Patriarchy Index in South and Southeast Asian Countries: A Quantitative Approach

Introduction

Though patriarchy has changed its form, it is still practised in many countries (Gruber & Szołtysek, 2016; Singh et al., 2022a; Szołtysek et al., 2017; Walby, 1989). While feminists, Marxists, and social scientists, including anthropologists and demographers, may define patriarchy differently, a working definition of patriarchy by (Walby, 1989) describes it as a **system** of social structures and **practices** of dominance, oppression, and exploitation against women by men. Patriarchy can be understood as both the output of a range of practices and as an input shaping both those practices, and shaping various outcomes. Patriarchy in this analysis, is understood as both a framework that shapes societal practices and a contributor to specific social, health, and behavioural outcomes. Patriarchy is manifested in relations and modes of production, specifically, the policies and laws regulated and monitored by the state, authority over sexual and reproductive decisions, and religious and cultural dictate (Gruber & Szołtysek, 2016; Nainar, 2013; Singh et al., 2022a). In a patriarchal society, discrimination towards males and females begins at birth and continues throughout the different stages of life. Gender inequality is manifested through social and economic disparity and the unequal distribution of power and resources between the sexes, which is dictated by patriarchy. Thus, understanding the role of patriarchy is necessary to aid in making critical inferences about the nation's progress in achieving gender equality (Krieger, 2011; Walby, 1989).

Following the launch of the Gender Development Index (GDI), the first index introduced by the United Nations Development Program (UNDP) to measure gender equality, several global indicators have been designed to evaluate gender inequality at the national and regional levels (Golla et al., 2018; Gressel et al., 2020; Sharma et al., 2021; UNDP, 2022; WEF, 2023; Williams et al., 2022). Unfortunately, none of the global indicators measure patriarchy. Moreover, these do not expressly reflect the contribution of patriarchy. Assessing the extent of patriarchy can be of immense help in understanding and tracking patriarchy over time and geographies, understanding how patriarchy shapes behaviours, practices and outcomes, understanding and generating insight on how and what can shift the system and the practice of patriarchy in ways that may build more lasting gender equality. Considering the relevance of patriarchy in tracking the progress of gender equality, this study aims to assess the extent of patriarchy in South Asian (SA) and Southeast Asian (SEA) countries. To do this, we use a synthetic indicator developed by Singh et al. (2022a) for India and recent data from different sample surveys to provide national estimates of patriarchy for 12 countries of SA/SEA. Singh et al. (2022a) showed that patriarchy varied by urban-rural residence and landholding size in India. Taking cue from Singh et al. (2022a), we also estimate patriarchy by urban-rural residence and landholding size in each of these 12 countries. We

then provide sub-national estimates of patriarchy for larger countries like Afghanistan, Bangladesh, India, Indonesia and Pakistan.

Patriarchy and patriarchal practices in SA and SEA

While patriarchy can be understood as a system that is reflected in and shapes a range of practices, this system is dynamic and changing but also persistent. There are often commonalities in the ways that patriarchy is expressed across different countries and contexts even as specific practices may vary. Despite global efforts to promote gender equality, patriarchy remains high in SA and SEA countries. A unique characteristic of the patriarchal system in these regions is that women and younger generations have very few individual rights in household socioeconomic and religious practices (Arya, 2020; Nainar, 2013). In the SA region, Afghani and Pakistani societies demonstrate a strong patriarchal nature by reinforcing norms around male control over wealth, women, and land (Chauhan, 2014; Haeri, 2002; Moghadam, 2002). Women, particularly in Afghanistan and Pakistan, regularly experience oppressive behaviour (Barakat & Wardell, 2002; Schütte, 2014).

Indonesia, a Muslim-majority country in SEA, has a patriarchal system similar to the SA countries with strict patriarchal norms (Riyani, 2020). Idealized roles of women in the Indonesian society include being dutiful wives, managers of households, or and supportive of their husbands' profession. In contrast, idealized roles for men include being all-knowing, role models, and decisive and the breadwinner and protector of the family or household (Sudarso et al., 2019; Vioni & Liansah, 2022). India is also a classic example, where men and women have different social roles and responsibilities (Raj et al., 2021; Rao, 2012; Shukla, 2015). In India, like Indonesia, patriarchy is often perpetuated through religious doctrine. Cambodia and Philippines are largely patriarchal, demonstrating strong conservative, traditional norms, evidence of patriarchal practices such as dominance, oppression, and exploitation against women by men. Bangladesh also has a deeply conservative social system reinforced and perpetuated by often rigid gender norms. (Islam, 2014).

An important facet of patriarchy in SA countries is the practice of dowry, in which a bride's family offers gifts and/or money to the groom's family. Although dowry was outlawed in India, Nepal and Bangladesh in 1961, 1976, and 1980, respectively, dowry still exists in all three of these countries (Anderson, 2007a; Fuller, 2020; Robitaille, 2013; Srivastava et al., 2021). Traditionally, only Hindus of the upper caste practiced dowry; today, most communities and social classes in Bangladesh, Pakistan, and India do so (Anderson, 2003, Anderson, 2007a, Anderson, 2007b; White, 2017). High amounts of money usually characterise modern dowries; the amount to be given is vital to marriage negotiations and is transferred directly to the groom or his family.

Another practice that reflects and perpetuates patriarchy in SA and SEA countries is *Purdah*. In the *Purdah* system, the practice of secluding women from the outside world, women cover their bodies from head to toe, exposing only their eyes when facing a man or going out of home. Purdah may encompass practices that limit women's mobility and her social or economic interactions inside or outside of the home. *Purdah* is practised in Muslim-majority countries in both SA and SEA regions, and has hindered women from participating in outdoor activities and managing assets (Grünenfelder, 2014; Islam, 2014; Jennings et al., 2022; Zumbyte 2021). The practice can also be found outside of Islam. Many Hindu families, mainly belonging to the higher caste in northern India, also practised a similar system often known as *ghoonghat* (Chakraborty & Kim, 2010; White, 1977).

In the SA context, the system of patriarchy and its practices are intrinsically interconnected with the system of *caste* (Arya, 2020; Singh et al., 2022a). The caste system divides the population into different social groups called *castes*. Additionally, it classifies each *caste's* privileges and dignity asymmetrically and hierarchically. For instance, in India and Nepal, Hindu society is divided into the Brahmin (highest in the *caste* hierarchy), the Kshatriya, the Vaishya, and the Sudra (lowest in the *caste* hierarchy). Although formal laws have been established to prevent caste-based discrimination in India (in 1948 and further enshrined in the Indian constitution in 1950) and Nepal (in 1963), the *caste* system is still practised in various parts or regions of both countries. Beyond the Indian subcontinent, the *caste* system is also practiced in Bali, an Indonesian province with Indian influence (Sihombing, 2022). *Caste* and patriarchy intersect in ways that create additional inequities and hierarchies in these countries.

Another facet of patriarchy that is less studied in SA and SEA countries is the patriarchal relationship between older and younger men (Ford & Lyons, 2011; Nilan & Demartoto, 2012). Senior and junior men are positioned differently in the structural hierarchy of society, with more power afforded to older men. Moreover, seniority is a major factor in establishing leadership in the household. Traditionally, the eldest man in the household is considered the head of the household (Gruber & Szołtysek, 2016; Ruggles, 2015). With this practice in place, sons are seldom allowed to start an independent household of their own, even after marriage.

Patriarchy has social and health consequences for both women and men, though more so for women. Evidence of this from SA and SEA includes demonstrated son preference, skewed male-female sex ratio at birth, sex ratio of child population, male marriage squeeze, high physical, sexual and emotional violence, and underrepresentation of women in the public sector (be it in politics, entrepreneurship, economic decisions in the household, etc.) (Arokiasamy & Goli, 2012; Barakat & Wardell, 2002; Chauhan, 2014; Dewi et al., 2014; Eisenbruch, 2018; Fulu et al., 2013; Guilmoto, 2012; Gupta et al., 2003; Hudson & Boer, 2005; Kaur et al., 2017; Kollo & Sunarso, 2018; Nainar, 2013; Schütte, 2014; Singh et al., 2021; Singh et al., 2022b; Srivastava et al., 2023; Tafuro, 2020; UNDP, 2021; Wahdiniwaty

& Rustam, 2019; White et al., 2023; Yang & Lu, 2010). Although there has been progress toward gender equality manifested by higher levels of women's access to education and employment, patriarchal culture persists and continues to have an impact on many facets of women's and young men's lives.

