 - 2.11]
KPK	0.43***	[0.34 - 0.55]	0.34***	[0.27 - 0.44]	0.39***	[0.30 - 0.49]	0.29***	[0.21 - 0.39]
Balochistan	0.24***	[0.16 - 0.36]	0.20***	[0.14 - 0.30]	0.57**	[0.40 - 0.82]	0.15***	[0.08 - 0.27]
ICT Islamabad	1.41*	[1.08 - 1.85]	1.03	[0.77 - 1.38]	1.79***	[1.36 - 2.35]	1.59**	[1.14 - 2.21]
Wealth								
Poorest (ref)								
Poor	1.37*	[1.06 - 1.78]	1.67***	[1.33 - 2.10]	1.35*	[1.05 - 1.73]	1.16	[0.87 - 1.56]
Middle	1.44**	[1.14 - 1.81]	1.70***	[1.33 - 2.17]	1.69***	[1.27 - 2.25]	1.37*	[1.01 - 1.86]
Rich	1.40**	[1.09 - 1.81]	1.64***	[1.28 - 2.11]	1.70***	[1.27 - 2.27]	1.56**	[1.17 - 2.09]
Richest	1.97***	[1.52 - 2.56]	2.07***	[1.58 - 2.72]	1.78***	[1.31 - 2.43]	1.84***	[1.33 - 2.56]

Notes: *p<0.05, **p<0.01, ***p<0.001