

Urban and rural disparities: evaluating happiness levels in Indonesian women

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Abstract

Grasping the underlying determinants of happiness has significant implications for societal growth and individual well-being. To this end, our investigation delved deep into the factors enhancing happiness among Indonesian women, with a spotlight on the disparities evident in urban versus rural settings. From a robust sample size of 38,144 women, we employed logistic regression analysis (using a significance threshold of 0.05) and took advantage of Stata 17's `spmap` command to meticulously outline happiness averages across provinces. Our analyses revealed a compelling trend: urban women consistently reported more elevated happiness scores (71.51; 95%CI 71.40-71.62) compared to their rural peers (70.19; 95%CI 70.08-70.29), with a significant p-value of 0.001. Parsing this data further, we recognized that across urban and rural landscapes, the nexus between higher education levels, younger age, and augmented household income remained a strong predictor of happiness elevation. Intriguingly, though, densely populated urban hubs did not always translate to heightened contentment. As a directive, policymakers should amplify efforts towards enriching educational and economic landscapes for women in high-density zones. Moreover, the study suggests a pivotal need to explore the idiosyncratic attributes of distant provinces, aiming to translate those lessons to enrich urban living conditions.

Introduction

The intricate relationship between happiness, prosperity, and health is well-established, yet it's important to note that economic factors alone do not guarantee happiness. This is because happiness is a multifaceted construct influenced by a plethora of variables.^{1,2} Such determinants encompass genetics, education, socio-economic conditions, time management, activities, stress exposure, marital status, and intrinsic personality traits. Furthermore, elements like spirituality, religiosity, social support, as well as physical and mental health, have been observed to be closely tied to one's happiness.³⁻⁷

Residency, whether urban or rural, plays a pivotal role in determining happiness. Generally, urban inhabitants report higher happiness levels, likely due to enhanced facilities in cityscapes. However, there are exceptions.^{8,9} Notably, in certain locales, rural populations have shown higher happiness scores than their urban counterparts.⁸ It's essential to highlight that the determinants of happiness vary across demographic segments. For instance, factors contributing to the well-being of adoles-

cents, adults, or the elderly differ.^{10–12} Similarly, professionals or students might experience varied happiness sources, warranting diverse measurement tools aligned with specific influencing factors.^{3,13–15} To cater to these varied segments, a myriad of happiness measurement instruments have been formulated. These tools, customized for distinct demographics like workers, caregivers, adolescents, or even cultural backgrounds, ensure nuanced assessments.^{3,16–18} Furthermore, these assessments often incorporate unique factors tailored for specific populations, such as living arrangements or registrations.^{19,20} For urban youth, for instance, career progression prospects emerge as significant happiness determinants.²¹ Turning our gaze to Indonesia, the nation employs an extensive happiness assessment, anchored by the Central Bureau of Statistics. This evaluation, based on international standards, adopts frameworks delineated by the New Economic Foundation (NEF) and the Organization for Economic Co-operation and Development (OECD), mirroring Indonesia's unique socio-cultural landscape.²² Given the global economic ramifications triggered by the COVID-19 pandemic, evaluating happiness levels concerning urban versus rural residency gains paramount importance.^{8,23–25} The factors influencing happiness evidently diverge across urban and rural landscapes. This disparity is pronounced in Indonesia, where 56% of the populace resides in the relatively advanced regions of Java and Bali.²² Yet, the characteristics delineating happiness across these settings remain underexplored. Recognizing these distinct attributes could empower individuals to align their residence with their happiness determinants, thereby elevating their well-being.

Women have a specialty, namely that based on the results of the 2021 happiness survey, their index is lower than men.²² Unlike men, women have hormonal influences, for example menopause, which causes discomfort. Besides that, the factors of living in urban or rural areas, work, social activities are different between women and men therefore it is better to explain happiness for each gender, in this case for women.^{15,26} Thus, this research primarily seeks to discern characteristics fostering happiness among Indonesian women. Simultaneously, it delves into contrasting happiness determinants across urban and rural settings.