Methods and Materials

While patriarchy has a longstanding history in SA and SEA, with substantial consequences for women and younger men, there is a dearth of quantitative research focusing on the measurement of patriarchy in these countries, except for Singh et al. (2022a). Gruber and Szołtysek (2016) initially developed the concept of the patriarchy index (PI) using historical census data from Europe, demonstrating its strong validity. They theorised patriarchy based on gender-based power dynamics in marital and family relationships to facilitate cross-cultural and cross-national study. Singh et al. (2022a) adopted Gruber & Szołtysek's (2016) estimation procedure with the addition of several contextually meaningful measures related to patriarchy to develop India's PI, including the proportion of ideal number of sons, the proportion of wives more educated than husbands, and the proportion of women engaged in professional work (Singh et al., 2022a). In this section, we review the source and the methodology used to estimate the intensity of patriarchy in SA and SEA countries.

Data

Data from 12 countries in the SA and SEA regions, where Demographic Health Surveys (DHS) were conducted between 2011 and 2021, were utilised to estimate the PI. Data for these 12 countries were drawn from their respective DHS surveys from the DHS data repository. Using the United Nations' regional classification, Afghanistan, Bangladesh, India, Maldives, Nepal, and Pakistan are included in the SA region, while Cambodia, Indonesia, Myanmar, Papua New Guinea (PNG), Philippines, and Timor-Leste feature in the SEA region. The survey years and the number of households successfully interviewed during the survey for the respective countries are provided in **Table 1**. Each country's dataset was analysed independently (ie, data were not pooled). The DHS used standard questionnaires, sampling design, and field procedure for data collection, adopting a multistage stratified cluster design. Detailed information on the questionnaires, sampling design, and field procedure can be found elsewhere (Rutstein & Rojas, 2006).

The spatial data for the national and subnational boundaries represented in the maps were obtained from the DHS spatial data repository (https://spatialdata.dhsprogram.com/home/).

[**Table 1 Here**]

Indicators

The approach used to assess India's PI, devised by Singh et al. (2022a), is adapted to estimate the PI for the SA and SEA countries. We consider all five domains identified by Singh et al. (2022a), i.e., male domination, generational domination, patrilocality, son preference, and socioeconomic domination. However, we added a new measure, "lateral relative", in the generational domain, which was excluded by Singh et al. (2022a) but was included in Gruber & Szołtysek (2016). Lateral relatives are those household members who are not the direct ancestors or descendants (siblings, aunts or uncles, nieces or nephews, great-nieces or great-nephews, cousins, in-laws, and other distant relatives). The indicator "lateral relative" is defined as the proportion of elderly (60+ years) staying with at least one lateral relative. While staying with lateral relatives may be less common among elderly in India, we may not rule out the same in other SA and SEA countries.

Thirteen indicators across these five domains were included to estimate the index. These five domains include a wide range of indicators relating to the spheres of nuptiality and age at marriage, living arrangements, post-marriage residence, power dynamics within the household, the position of the elderly, sex of the children, and the status of women in terms of pursuing higher education and entering the workforce (Gruber & Szołtysek, 2016; Singh, et al., 2022a). The set of indicators in the specific domain included for the estimation of the PI in our study, as well as the hypothesised relationship between the indicators and patriarchy, is provided in **Table 2**.

[**Table 2 Here**]

Calculation of patriarchy index for SA and SEA countries

The thirteen indicators were estimated for all the 12 countries. Following Singh et al.'s (2022a) methodology, the index points for all the 13 indicators were estimated using the following formulae,

For indicators positively correlated with patriarchy,

$$Index\ point = Round\left\{10 \times \frac{proportion\ of\ measure\ in\ a\ country}{highest\ proportion\ of\ measures\ among\ all\ the\ 12\ countries}\right\}$$

For indicators negatively correlated with patriarchy,

$$Index\ point = 10 - Round\left\{10 \times \frac{proportion\ of\ measure\ in\ a\ country}{highest\ proportion\ of\ measures\ among\ all\ the\ 12\ countries}\right\}$$

Indicators within the son preference domain, namely, the proportion of boys at last child and sex ratio in the age group 0-6 years (boys per 100 girls), were estimated differently as they have a different range than the other measures using,

$$Index\ point = Round\left\{10 \times \frac{proportion\ of\ measure\ in\ a\ country - defined\ minimum\ value}{highest\ proportion\ of\ measures\ among\ all\ the\ 12\ countries - defined\ minimum\ value}\right\}$$

Based on Bongaarts (2013) and Dyson (2012), we assume the neutral values of 105 boys per 100 girls and 0.51, respectively, for the sex ratio in the age group 0-6 years (boys per 100 girls) and the proportion of boys as the last child.

The index points for each indicator ranged from 0 to 10. The lowest level of patriarchy is indicated by index points of 0, while the index points of 10 indicate the highest level of patriarchy. Index points of indicators within each domain were added to create domain-level sub-indices.

Finally, the patriarchy index for each country was computed by adding the sub-indices of the five domains considered in the study divided by their respective number of indicators in the domain, thus giving equal weight to each indicator within the index. Therefore, the patriarchy index can have a minimum value of 0 and a maximum value of 50. The patriarchy index is computed using the formula given below,

$$Patriarchy\ Index = \frac{male\ domination\ index}{3} + \frac{generational\ domination\ index}{4} + \frac{patrilocality\ index}{1} + \frac{son\ preferences\ index}{3} + \frac{socioeconomic\ domination\ index}{2}$$

Internal consistency and construct validity of the SA and SEA patriarchy index

The estimated PI's internal consistency is tested using Cronbach's Alpha; an index is considered highly reliable if its coefficient value is greater than 0.60 (Nunnally & Bernstein, 1994).

To assess the validity of the PI for SA and SEA countries, we consider three other indices, namely, the Gender Inequality Index (GII), the Women Empowerment Index (WEI), and the Global Gender Parity Index (GGPI). For each of these indices, we compute the Pearson correlation coefficient with the estimated PI. The GII is a composite index of gender inequality that captures gender differences using three dimensions: empowerment, labour force participation, and reproductive health (UNDP, 2022). Although GII is estimated differently, specific GII measures roughly correspond to PI measures. Szołtysek et al. (2017) used GII for comparison with PI derived from European historical data to investigate the similarity between the combinations of different societal and historical family-related institutional norms that the PI captures with gender inequality. In contrast, the WEI is a women-specific index that measures women's power and freedom to make decisive choices about opportunities in life. WEI is a composite index of women's empowerment that encompasses five significant indicators of empowerment: life and good health; education, skill-building and knowledge; labour and financial inclusion; participation in decision-making; and freedom from violence. The GGPI is a composite index

that compares the status of women with men in core aspects of human development and estimates gaps in parity between men and women.

Sensitivity analysis

Singh et al (2022a) did not include 'lateral relatives' under the domain of 'generational domination' in the India Patriarchy Index. We included 'lateral relatives' in our PI recognizing that it varied from 3% in Afghanistan to 12% in Cambodia. To examine whether the addition of an additional indicator altered the rankings of the 12 countries, we estimated another set of PI for each country after removing 'lateral relatives'.

All estimates provided in the study were computed using appropriate sampling weights adjusting for the complex survey design of the respective country-specific surveys. All our analyses were conducted in STATA 16.0. Different countries in the SA and SEA regions included in the study termed subnational administrative units as "state" or "province" or "division". For the reader's convenience, we consistently used the term "province" in this paper.

Results

The correlation between the thirteen measures were in the expected directions (See Supplementary File: **Table S1** and **Table S2**). The SA and SEA countries' PIs had good internal consistency among the thirteen measures, as indicated by Cronbach's alpha of 0.80.

Estimated Pearson's correlation coefficient between PI and GII, PI and WEI, and PI and GGPI show strong association between PI and these national-level indices. PI was positively correlated with GII (Pearson's *r*: 0.69), indicating that countries with relatively higher levels of patriarchy have relatively higher levels of gender inequality. On the other hand, the WEI (Pearson's *r*: -0.71) and GGPI (Pearson's *r*: 0.60) were negatively correlated with PI, indicating that countries with relatively higher levels of patriarchy have relatively lower levels of women empowerment and gender parity. These relationships imply the hypothetical inverse relationship between patriarchy and gender inequality, thus supporting the construct validity of the derived PI.

In the SA and SEA regions, Afghanistan has the highest level of PI, whereas Maldives has the lowest (**Figure 1**). Except for the Maldives, the PI of SA countries are significantly higher than that of SEA countries. The reason for the higher level of PI in SA countries is evident from Supplementary File: **Figure S1**. Measures positively correlated with patriarchy, such as joint family and young brides, are significantly higher in the SA countries. In contrast, measures that are negatively correlated with patriarchy, such as married daughters and economic domination, are considerably lower in the SA countries. Afghanistan has the highest PI level among the six SA countries, followed by Pakistan, India,

Nepal, and Bangladesh. PNG has the highest PI among the six SEA countries, followed by Timor-Leste, Indonesia, Philippines, Myanmar, and Cambodia.

[**Figure 1 Here**]

The variation in PI by place of residence and possession of agricultural land in SA and SEA countries is shown in **Table 3**. In SA countries, PI is higher in rural areas and households possessing agricultural land. However, in SEA countries, PI is higher in rural areas only in Indonesia. Moreover, households possessing agricultural land among SEA countries elevate the PI in only Cambodia, Indonesia and Timor-Leste.

[**Table 3 here**]

The sub-national variation of PI of the selected SA and SEA countries, namely Afghanistan, Pakistan, India, Bangladesh and Indonesia, is presented in **Figure 2**. Barring Badhgis province in the west and Samangan province in the north, Afghanistan's eastern and southern provinces have a higher level of PI than the other provinces. In Pakistan, the west (Federally Administered Tribal Areas) and southwest (Balochistan) regions have a higher level of PI. In India, the northern provinces of Haryana, Punjab, and Rajasthan, the central provinces of Madhya Pradesh and Uttar Pradesh, and the eastern provinces of Bihar and Jharkhand have higher PI than the other provinces. On the other hand, the south Indian provinces of Kerala, Tamil Nadu, Andhra Pradesh, Telangana, and the northeast Indian provinces of Meghalaya, Mizoram, and Nagaland have lower PIs. While the national capital region, Dhaka, has the lowest PI in Bangladesh, Mymensingh province has the highest PI, followed by Khulna, Chittagong, Sylhet, and Rajbari. The Indonesian provinces with the highest PI values are North Maluku, Bali, Papua, South Sumatra, and West Java. In comparison, the provinces with the lowest PI values are East Kalimantan, West Sulawesi, Gorontalo, South Kalimantan, and West Sumatra. The provinces' PI values and province's ranking are available in Supplementary File: **Table S3**.

[**Figure 2 Here**]

To examine the robustness of our ranking to the inclusion of 'lateral relatives' in our PI, we estimated a new PI after removing 'lateral relatives'. We then compared the ranks of 12 countries on the two PIs. The ranks of Nepal and Bangladesh and Indonesia and Philippines reversed in the new PI. Spearman's rank correlation coefficient between the two PIs was 0.99.

Discussion

Our study provides national and sub-national estimates of patriarchy in SA and SEA countries with high internal consistency and construct validity. The estimated PI for SA and SEA offers a unique and timely tool to aid in understanding power dynamics within the household and the underlying reasons for women's subjugation, as countries in the region have similar social norms underlying son preferences and socioeconomic power disparities (Arnold et al., 2013; Bongaarts and Guilmoto, 2015). Among the SA and SEA countries, the highest level of PI was observed in Afghanistan and the lowest in Maldives. In the SA region, the PI values decline as we move from Afghanistan in the northwest to Bangladesh in the Southeast. Meanwhile, in the SEA region, the highest level of PI was observed in PNG, followed by Timor Leste, Indonesia, Philippines, Cambodia, and Myanmar. Barring the Maldives, levels of PI were higher in the SA region than in the SEA region, reflecting clear geographic divides and the existence of a stricter patriarchal norm in the SA region than in the SEA region.

Except for the Philippines, the PI ranking for SA and SEA countries closely resembles the GII ranking. The Philippines is the most gender-equitable country in Asia (UNDP, 2022). A plausible reason for the inconsistency between the two rankings for Philippines could be due to construction of the two indices. PI is heavily weighted towards kinship structure and marriage system whereas GII is heavily weighted towards structural and societal factors, such as reproductive health, empowerment and labour market (UNDP, 2022). Despite patriarchal kinship structure in Philippines (Asian Development Bank, 2013), higher gender parity in income and education and increasing women's political participation help Philippines perform better on GII ranking (Encinas-Franco & Laguna, 2023; GTI, 2024). Philippines is a good example where patriarchy manifests in more of a family level, while external structures and systems shift towards gender parity at other levels.

Previous literature has noted the relationship between arable land holdings and patriarchy (Cain et al., 1979; Singh et al., 2022a). Most countries in SA and SEA are agrarian economies. We find that owning arable land is associated with higher PI values in all SA countries and Cambodia, Indonesia and Timor-Leste in the SEA region. Singh et al. (2022a) found that households having five or more hectares of land have a higher level of patriarchy than those with no or lesser land. Findings from Singh et al. (2022a) can be correlated with Arokiasamy & Goli's (2012) finding that the higher the household's land holdings, the preference for sons increases considerably. The urban-rural variation in PI reinforces the validity of our index.

Our findings also highlighted the province-level variations of PI of Afghanistan, Bangladesh, India, Indonesia and Pakistan. In Afghanistan, the estimated PI was higher in eastern and southern provinces, which are marked by *purdah* and both asymmetric and symmetric marriage systems (weddings arranged through payment of bride price and direct exchange of women for women, respectively). The practice

of *purdah* and both asymmetric and symmetric marriage systems are also seen in northwestern Pakistan. With a couple of exceptions, the levels of patriarchy were highest along the border between Afghanistan and Pakistan. In the case of India, PI values were predominantly higher in northern provinces, followed by central and eastern provinces. In comparison, the southern provinces and some northeastern provinces have lower PIs. Singh et al. (2022a) also reported the clustering of higher PI in the northern provinces and clustering of lower PI in southern provinces, The Khasi, Jaintia, and Garo communities in Meghalaya, a northeast Indian province (Bhutia & Liarakou, 2018; Chakraborty & Kim, 2010; Roy, 2018; Subba & Ghosh, 2003), and Nayar in Kerala, a south Indian province, practice a matrilineal system (Bhutia & Liarakou, 2018; Centre for Development Studies, 2006; Chakraborty & Kim, 2010; Pillai, 2016), where familial inheritance is transferred through the female line. South Indian provinces have a unique kinship practice where cross-cousin marriage, hypergamous marriage and familial inheritance to women are allowed (Carter, 1973; Kodoth, 2008; Parkin, 2018). Cross-cousin- and hypergamous- marriages are rarely seen in northern India. When it comes to Indonesia, Bali which is marked by a deeply rooted caste system (like India), had the second highest subnational PI levels. In contrast, west Sumatra, where matrilineal Minangkabau reside, had the lowest levels had the last rank on PI. Regional variations within these 5 countries also reinforce the validity of the PI.

Regional variations in PI offer important insights about the extent of patriarchy across geographies. Several provinces in North India ranked close to the highest patriarchal levels observed in Afghanistan, while other provinces in Northeast or South India record PI levels that are smaller than found in most SEA countries. Similarly, the PIs estimated in Indonesia's most patriarchal regions, such as Bali or Papua, are close to the Indian average. In contrast, other regions, such as matrilineal West Sumatra, record some of the lowest PIs of any SEA country. Regional disaggregation is essential to better understand patriarchy's complex geography and target policy responses.

While the overall geographic patterns are visible, with a clear distinction between South and Southeast Asia, no explicit religious clustering exists. For instance, Muslim countries record the highest and lowest PI levels (in Afghanistan and the Maldives, respectively). There are similar variations across Buddhist countries. Patriarchy across South and Southeast Asia seems to be primarily associated with family structures and kinship systems: countries reporting the lowest levels of patriarchy are systematically characterised by bilateral kinship systems (Cambodia, Myanmar, Indonesia, etc.) or the presence of matrilineal systems, as in the Maldives.

Notwithstanding the study findings' contribution to the literature on patriarchy and gender equality in SA and SEA countries, it is essential to consider some limitations. The derived PI exclusively focuses on family dynamics, and extrapolating our study's findings to domains other than family and household relationship structure, such as governmental leadership, is not recommended. This index is an additional

resource for researchers to evaluate various aspects of gender equality in the SA and SEA regions. Notably, the DHS surveys were not designed to assess patriarchy, and all the measures included in the study were self-reported.

The strengths of the findings, however, outweigh the limitations of our approach. For example, using DHS surveys allows researchers from many low- and middle-income countries to estimate PI for their countries easily. The use of DHS also offers flexibility in estimating PI at more local levels (like districts in India), which is not the case with existing gender inequality measures. Unlike other gender inequality indices that often combine unrelated indicators using complex mathematical formulae, the computation of PI is relatively straightforward. Researchers from other countries where Multiple Indicator Cluster Surveys (MICS) data is routinely collected may also benefit from our study, as the PI can be easily computed using MICS. A key advantage of our PI is that it can be used to monitor progress in gender inequality in more local geographies over time, such as districts in India. It may also aid in identifying local geographies that need focussed interventions. The calculation of PI also offers an opportunity to examine associations between patriarchy and other demographic and gender-related indicators, such as fertility, women's access to contraception and other reproductive health services, women's financial inclusion, women's work, women's decision-making, intimate partner violence, etc.