Materials and Methods

Design and Setting

This study employed a survey-based design conducted in period 1 July to 27 August 2021 by the Central Bureau of Statistics (CBS) across 34 provinces. While aiming for a sample size of 75,000 respondents, the survey yielded data from 74,684 participants, reflecting a response rate of 99.5% with adequate provincial representation. The sampling unit is household. The survey employed a two-stage one-phase sampling strategy, namely the first stage was selecting census blocks. The second stage was household selection. Census blocks were selected by means of urban-rural stratification. In the first stage, it selected 7500 census blocks from 30,000 census blocks in probability proportional to size using urban rural stratification. In the second stage, it selected 10 households from 20 households in each selected census by taking into account implicit stratification, including house floor variables, lighting, drinking water, education and so on. That selection was using systematic random sampling.

Data collection

Data collection was carried out by CBS enumerators using questionnaires. The criteria for a household were an ordinary household, namely a group of people who live in one or part of a census building and eat from the same kitchen. Special households, for example dormitories, were not included in the survey. The sampling unit is a household selected by CBS randomly. The primary respondent was the household head. In instances where the household head was unavailable, their spouse served as the representative respondent.²² Exclusion criteria were they refused, were not present until the specified time limit or they moved to different census block. Enumerators may not replace households that were not found. For the purposes of this analysis, we narrowed our focus to female respondents, resulting in a final sample size of 38,144. It is noteworthy that this survey was conducted amidst the COVID-19 pandemic.

Questionnaire

The happiness level survey was initiated by CBS in 2012 and underwent a national-level pilot in 2014. It was crafted around the New Economic Foundation NEF framework. In 2017, it was augmented to incorporate elements from the Organization for Economic Co-operation and Development OECD framework. The methodology adopted is in line with the standardized Gallup World Pool method, which also serves as the foundation for the World Happiness Index. This consistency ensures that the derived data is compatible with other international happiness datasets.

The happiness index encompasses 19 defining factors spread across three primary dimensions: life satisfaction, affect, and eudaimonia. The life satisfaction dimension probes into areas such as education, primary activities or employment, housing amenities, household income, health, familial harmony, availability of leisure time, neighborhood social interactions, environmental quality, and safety measures. The affective domain delves into feelings of happiness/contentment/joy, serenity versus anxiety, and cheerfulness versus despondency. Lastly, eudaimonia addresses facets like autonomy, environmental mastery, personal growth, cultivating positive relationships, life's purpose, and self-appreciation.²²

A comprehensive list of these 19 questions is provided in Appendix 1. Responses are calibrated on a scale ranging from 0 (indicating deep dissatisfaction) to 10 (indicating supreme satisfaction, Table 1).

Data analysis

The CBS-sourced data was subjected to a multiple logistic regression analysis employing the Enter method. This analytical method was selected owing to the non-normal distribution of the happiness dependent variable. A significance benchmark was established at 0.05. Variations in characteristics were evaluated using independent sample T-tests and chi-square tests. All analytical procedures were conducted on STATA software (version 17). Moreover, an illustrative representation of average provincial happiness levels was generated using STATA's `smmap` command.

Ethical considerations

Given our reliance on CBS's secondary data, we sought an ethical review from the Ethics Committee of the National Research and Innovation Agency (BRIN). The committee adjudged this study as exempt from requiring an ethical clearance, as evidenced by Letter Number 129/KE.01/SK/7/2022.

Results

Sample

Analyses were conducted on data from 38,144 respondents, with their demographic and other pertinent characteristics presented in Table 2. Notably, urban areas reported a higher average happiness score compared to their rural counterparts (71.51 vs. 70.19), with this disparity being statistically significant. Intriguingly, the mean age of respondents remains consistent across both urban and rural settings, and this consistency is statistically significant. Additionally, the proportion of participants possessing higher education, positioned at the pinnacle economic bracket (level 1), and identifying as single, is notably lower than other categorized groups.

In Table 4, both the crude and adjusted odds ratio (OR) calculations, a persistent theme emerges: tertiary education wields the most substantial influence over happiness levels in both urban and rural populations. Conversely, females who are either divorced, widowed, of advancing age, and situated in a lower economic stratum, depict an inverse relationship with happiness. After adjusting for age, marital status, and family income variables, the OR for respondents with higher education (mini-

um college graduates) registers at 3.409 (95% confidence interval (CI) = 3.026-3.839, $p = 0.001$) for urban regions, and 3.494 (95% CI = 3.013-4.051, $p = 0.001$) for rural localities.