Conclusion

Patriarchy is a system that hinders the growth and development of women in several aspects of life. The effects of the patriarchal culture extend beyond women and girls' suffering as independent human beings; they have a broader impact on day-to-day life. Hence, this study attempts to understand household power relationship structure as part of the underlying reasons for women's subjugation in the SA and SEA regions through a quantitative estimation of patriarchy. Our findings underscore the differing levels of patriarchal dominance in the SA and SEA regions, emphasising the necessity of focused initiatives to tackle gender inequality, realign existing power structures, and foster greater inclusivity. A cohesive approach that can connect to local voices, understand the context-specific patriarchal power dynamics, and advocate for women's rights and security is needed to achieve the gender equality targets of SDGs in the region at national and sub-national levels. Land reforms and changes in marriage and family law may enable the shifting of patriarchal norms in the region. As the DHS or MICS surveys are routinely conducted in many countries, PI may be a powerful index for tracking progress towards gender equality at more local levels in these countries.

Reference

Anderson, S. (2003). Why Dowry Payments Declined with Modernization in Europe but Are Rising in India. *Journal of Political Economy*, *111*(2), 269–310. https://doi.org/10.1086/367679

Anderson, S. (2007a). The Economics of Dowry and Brideprice. *The Journal of Economic Perspectives*, *21*(4), 151–174.

Anderson, S. (2007b). Why the marriage squeeze cannot cause dowry inflation. *Journal of Economic Theory*, *137*(1), 140–152. https://doi.org/10.1016/j.jet.2005.09.007

Arnold, D., Edlund, L., & Milligan, K. (2013). Son preference and the persistence of culture: Evidence from South and East asian immigrants to Canada. Population and Development Review, 39(1), 75-95.

Arokiasamy, P., & Goli, S. (2012). Explaining the Skewed Child Sex Ratio in Rural India: Revisiting the Landholding-Patriarchy Hypothesis. *Economic and Political Weekly*, *47*(42), 85–94.

Arya, S. (2020). Theorising Gender in South Asia: Dalit Feminist Perspective. *CASTE: A Global Journal on Social Exclusion*, *1*(2), xi–xxiv. https://doi.org/10.26812/caste.v1i2.235

Asian Development Bank (Ed.). (2013). *Gender equality in the labor market in the Philippines*. ILO Regional Office for Asia and the Pacific.

Barakat, S., & Wardell, G. (2002). Exploited by whom? An alternative perspective on humanitarian assistance to Afghan women. *Third World Quarterly*, *23*(5), 909–930. https://doi.org/10.1080/0143659022000028585

Bhutia, Y., & Liarakou, G. (2018). Gender and nature in the matrilineal society of Meghalaya, India: Searching for ecofeminist perspectives. *The Journal of Environmental Education*, *49*(4), 328–335. https://doi.org/10.1080/00958964.2017.1407283

Bongaarts, J. (2013). The Implementation of Preferences for Male Offspring. *Population and Development Review*, *39*(2), 185–208. https://doi.org/10.1111/j.1728-4457.2013.00588.x

Bongaarts, J., & Guilmoto, C. (2015). How Many More Missing Women? Excess Female Mortality and Prenatal Sex Selection, 1970–2050. Population and Development Review, 41(2), 241-269. doi: 10.1111/j.1728-4457.2015.00046.x

Cain, M., Khanam, S. R., & Nahar, S. (1979). Class, Patriarchy, and Women's Work in Bangladesh. *Population and Development Review*, *5*(3), 405–438. https://doi.org/10.2307/1972079

Carter, A. T. (1973). A Comparative Analysis of Systems of Kinship and Marriage in South Asia. *Proceedings of the Royal Anthropological Institute of Great Britain and Ireland*, *1973*, 29–54. https://doi.org/10.2307/3031719

Centre for Development Studies. (2006). *Human Development Report 2005*. https://www.undp.org/sites/g/files/zskgke326/files/migration/in/human_develop_report_kerala_2005_full_report.pdf

Chakraborty, T., & Kim, S. (2010). Kinship institutions and sex ratios in India. *Demography*, *47*(4), 989–1012. https://doi.org/10.1007/BF03213736

Chauhan, K. (2014). Patriarchal Pakistan: Women's Representation, Access to Resources, and Institutional Practices. In K. Chauhan (Ed.), *Gender Inequality in the Public Sector in Pakistan: Representation and Distribution of Resources* (pp. 57–87). Palgrave Macmillan US. https://doi.org/10.1057/9781137426475_4

Dewi, W., Hery, S., Inda, L., Merita, G., Mutiara, P., & Nindita, P. (2014). *Patriarchal Barriers to Women's Political Participation in South-East Asia: Lessons from the Philippines, Cambodia, Malaysia, Indonesia, and Timor-Leste on Patriarchy and the Rise of Women's Participation in State Politics*. Kemitraan Bagi Pembaruan Tata Pemerintahan.

Dyson, T. (2012). Causes and Consequences of Skewed Sex Ratios. *Annual Review of Sociology*, *38*(Volume 38, 2012), 443–461. https://doi.org/10.1146/annurev-soc-071811-145429

Eisenbruch, M. (2018). Violence Against Women in Cambodia: Towards a Culturally Responsive Theory of Change. *Culture, Medicine, and Psychiatry*, *42*(2), 350–370. https://doi.org/10.1007/s11013-017-9564-5

Encinas-Franco, J., & Laguna, E. (2023). *Barriers to Filipino Women's Political Participation*. https://cids.up.edu.ph/wp-content/uploads/2023/01/Barriers-to-Filipino-Womens-Political-Participation.pdf

Ford, M., & Lyons, L. (2011). Introduction. In *Men and Masculinities in Southeast Asia*. Routledge.

Fuller, S. (2020). Education, gender, and generational change: The transformation of dowry in village Nepal. *The Australian Journal of Anthropology*, *31*(2), 240–256. https://doi.org/10.1111/taja.12361

Fulu, E., Warner, X., Miedema, S., Jewkes, R., Roselli, T., & Lang, J. (2013). *Why Do Some Men Use Violence Against Women and How Can We Prevent It? Summary Report*. UNDP, UNFPA, UN Women and UNV. https://www.undp.org/sites/g/files/zskgke326/files/migration/asia_pacific_rbap/RBAP-Gender-2013-P4P-VAW-Report-Summary.pdf

Golla, A. M., Malhotra, A., Nanda, P., & Mehra, R. (2018). *Understanding and measuring women's economic empowerment: Definition, framework and indicators*. International Center for Research on Women (ICRW). https://www.icrw.org/publications/understanding-and-measuring-womens-economic-empowerment/

Gressel, C. M., Rashed, T., Maciuika, L. A., Sheshadri, S., Coley, C., Kongeseri, S., & Bhavani, R. R. (2020). Vulnerability mapping: A conceptual framework towards a context-based approach to women's empowerment. *World Development Perspectives*, *20*, 100245. https://doi.org/10.1016/j.wdp.2020.100245

Gruber, S., & Szołtysek, M. (2016). The patriarchy index: A comparative study of power relations across historical Europe. *The History of the Family*, *21*(2), 133–174. https://doi.org/10.1080/1081602X.2014.1001769

Grünenfelder, J. (2014). A Foreign Woman Researcher in a Purdah Society: Opportunities and Challenges for Knowledge Production in the 2000s. *Human Organization*, *73*(3), 214–223.

GTI. (2024). *Women in Business 2024: Pathways to parity*. Grant Thornton International (GTI). https://www.grantthornton.in/insights/women-in-business-2024/

Guilmoto, C. Z. (2012). Skewed Sex Ratios at Birth and Future Marriage Squeeze in China and India, 2005–2100. *Demography*, *49*(1), 77–100. https://doi.org/10.1007/s13524-011-0083-7

Gupta, M. D., Zhenghua, J., Bohua, L., Zhenming, X., Chung, W., & Hwa-Ok, B. (2003). Why is Son preference so persistent in East and South Asia? A cross-country study of China, India and the Republic of Korea. *The Journal of Development Studies*, *40*(2), 153–187. https://doi.org/10.1080/00220380412331293807

Haeri, S. (2002). *No Shame for the Sun: Lives of Professional Pakistani Women*. Syracuse University Press.

Hudson, V. M., & Boer, A. M. D. (2005). *Bare Branches: The Security Implications of Asia's Surplus Male Population*. MIT Press.

Islam, M. (2014). Women, Politics and Patriarchy: A Case of Bangladesh. In M. Alston (Ed.), *Women, Political Struggles and Gender Equality in South Asia* (pp. 238–253). Palgrave Macmillan UK. https://doi.org/10.1057/9781137390578_15

Jennings, B., Kirkwood, S., & Cree, V. E. (2022). *Purdah* in the 21st century: Women's experiences of work and space in Dhaka. *Women's Studies International Forum*, *90*, 102560. https://doi.org/10.1016/j.wsif.2022.102560

Kaur, R., Bhalla, S. S., Agarwal, M. K., & Ramakrishnan, P. (2017). *Sex Ratio Imbalances and Marriage Squeeze in India: 2000–2050*. United Nations Population Fund. https://india.unfpa.org/sites/default/files/pub-pdf/Sex%20Ratio%20Imbalances%20and%20Marriage%20Squeeze.pdf

Kodoth, P. (2008). Gender, Caste and Matchmaking in Kerala: A Rationale for Dowry. *Development and Change*, *39*(2), 263–283. https://doi.org/10.1111/j.1467-7660.2008.00479.x

Kollo, F. L., & Sunarso, S. (2018). *Patriarchy Culture and Injustice for Women in Politics*. 101–102. https://doi.org/10.2991/acec-18.2018.25

Krieger, N. (2011). *Epidemiology and the People's Health: Theory and Context*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195383874.001.0001

Moghadam, V. M. (2002). Patriarchy, the Taleban, and politics of public space in Afghanistan. *Women's Studies International Forum*, *25*(1), 19–31. https://doi.org/10.1016/S0277-5395(02)00224-8

Nainar, V. (2013). *Patriarchy in South Asia – Structures and Relations* (SSRN Scholarly Paper 2317080). https://doi.org/10.2139/ssrn.2317080

Nilan, P., & Demartoto, A. (2012). Patriarchal residues in Indonesia: Respect accorded senior men by junior men. *European Journal of Social Sciences*, *31*, 279–293.

Nunnally, J. C., & Bernstein, I. (1994). *Psychometric Theory* (3rd ed.). McGraw-Hill Education.

Parkin, R. (2018). Why Do Societies Abandon Cross-Cousin Marriage? In *Focality and Extension in Kinship: Essays in Memory of Harold W. Scheffler* (1st ed.). ANU Press. https://press-files.anu.edu.au/downloads/press/n4128/pdf/ch08.pdf

Pillai, M. S. (2016). *The Ivory Throne: Chronicles of the House of Travancore*. Harper Collins.

Raj, A., Johns, N. E., Bhan, N., Silverman, J. G., & Lundgren, R. (2021). Effects of Gender Role Beliefs on Social Connectivity and Marital Safety: Findings From a Cross-Sectional Study Among Married Adolescent Girls in India. *Journal of Adolescent Health*, *69*(6, Supplement), S65–S73. https://doi.org/10.1016/j.jadohealth.2021.07.030

Rao, N. (2012). Male 'Providers' and Female 'Housewives': A Gendered Co-performance in Rural North India. *Development and Change*, *43*(5), 1025–1048. https://doi.org/10.1111/j.1467-7660.2012.01789.x

Riyani, I. (2020). *Islam, Women's Sexuality and Patriarchy in Indonesia: Silent Desire*. Routledge. https://doi.org/10.4324/9781003042723

Robitaille, M.-C. (2013). Determinants of Stated Son Preference in India: Are Men and Women Different? *The Journal of Development Studies*, *49*(5), 657–669. https://doi.org/10.1080/00220388.2012.682986

Roy, A. (2018). Discord in Matrilineality: Insight into the Khasi Society in Meghalaya. *Society and Culture in South Asia*, *4*(2), 278–297. https://doi.org/10.1177/2393861718767238

Ruggles, S. (2015). Patriarchy, Power, and Pay: The Transformation of American Families, 1800–2015. *Demography*, *52*(6), 1797–1823. https://doi.org/10.1007/s13524-015-0440-z

Rutstein, S. O., & Rojas, G. (2006). *GUIDE TO DHS STATISTICS*. Demographic and Health Surveys (DHS), ORC Macro, Calverton, Maryland.

Schütte, S. (2014). Living with patriarchy and poverty: Women's agency and the spatialities of gender relations in Afghanistan. *Gender, Place & Culture*, *21*(9), 1176–1192. https://doi.org/10.1080/0966369X.2013.832661

Sharma, R. R., Chawla, S., & Karam, C. M. (2021). Global Gender Gap Index: World Economic Forum perspective. In *Handbook on Diversity and Inclusion Indices* (pp. 150–163). Edward Elgar Publishing. https://www.elgaronline.com/display/edcoll/9781788975711/9781788975711.00017.xml

Shukla, A. (2015). Attitudes towards Role and Status of Women in India: A Comparison of Three Generations of Men and Women. *Psychological Studies*, *60*(1), 119–128. https://doi.org/10.1007/s12646-015-0298-6

Sihombing, L. H. (2022). The Significance of the Caste System of Balinese in the Modern Era: A Discourse of Cultural Communication. *Komunitas*, *14*(2), Article 2. https://doi.org/10.15294/komunitas.v14i2.35985

Singh, A., Chokhandre, P., Singh, A. K., Barker, K. M., Kumar, K., McDougal, L., James, K. S., & Raj, A. (2022a). Development of the India Patriarchy Index: Validation and Testing of Temporal and Spatial Patterning. *Social Indicators Research*, *159*(1), 351–377. https://doi.org/10.1007/s11205-021-02752-1

Singh, A., Kumar, K., Yadav, A. K., James, K. S., McDougal, L., Atmavilas, Y., & Raj, A. (2021). Factors Influencing the Sex Ratio at Birth in India: A New Analysis based on Births Occurring between 2005 and 2016. *Studies in Family Planning*, *52*(1), 41–58. https://doi.org/10.1111/sifp.12147

Singh, A., Upadhyay, A. K., Kumar, K., Singh, A., Johnson, F. A., & Padmadas, S. S. (2022b). Spatial heterogeneity in son preference across India's 640 districts: An application of small-area estimation. *Demographic Research*, *47*, 793–842. https://doi.org/10.4054/DemRes.2022.47.26

Srivastava, S., Chauhan, S., Patel, R., Marbaniang, S. P., Kumar, P., Paul, R., & Dhillon, P. (2021). Banned by the law, practiced by the society: The study of factors associated with dowry payments among adolescent girls in Uttar Pradesh and Bihar, India. *PLOS ONE*, *16*(10), e0258656. https://doi.org/10.1371/journal.pone.0258656

Srivastava, S., Kumar, K., McDougal, L., Kannaujiya, A. K., Sikarwar, A., Raj, A., & Singh, A. (2023). Spatial heterogeneity in intimate partner violence across the 640 districts of India: A secondary analysis of a cross-sectional, population-based survey by use of model-based small-area estimation. *The Lancet. Global Health*, *11*(10), e1587–e1597. https://doi.org/10.1016/S2214-109X(23)00377-7

Subba, T. B., & Ghosh, G. C. (2003). *The Anthropology of North-East India*. Orient Blackswan.

Sudarso, S., Keban, P. E., & Mas'udah, S. (2019). *Gender, Religion and Patriarchy: The Educational Discrimination of Coastal Madurese Women, East Java*. *20*(9).

Szołtysek, M., Klüsener, S., Poniat, R., & Gruber, S. (2017). The Patriarchy Index: A New Measure of Gender and Generational Inequalities in the Past. *Cross-Cultural Research*, *51*(3), 228–262. https://doi.org/10.1177/1069397117697666

Tafuro, S. (2020). An Economic Framework for Persisting Son Preference: Rethinking the Role of Intergenerational Support. *Population Research and Policy Review*, *39*(6), 983–1007. https://doi.org/10.1007/s11113-020-09594-8

UNDP. (2021). *Life-course gender gap: Human Development Reports*. https://hdr.undp.org/life-course-gender-gap

UNDP. (2022). Gender Inequality Index. In *Human Development Reports*. United Nations. https://hdr.undp.org/data-center/thematic-composite-indices/gender-inequality-index

Vioni, E., & Liansah, I. (2022). *Gender Equality in Patriarchic Culture*. 168–177. https://doi.org/10.2991/978-2-494069-23-7_16

Wahdiniwaty, R., & Rustam, D. A. (2019). Patriarchy as a Barrier to Women Entrepreneurs in Indonesia. *IOP Conference Series: Materials Science and Engineering*, *662*(3), 032042. https://doi.org/10.1088/1757-899X/662/3/032042

Walby, S. (1989). Theorising Patriarchy. *Sociology*, *23*(2), 213–234. https://doi.org/10.1177/0038038589023002004

WEF. (2023). *Global Gender Gap Report 2023*. World Economic Forum (WEF). https://www.weforum.org/publications/global-gender-gap-report-2023/

White, E. H. (1977). Purdah. *Frontiers: A Journal of Women Studies*, *2*(1), 31–42. https://doi.org/10.2307/3346105