While household income certainly influences happiness levels, it's the lowest income cohort (earning below IDR 1.7 million monthly) that manifests the most significant negative correlation. In the rural backdrop, this group's OR is tabulated at 0.397 (95% CI = 0.342-0.462, $p = 0.001$). In stark contrast, their urban counterparts have an OR measured at 0.279 (95% CI = 0.245-0.319, $p = 0.001$). The average happiness metrics, segregated based on urban and rural demarcations per province, are elaborated in Table 3. These averages serve as a foundation for the graphical representations in Figures 1 and 2.

Gleaning insights from these maps, one observes that provinces like Central Kalimantan, Central Sulawesi, Gorontalo, North Maluku, and Maluku consistently report elevated happiness levels, irrespective of urban or rural classification. A similar homogeneity in happiness scores, straddling urban and rural divides, is evident in provinces such as Aceh, West Sumatra, Lampung, East Java, East Nusa Tenggara, East Kalimantan, and Papua. Diverging from this trend, provinces like Jambi, South Sumatra, North Kalimantan, and North Sulawesi exhibit a pronounced urban bias, with city dwellers

Table 1. Variables.

Variables	Variable descriptions
1 Happiness	Consisting of 19 questions. Each question is a self-reported measure of how satisfied the individual is with his/her health, all things considered, where 0 = very unsatisfied and 10 = very satisfied. 1. Less happy (< mean score) 2. Happy (\geq mean score)
2 Age	1.< 30 years; 2. 30-59 years; 3. \geq 60 years.
3 Marital status	1. Unmarried, 2. Married, 3. Divorced/widowed
4 Education	1. No School-Primary finished, 2. Secondary-High School, 3. D1-University
5 Living	1. Urban, 2. Rural
6 Household Income	Level 1 (> 7.2 million/month), Level 2 (> 4.8 -7.2 million/month), Level 3 (> 3.0-4.8 million/month), Level 4 (> 1-1.8-3.0 million/month), Level 5 (< 1.8 million/month)

Table 2. Characteristic respondents.

Variables	Urban (N=17873)	%	Rural (N=20271)	%	p
Happiness (mean)	71.51; 95%CI 71.40-71.62		70.19; 95%CI 70.08-70.29		0.001*
Age (mean)	46.22; 95%CI 46.02-46.41		46.21; 95%CI 46.02-46.41		0.483*
Education					
- No school-Primary S	6370	35.64	12238	60.37	0.001**
- Junior HS-Senior HS	8851	49.52	6844	33.76	
- Diploma-University	2652	14.84	1189	5.87	
Marital status					
- Unmarried	469	2.62	213	1.05	0.001**
- Married	13238	74.07	14986	73.93	
- Divorce/widowed	4166	23.31	5072	25.02	
Household Income					
- Level1	2141	11.98	975	4.81	0.001**
- Level2	2540	14.21	1531	7.55	
- Level3	3952	22.11	3375	16.65	
- Level4	5068	28.36	6895	34.01	
- Level5	4172	23.34	7495	36.97	

*Independent sample T test ** Chi square.

Table 3. The mean of urban and rural happiness level by province.Variables

No	Province	Urban			Rural						
		Mean	No	Province	Mean	No	Province				
1	Aceh	72.50	20	West Kalimantan	72.35	1	Aceh	70.10	20	West Kalimantan	70.25
2	North Sumatera	70.71	21	Central Kalimantan	73.43	2	North Sumatera	68.47	21	Central Kalimantan	71.44
3	West Sumatera	71.13	22	South Kalimantan	72.52	3	West Sumatera	69.69	22	South Kalimantan	68.73
4	Riau	70.77	23	East Kalimantan	73.08	4	Riau	71.16	23	East Kalimantan	70.78
5	Jambi	73.96	24	North Kalimantan	74.10	5	Jambi	69.54	24	North Kalimantan	70.85
6	South Sumatera	71.91	25	North Sulawesi	75.55	6	South Sumatera	70.06	25	North Sulawesi	75.07
7	Bengkulu	70.36	26	Central Sulawesi	75.20	7	Bengkulu	67.28	26	Central Sulawesi	73.56
8	Lampung	71.91	27	South Sulawesi	72.35	8	Lampung	69.70	27	South Sulawesi	70.07
9	Babel	71.37	28	South East Sulawesi	72.45	9	Babel	70.52	28	South East Sulawesi	72.04
10	Riau Island	72.50	29	Gorontalo	73.74	10	Riau Island	71.14	29	Gorontalo	73.54
11	Spec Region Jakarta	71.18	30	West Sulawesi	72.51	11	Spec Region Jakarta		30	West Sulawesi	72.59
12	West Java	70.71	31	Maluku	75.26	12	West Java	68.54	31	Maluku	75.15
13	Central Java	69.81	32	North Maluku	78.33	13	Central Java	69.40	32	North Maluku	74.83
14	Spec Region Jogjakarta	70.51	33	Papua Barat	72.98	14	Spec Region Jogjakarta	67.73	33	Papua Barat	72.46
15	East Java	71.04	34	Papua	73.04	15	East Java	69.74	34	Papua	69.79
16	Banten	69.29	35	Indonesia	71.51	16	Banten	68.28	35	Indonesia	70.19
17	Bali	70.23				17	Bali	67.57			
18	West Nusa Tenggara	70.66				18	West Nusa Tenggara	69.19			
19	East Nusa Tenggara	72.15				19	East Nusa Tenggara	69.27			