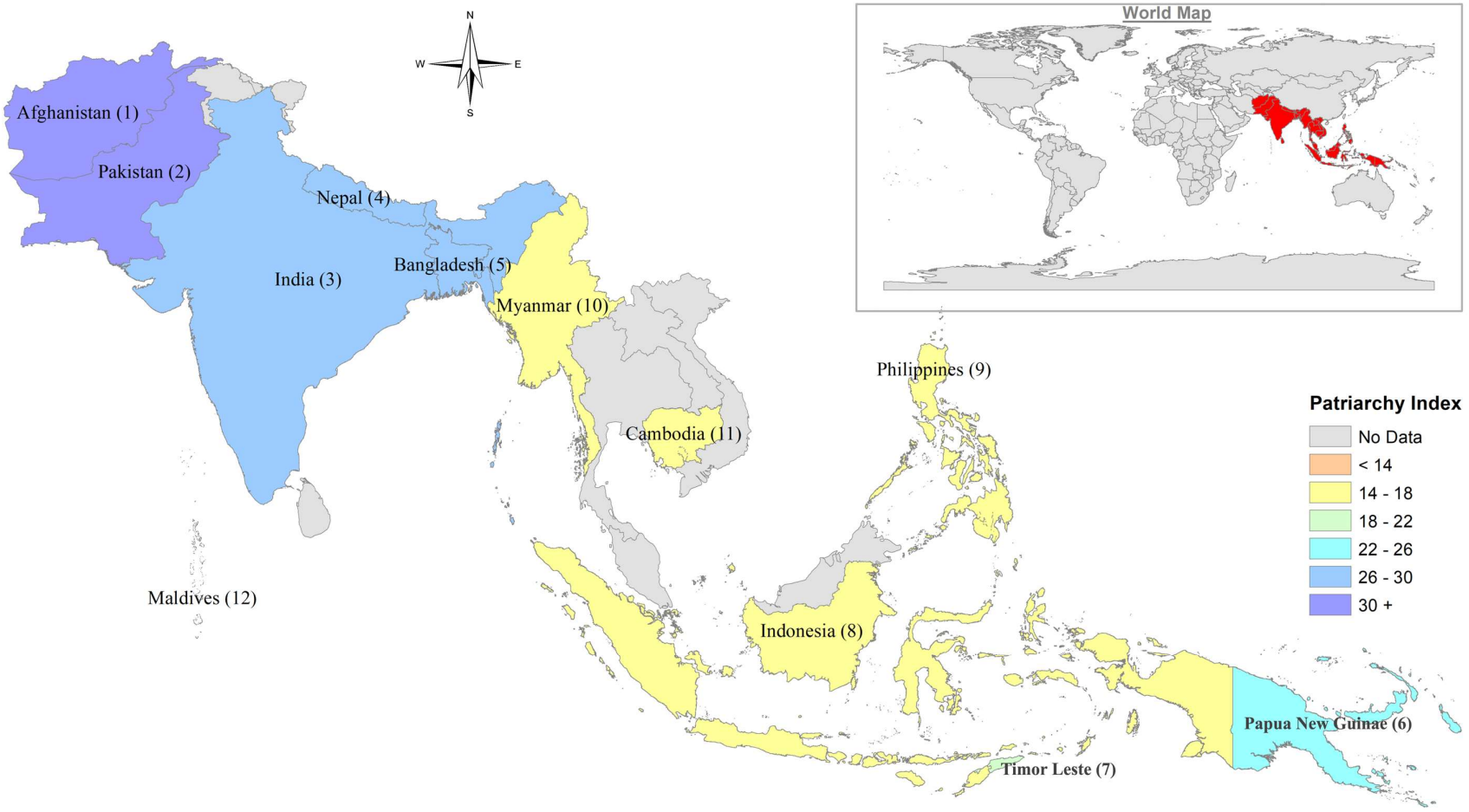
White, S. C. (2017). Patriarchal Investments: Marriage, Dowry and the Political Economy of Development in Bangladesh. *Journal of Contemporary Asia*, *47*(2), 247–272. https://doi.org/10.1080/00472336.2016.1239271

White, S., Warburton, E., Pramashavira, Hendrawan, A., & Aspinall, E. (2023). Voting against Women: Political Patriarchy, Islam, and Representation in Indonesia. *Politics & Gender*, 1–31. https://doi.org/10.1017/S1743923X23000648

Williams, E. M., Väisänen, H., & Padmadas, S. S. (2022). Women's economic empowerment in sub-Saharan Africa: Evidence from cross-national population data. *Demographic Research*, *47*, 415–452. https://doi.org/0.4054/DemRes.2022.47.15

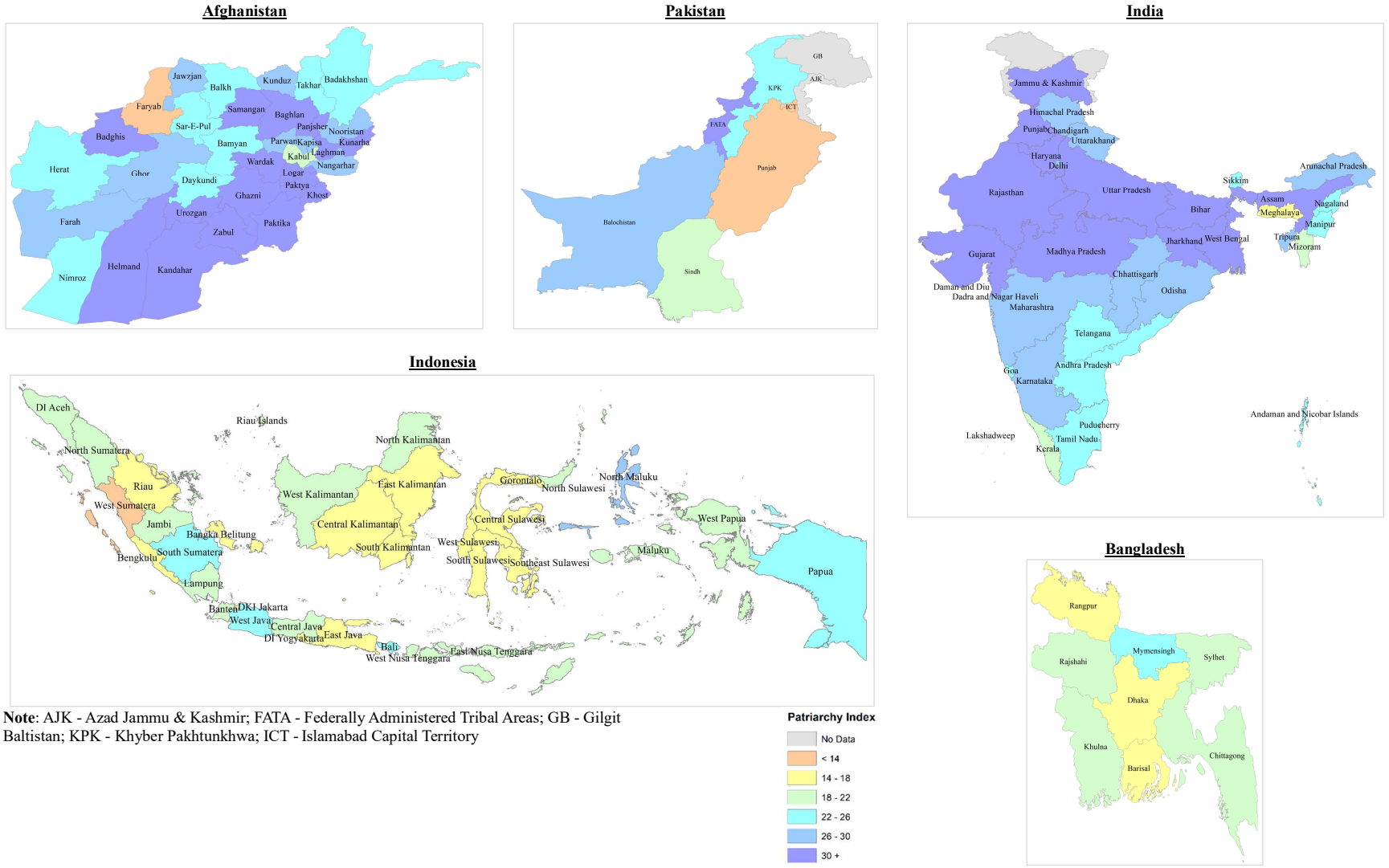
Yang, W.-S., & Lu, M. C.-W. (2010). *Asian Cross-border Marriage Migration: Demographic Patterns and Social Issues*. Amsterdam University Press. https://www.jstor.org/stable/j.ctt45kfn7

Zumbyte, I. (2021). The Gender System and Class Mobility: How Wealth and Community Veiling Shape Women's Autonomy in India. *Sociology of Development (Oakland, Calif.)*, *7*(4), 469–513. https://doi.org/10.1525/sod.2020.0042



Note: numbers in parenthesis represent the ranking of the countries by patriarchy index

Figure 1: Patriarchy index in South and Southeast Asian countries



Note: AJK - Azad Jammu & Kashmir; FATA - Federally Administered Tribal Areas; GB - Gilgit Baltistan; KPK - Khyber Pakhtunkhwa; ICT - Islamabad Capital Territory

Figure 2: Regional variation of patriarchy index in selected South and Southeast Asian countries

Table 1: Year of survey and number of samples in each survey

Region	Country	Years of Survey	Number of Households Surveyed
South Asia	Afghanistan	2015	24395
South Asia	Bangladesh	2017-18	19457
South Asia	India	2015-16	601509
South Asia	Maldives	2016-17	6050
South Asia	Nepal	2016	11040
South Asia	Pakistan	2017-18	11869
Southeast Asia	Cambodia	2014	15825
Southeast Asia	Indonesia	2017	47963
Southeast Asia	Myanmar	2015-16	12500
Southeast Asia	Papua New Guinea	2016-18	16021
Southeast Asia	Philippines	2017	27496
Southeast Asia	Timor-Leste	2016	11502

Table 2: Indicators considered in the estimation of patriarchy index

Measures	Description	Patriarchal hypothesis	Definition
Male domination			
Female HH heads	Proportion of female-headed HH.	The HH headship should belong to men only. Thus, there should be a negative correlation between patriarchy and this measure.	$= \frac{Total\ number\ of\ female\ headed\ HH}{Total\ number\ of\ HH\ heads}$
Young brides	Proportion of ever-married females whose age at marriage was between 15-19 years.	It could be easier for men to dominate if women marry young. Thus, there should be a positive correlation between patriarchy and this measure.	$= \frac{Total\ number\ of\ ever\ married\ young\ brides\ age\ 15-19\ years}{Total\ number\ of\ ever\ married\ women\ age\ 15-49\ years}$
Older wives	Proportion of wife older than their husband.	A wife's age should not exceed her husband's. Thus, there should be a negative correlation between patriarchy and this measure.	$= \frac{Total\ number\ of\ wives\ who\ are\ older\ than\ their\ husband}{Total\ number\ of\ couples\ for\ whom\ the\ ages\ of\ both\ the\ partners\ are\ known}$
Generational domination			
Younger HH heads	Proportion of older men co-residing with a younger HH head.	The HH headship should only belong to the eldest man in the HH. Thus, there should be a negative correlation between patriarchy and this measure.	$= \frac{Total\ number\ of\ elderly\ men\ living\ in\ a\ HH\ headed\ by\ a\ male\ HH\ head\ of\ a\ younger\ generation}{Total\ number\ of\ elderly\ men\ having\ at\ least\ one\ child}$
Neolocal	Proportion of ever-married male HH heads in 20-29 years.	Sons with a living father are prohibited from creating their own HH following marriage. Thus, there should be a negative correlation between patriarchy and this measure.	$= \frac{Total\ number\ of\ ever\ married\ men\ HH\ heads\ age\ 20-29\ years}{Total\ number\ of\ ever\ married\ men\ age\ 20-29\ years}$
Joint family	Proportion of elderly (60+ years) living with at least two married offspring in the same HH.	Sons cannot leave the HH of their parents on marriage. Thus, there should be a positive correlation between patriarchy and this indicator.	$= \frac{Total\ number\ of\ elderly\ (60+\ years)\ living\ with\ at\ least\ two\ married\ sons\ in\ the\ same\ HH}{Total\ number\ of\ elderly\ (60+years)}$
Lateral relatives	Proportion of elderly (60+ years) living with at least one lateral relative in the HH.	Some men will either not establish their own HH at all or will have to wait until late in life. Thus, there should be a positive correlation between patriarchy and this measure.	$= \frac{Total\ number\ of\ elderly\ (60+years)living\ with\ atleast\ one\ lateral\ relatives}{Total\ number\ of\ elderly\ (60+years)}$
Patrilocality			
Married daughter	Proportion of elderly (60+ years) living with at least one married daughter.	All women moved to their husband father's residence after marriage. Thus, there should be a negative correlation between patriarchy and this measure.	$= \frac{Total\ number\ of\ elderly\ (60+\ years)\ living\ with\ at\ least\ one\ married\ daughter}{Total\ number\ of\ elderly\ (60+years)living\ with\ at\ least\ one\ married\ child\ in\ the\ same\ HH}$
Son preferences			
Boys as last child	Proportion of boys among the last child born to the women.	After the birth of a daughter, parents often strive for another child. Thus, there should be a positive correlation between patriarchy and this indicator.	$= \frac{Total\ number\ of\ boys\ among\ last\ children}{Total\ number\ of\ last\ births}$
Sex ratio	Sex ratio (boys per 100 girls) in the age group 0-6 years.	A female child is not treated equally with the male child. Thus, there should be a positive correlation between patriarchy and this measure.	$= \frac{Total\ number\ of\ male\ children\ aged\ 0-6\ years}{Total\ number\ of\ female\ children\ aged\ 0-6\ years} \times 100$
Ideal number of sons	Proportions of women age 15-49 years who reported a higher ideal number of sons than daughters.	Couples prefer to have male children. Thus, there should be a positive correlation between patriarchy and this measure.	$= \frac{Total\ number\ of\ women\ aged\ 15-49\ years\ who\ reported\ higher\ ideal\ number\ of\ sons\ than\ daughter}{Total\ number\ of\ women\ aged\ 15-49\ years}$

Measures	Description	Patriarchal hypothesis	Definition
Socioeconomic domination			
Educated wives	Proportion of wives whose educational level is higher than that of their husbands.	The educational attainment of the husband consistently exceeds that of the wife. Thus, there should be a negative correlation between patriarchy and this measure.	$= \frac{Total\ number\ of\ wives\ who\ are\ more\ educated\ than\ their\ husband}{Total\ number\ of\ couples\ for\ whom\ their\ yeras\ of\ schooling\ of\ both\ the\ partners\ are\ known}$
Economic domination	Proportion of women who are engaged in professional work.	Women are prohibited from working jobs outside the home. Thus, there should be a negative correlation between patriarchy and this measure.	$= \frac{Total\ number\ of\ women\ of\ working\ age\ engaged\ in\ professional\ work}{Total\ number\ of\ women\ of\ working\ age}$

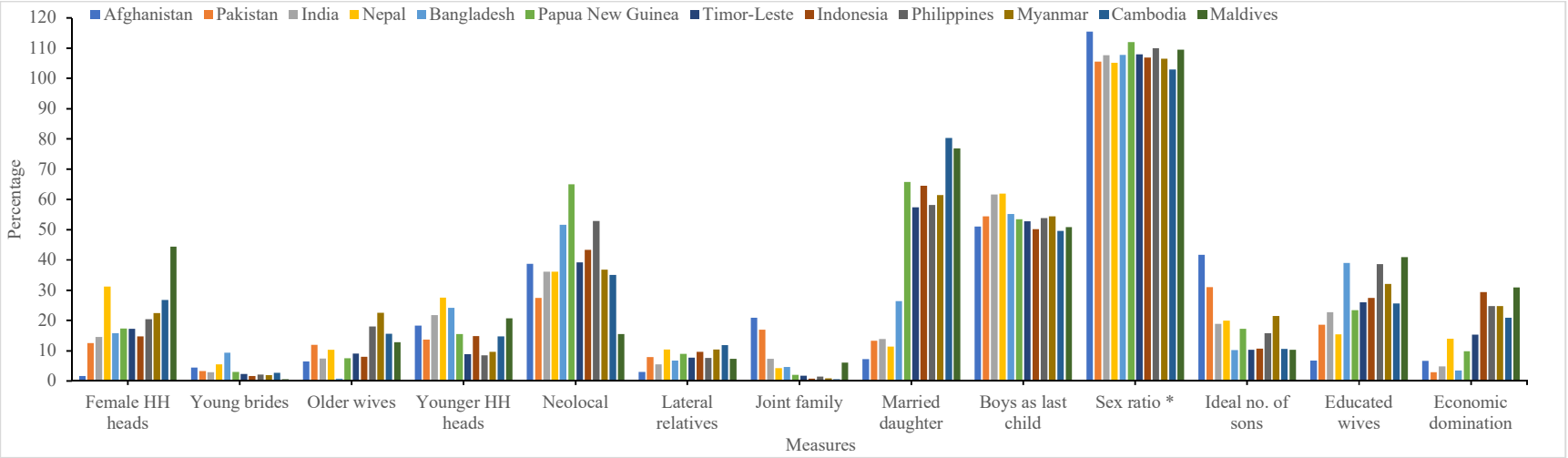
Note: HH-Household

Table 3: Patriarchy index ranking in South and Southeast Asian regions by place of residence and agricultural land holdings