Table 4. Logistic regression model characteristics influenced to Happiness.

Characteristics	Crude						Adjusted					
	Urban			Rural			Urban			Rural		
	OR	95%CI	p	OR	95%CI	p	OR	95%CI	p	OR	95%CI	p
Age (years)												
<30	ref			ref			ref			ref		
≥30-59	0.908	0.821 - 1.004	0.059	0.787	0.719 - 0.861	0.001	0.929	0.834 - 1.035	0.187	0.930	0.846 - 1.023	0.136
≥60	0.520	0.462 - 0.585	0.001	0.418	0.376 - 0.466	0.001	0.890	0.776 - 1.021	0.098	0.792	0.699 - 0.898	0.001
Education												
-No school-PrimaryS	ref			ref			ref			ref		
-Junior HS-Senior HS	2.101	1.973 - 2.250	0.001	1.941	1.828 - 2.061	0.001	1.680	1.565 - 1.804	0.001	1.580	1.481 - 1.687	0.001
-Diploma-University	6.021	5.407 - 6.705	0.001	5.425	4.711 - 6.247	0.001	3.409	3.026 - 3.839	0.001	3.494	3.013 - 4.051	0.001
Marital status												
-Unmarried	ref			ref			ref			ref		
-Married	0.998	0.828 - 1.202	0.983	1.307	0.995 - 1.716	0.054	0.992	0.810 - 1.214	0.938	1.189	0.891 - 1.587	0.239
-Divorce/widowed	0.578	0.476 - 0.702	0.001	0.686	0.520 - 0.904	0.007	0.819	0.663 - 1.013	0.066	0.909	0.678 - 1.220	0.528
Household Income												
-Level1	ref			ref			ref			ref		
-Level2	0.576	0.503 - 0.659	0.001	0.856	0.721 - 1.016	0.076	0.663	0.577 - 0.761	0.001	0.923	0.773 - 1.001	0.373
-Level3	0.352	0.503 - 0.659	0.001	0.598	0.514 - 0.696	0.001	0.478	0.421 - 0.544	0.001	0.713	0.609 - 0.834	0.001
-Level4	0.352	0.311 - 0.397	0.001	0.256	0.222 - 0.296	0.001	0.368	0.324 - 0.418	0.001	0.524	0.451 - 0.608	0.001
-Level5	0.246	0.218 - 0.277	0.001	0.280	0.279 - 0.282	0.001	0.279	0.245 - 0.319	0.001	0.397	0.342 - 0.462	0.001

Urban Happiness

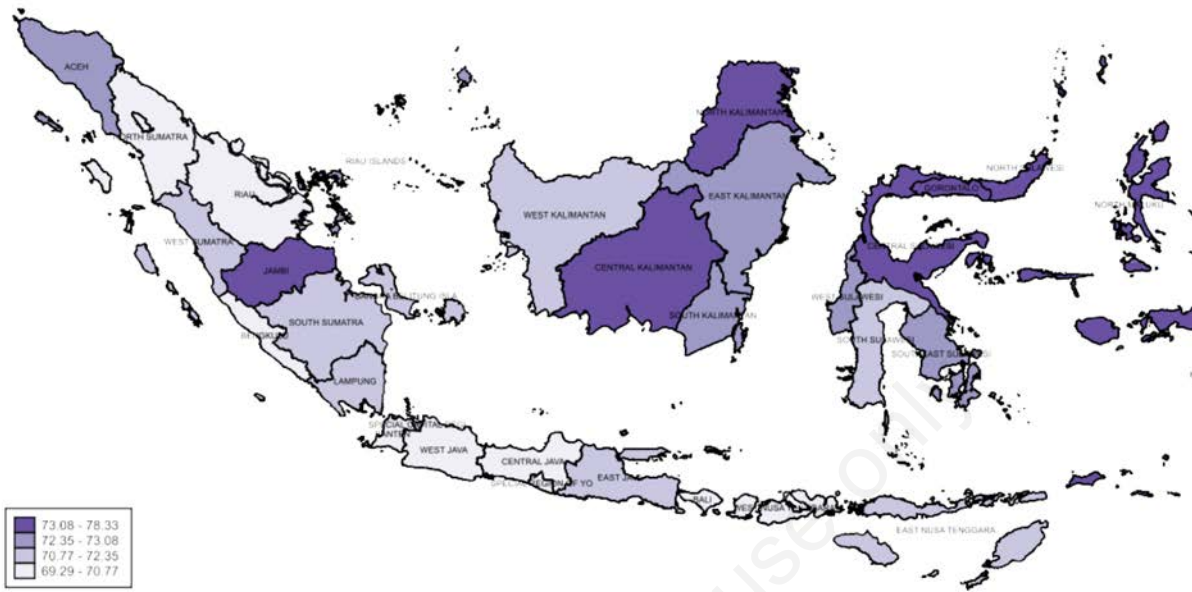


Figure 1. Urban happiness.

Rural Happiness

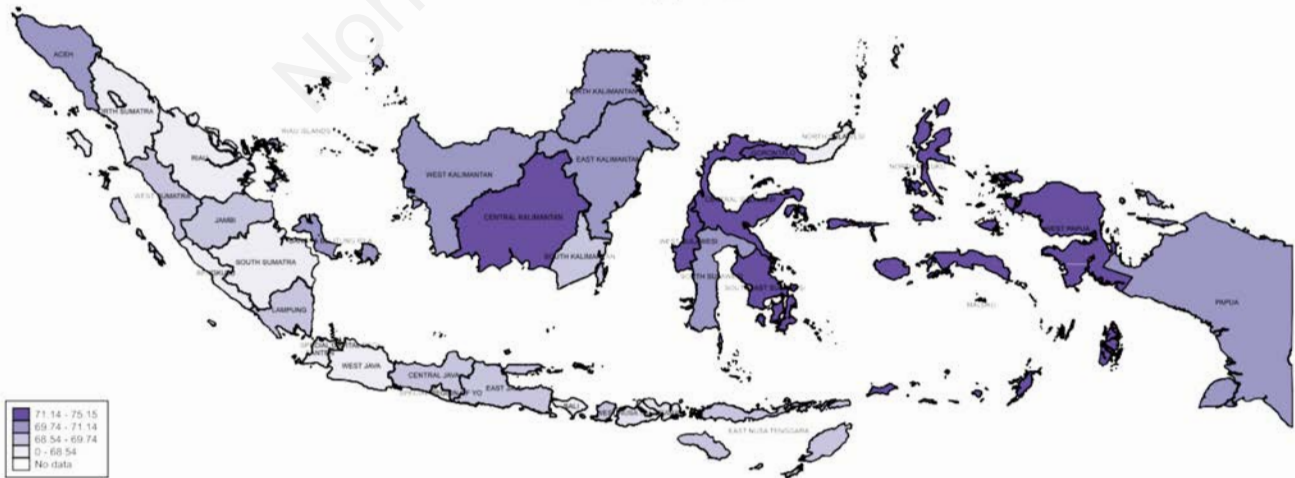


Figure 1. Rural happiness.

expressing heightened happiness. In stark contrast, provinces like Central Java, West Sulawesi, South East Sulawesi, and West Papua spotlight rural regions as happiness hotspots. A concluding observation is the comparatively depressed happiness scores in provinces like North Sumatra, Riau, Bengkulu, Banten, West Java, Bali, and West Nusa Tenggara, spanning both urban and rural sectors.