	South Asia						Southeast Asia					
	Afghanistan	**Pakistan**	**India**	**Nepal**	**Bangladesh**	**Maldives** [#]	**PNG**	**Timor-Leste**	**Indonesia**	**Philippines**	**Myanmar**	**Cambodia**
Place of Residence												
Rural	1	1	1	1	1	1	2	2	1	2	2	2
Urban	2	2	2	2	2	2	1	1	2	1	1	1
Agricultural Land Holdings												
Yes	1	1	1	1	1		2	1	1	2	2	1
No	2	2	2	2	2		1	2	2	1	1	2

Note: [#] information on agricultural land holdings was not available for Maldives; PNG-Papua New Guinea

Supplementary File



Note: * Except for sex ratio (boys per 100 girls), all other measures are in percentage; HH-Household; no.-number

Figure S1: Measures used in the estimation of the patriarchy index of SA and SEA countries

Table S1: Correlation coefficients between thirteen measures of the five domains of the patriarchy index across the 12 SA and SEA countries

	Male domination			***Generational domination***				***Patrilocality***	***Son preferences***			***Socioeconomic domination***	
	Female HH heads	Young brides	Older wives	Younger HH heads	Neolocal	Joint family	Lateral relatives	Married daughter	Boys as last child	Sex ratio	Ideal number of sons	Educated wives	Economic domination
Male domination													
Female HH heads	1												
Young brides	-0.304	1											
Older wives	0.394	-0.618*	1										
Generational domination													
Younger HH heads	0.213	0.582*	-0.583*	1									
Neolocal	-0.449	0.335	-0.270	-0.163	1								
Joint family	0.516	-0.221	0.504	-0.176	0.016	1							
Lateral relatives	-0.483	0.207	-0.296	0.225	-0.328	-0.707*	1						
Patrilocality													
Married daughter	0.511	-0.594*	0.456	-0.505	0.056	0.558	-0.708*	1					
Son preferences													
Boys as last child	0.028	0.368	-0.147	0.516	0.037	-0.066	0.022	-0.635*	1				
Sex ratio at birth	-0.392	0.004	-0.311	-0.029	0.321	-0.750**	0.436	-0.161	-0.200	1			
Ideal number of sons	-0.570	0.113	-0.004	0.026	-0.109	-0.515	0.861**	-0.665*	0.102	0.456	1		
Socioeconomic domination													
Educated wives	0.529	-0.127	0.237	-0.186	0.030	0.226	-0.608*	0.603*	-0.200	-0.189	-0.739**	1	
Economic domination	0.605*	-0.666*	0.599*	-0.353	-0.232	0.482	-0.573	0.778**	-0.458	-0.168	-0.486	0.514	1

Note: HH-Household; **Correlation is significant at the 0.01 level; *Correlation is significant at the 0.05 level

Table S2: Correlation coefficients between five domains of the patriarchy index

	Male domination		**Generational domination**	**Patrilocality**		**Son preferences**	**Socioeconomic domination**
Male domination	1						
Generational domination	-0.398		1				
Patrilocality	0.655	*	0.025	1			
Son preferences	0.369		0.067	0.526		1	
Socioeconomic domination	0.698	*	0.074	0.805	**	0.530	1

Note: **Correlation is significant at the 0.01 level; *Correlation is significant at the 0.05 level

Table S3: State or provincial level Patriarchy Index (PI) rankings of the selected South and Southeast Asian countries

Afghanistan				Pakistan				India				Bangladesh				Indonesia			
Province	**N**	**PI**	**Rank**	**Province**	**N**	**PI**	**Rank**	**State**	**N**	**PI**	**Rank**	**Division**	**N**	**PI**	**Rank**	**Province**	**N**	**PI**	**Rank**
Khost	8805	37.7	1	FATA	6854	31.2	1	Rajasthan	177476	34.2	1	Mymensingh	10105	23.1	1	North Maluku	4500	26.3	1
Ghazni	6999	36.8	2	Balochistan	12772	29.1	2	Daman and Diu	5989	33.1	2	Khulna	10965	19.9	2	Bali	3036	25.1	2
Paktika	7167	36.7	3	KPK	15686	23.4	3	Bihar	198159	32.9	3	Chittagong	13336	19.8	3	Papua	2802	25.1	3
Badghis	5742	35.2	4	Sindh	18319	19.1	4	Haryana	88027	32.9	4	Sylhet	11581	19.4	4	South Sumatera	4459	22.6	4
Kunarha	5817	35.0	5	Punjab	21646	13.3	5	Uttar Pradesh	414972	32.8	5	Rajshahi	10773	19.0	5	West Java	19238	22.4	5
Helmand	6163	34.3	6	ICT	7651	12.3	6	Jharkhand	127316	31.6	6	Rangpur	10715	17.5	6	North Kalimantan	2841	21.9	6
Laghman	5645	34.1	7					Punjab	78023	31.3	7	Barisal	9548	15.8	7	West Kalimantan	4107	21.8	7
Zabul	1440	33.5	8					Madhya Pradesh	261512	31.1	8	Dhaka	12796	15.3	8	Maluku	8171	21.7	8
Wardak	5675	33.1	9					West Bengal	67926	31.0	9					Jambi	2667	21.6	9
Paktya	8117	32.7	10					Assam	113064	30.9	10					East Nusa Tenggara	10057	20.5	10
Panjsher	5535	31.4	11					Jammu & Kashmir	93791	30.3	11					North Sumatera	10165	20.0	11
Samangan	4778	31.4	12					Gujarat	97811	30.2	12					Lampung	4909	19.9	12
Baghlan	5156	30.6	13					Arunachal Pradesh	59459	29.5	13					West Papua	2446	19.3	13
Logar	6622	30.4	14					Uttarakhand	68441	29.5	14					Banten	6252	19.2	14
Kandahar	6867	30.2	15					Maharashtra	127197	29.4	15					North Sulawesi	2520	19.2	15
Urozgan	5541	30.1	16					Chhattisgarh	95980	29.2	16					Aceh	9394	18.8	16
Parwan	5443	29.7	17					Himachal Pradesh	40390	28.7	17					West Nusa Tenggara	5100	18.7	17
Nangarhar	7814	29.7	18					Tripura	18160	28.5	18					Central Java	13760	18.7	18
Farah	6385	29.1	19					D & N Haveli	3453	28.1	19					Riau Islands	3890	18.3	19
Nooristan	8353	29.0	20					Karnataka	107207	27.4	20					Bengkulu	3158	17.8	20
Jawzjan	6748	28.8	21					Odisha	130197	27.4	21					Jakarta	6555	17.7	21
Kapisa	6039	28.7	22					Delhi	27373	27.0	22					Yogyakarta	2503	17.5	22
Kunduz	6160	26.8	23					Andhra Pradesh	41707	25.8	23					Central Sulawesi	4846	17.4	23
Ghor	6151	26.7	24					Manipur	55738	25.4	24					Bangka Belitung	2952	17.2	24
Balkh	6213	25.5	25					Sikkim	18881	25.2	25					Southeast Sulawesi	6219	17.2	25
Bamyan	5453	25.3	26					A & N Islands	10462	24.1	26					Riau	4198	16.9	26
Daykundi	4899	25.2	27					Goa	6370	24.0	27					East Java	14961	16.9	27
Sar-E-Pul	5536	25.2	28					Telangana	31272	23.9	28					South Sulawesi	7384	16.8	28
Badakhshan	5534	25.0	29					Puducherry	13579	23.7	29					Central Kalimantan	2385	16.8	29
Nimroz	4532	24.5	30					Tamil Nadu	101108	23.4	30					East Kalimantan	5049	16.7	30
Herat	5794	22.8	31					Nagaland	46228	22.9	31					West Sulawesi	6797	16.6	31
Takhar	5831	22.3	32					Chandigarh	3238	22.4	32					Gorontalo	2579	16.0	32
Kabul	5841	21.0	33					Mizoram	51365	21.8	33					South Kalimantan	3074	14.6	33
Faryab	4913	13.2	34					Kerala	45662	20.0	34					West Sumatera	4749	13.9	34
								Lakshadweep	4040	18.6	35								
								Meghalaya	37470	17.9	36								

Note: N - Total number of household members interviewed; FATA - Federally Administered Tribal Areas; KPK - Khyber Pakhtunkhwa ICT - Islamabad Capital Territory; D & N - Dadra & Nagar; A & N - Andaman & Nicobar.