Discussion

Our findings indicate a notable trend: on average, urbanites in Indonesia revel in greater happiness compared to their rural counterparts. These findings resonate with similar investigations across the globe, suggesting a pervasive urban-rural happiness divide.^{8,24} However, it's pivotal to acknowledge the deviations seen in some developed nations where rural inhabitants, empowered by a plethora of amenities, often report enhanced happiness levels.²⁴

A remarkable highlight from our analysis was the preeminent role of education in governing happiness across urban and rural landscapes. Nonetheless, contrasting literature suggests that the real elixirs of joy might be well-paying jobs and robust income streams, rather than educational milestones.²⁷

Gender emerges as another pivotal determinant, particularly pronounced in rural settings. Rural men seem to grapple with happiness more than their urban peers.¹⁵ And while gender's influence on happiness appears fairly balanced across urban and rural arenas, life events such as menopause can usher in profound psychological perturbations for women.²⁶ Hence, urban locales, brimming with a plethora of engagements ranging from academia to politics, might appeal more to this demographic.²⁸

Age undeniably modulates happiness. While youth often radiates exuberance, the multifaceted ingredients of happiness morph across the age spectrum. Older demographics often report an inverse relationship between age and happiness, with familial bonds and interactions with kin playing a cardinal role in their emotional well-being.^{11,12,19}

Socio-economic stature, underlined by family income, remains a stalwart indicator of happiness. Such factors consistently sculpt the happiness landscape across urban and rural arenas. However, post-factorial adjustments spotlight the pronounced weight of socio-economic influences in rural settings compared to urban ones.^{2,22} This is intriguing, especially when contemplating the broader, macro-economic perspectives and their interplay with individual happiness.

Our spatial analysis, via comprehensive maps, unveils consistent happiness zeniths across provinces like Central Kalimantan and Central Sulawesi. Conversely, stark urban-rural happiness disparities are evident in provinces like Jambi and Central Java. Alarming, traditionally dense and developmentally advanced provinces such as Java and Bali manifest suboptimal happiness metrics across both urban and rural domains.

The results of this study show that Indonesia is not yet like developed countries, for example Denmark, where the level of happiness is higher for those living in rural areas.⁸ The fact that urban areas on the island of Java are densely populated turns out to provide less happiness for its residents. This needs to be researched more deeply socioculturally to find out what actually happens to residents in densely populated areas in relation to their happiness.

Yet, our study isn't devoid of limitations. Notably absent is the inclusion of professional vocations, largely due to data unavailability. Also, our respondent demographic, primarily household heads or their surrogates, might induce certain sampling biases, possibly

skewing happiness insights towards mature adults. This age restricting could be possible overgeneralizing happiness among Indonesian women. Another limitation are that self-reported happiness measurements have the potential for subjectivity. The social support, cultural factors, access to healthcare and other variable might contribute to happiness were not available as well.²⁹ The temporal context of our research, conducted amidst the 2021 COVID-19 pandemic, cannot be overlooked. This global health crisis, with its far-reaching psychological reverberations, undeniably imprinted upon our findings.³⁰

A commendable strength of our study lies in its vast, nationally representative sampling. Bolstered by a standardized happiness assessment tool, our results are ripe for juxtaposition with global studies. However, a potential limitation arises from the singular respondent model, restricting the age profile of our respondents and possibly overgeneralizing happiness insights among Indonesian women.

Our findings beckon attention from policy architects, healthcare professionals, and local authorities. Intriguingly, densely populated and economically advanced provinces register lackluster happiness metrics, in stark contrast to fledgling provinces like Maluku, which bask in contentment across urban and rural spectrums. In conclusion, The trinity of higher education, robust income, and youthfulness seems instrumental in paving pathways to happiness, irrespective of urban or rural habitats.

The implication of the results of this research for the future is that to increase happiness evenly, it is necessary to increase education and income. Increased income will also be in line with the increased availability of living facilities. In this way, it is hoped that there will be no disparity in the happiness of residents whether they live in the city or in the village.

Conclusions

Factors contributing to heightened happiness among women include advanced education, youth, and high household income. Surprisingly, in densely populated and developed provinces, happiness levels remain lower. In contrast, in provinces distant from the capital—both in urban and rural settings—happiness levels are notably higher. Governments and policymakers should prioritize investments in education and economic opportunities for women, particularly in densely populated areas. Additionally, studying the unique attributes of newer provinces distant from the capital could provide insights for improving well-being in more developed regions. amplify efforts towards enriching educational and economic landscapes for women in high-density zones. Moreover, the study suggests a pivotal need to explore the idiosyncratic attributes of distant provinces, aiming to translate those lessons to enrich urban living conditions.

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Online supplementary materials
Appendix. Questions