Empowered Voices: Exploring Women's Autonomy And Fertility Intention In Indonesia

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Abstract

This study explores the relationship between women's autonomy and fertility intentions in Indonesia, considering the socio-cultural and economic dynamics that shape reproductive decision-making. Utilizing couples's data from the 2017 Indonesia Demographic and Health Survey (IDHS), the study employs an instrumental variable (IV) approach to address potential endogeneity in measuring women's autonomy. The findings reveal that higher levels of women's autonomy, defined through participation in household decision-making, significantly reduce women's fertility intentions. Women with autonomy have a stronger ability to negotiate reproductive decisions with their husbands, enabling them to align their reproductive choices with their personal aspirations. Having autonomy enables women to exercise their reproductive rights and make well-informed decisions about family planning. In contrast, limited autonomy restricts women's participation in decision-making, reinforcing social norms that prioritize male authority in fertility-related matters. Closing this gap requires targeted interventions to enhance women's role in reproductive health, ensuring they have an equal say in fertility-related decisions.

Keywords: Women's autonomy, couple, fertility intention, instrumental variable

Abstrak

Studi ini mengeksplorasi hubungan antara otonomi perempuan dan keinginan untuk memiliki anak di Indonesia, dengan mempertimbangkan dinamika sosial-budaya dan ekonomi yang membentuk pengambilan keputusan reproduksi. Dengan memanfaatkan data pasangan suami istri dari Survei Demografi dan Kesehatan Indonesia (SDKI) 2017, studi ini menggunakan pendekatan variabel instrumental (IV) untuk mengatasi potensi endogenitas dalam mengukur otonomi perempuan. Temuan penelitian ini mengungkapkan bahwa tingkat otonomi perempuan yang lebih tinggi, yang didefinisikan melalui partisipasi dalam pengambilan keputusan rumah tangga, secara signifikan mengurangi keinginan untuk memiliki anak. Perempuan dengan otonomi memiliki kemampuan yang lebih kuat untuk menegosiasikan keputusan reproduksi dengan suami mereka, sehingga memungkinkan perempuan untuk menyelaraskan pilihan reproduksi dengan aspirasi pribadi perempuan. Otonomi memberdayakan perempuan untuk menegaskan hak reproduksi mereka, dan membuat pilihan yang tepat mengenai perencanaan keluarga. Sebaliknya, otonomi yang terbatas membatasi kemampuan perempuan untuk berpartisipasi dalam pengambilan keputusan, yang memperkuat norma-norma sosial yang memprioritaskan otoritas laki-laki dalam masalah yang berhubungan dengan fertilitas. Untuk mengatasi kesenjangan ini diperlukan intervensi yang tepat sasaran guna meningkatkan peran perempuan dalam kesehatan reproduksi, memastikan mereka memiliki hak yang sama dalam pengambilan keputusan terkait fertilitas.

Kata Kunci: Otonomi perempuan; pasangan; intensi fertilitas; variabel instrumen

Background

Desires, motivations, and the dynamics of the marital relationship influence the decision to have children within a family.[1] An individual's desire or plan to have children, referred to as fertility intentions, serves as an accurate indicator for predicting future fertility behaviors. Ajzen et al. state that fertility intentions can serve as a useful indicator of future fertility trends. The strong correlation between fertility intentions and behavior highlights the potential of these intentions to reflect future fertility trends.[2]

Literature studies reveal that women's autonomy will affect fertility significantly and influences the desire to have children. This is closely tied to women's ability to voice their preferences.[3] The effect of women's autonomy on fertility decisions stems from shifting power dynamics within households. [4] In egalitarian relationships emphasizing gender equality, decisions about having children often result from negotiations between spouses. However, a systematic review by Upadhyay et al. indicates that the influence of women's autonomy on fertility varies depending on cultural contexts.[5] In societies with traditional gender roles, women's autonomy may be limited, affecting their fertility choices. Conversely, in more modern settings, greater autonomy among women often leads to lower fertility rates.[6] Differences further influence these variations in social, demographic, economic, and political conditions.[7]

Gender-imbalanced power dynamics within households significantly influence fertility realization in Indonesia, a country with a patriarchal system that perceives women as subordinate to men.[8] The prevalence of patriarchy limits women's access to opportunities compared to men. [9] Prevailing patriarchal values in Indonesian society limit women's participation in decision-making, especially in matters related to reproductive health. [10] Women are often positioned weakly in the hierarchy of fertility-related decision-making. [11] This dynamic

[1] Stein, Petra, Sebastian Willen and Monika Pavetic, 'Couples' Fertility Decision-Making', *Demographic Research*, 30 (2014), 1697–1732 <https://doi.org/10.4054/DemRes.2014.30.63>

[2] Ajzen, Icek and Jane Klobas, 'Fertility Intentions', *Demographic Research*, 29 (2013), 203–32 <https://doi.org/10.4054/DemRes.2013.29.8>
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[3] Upadhyay, Ushma D, Jessica D Gipson, Mellissa Withers, Shayna Lewis, Erica J Ciaraldi, Ashley Fraser, and others, 'Women's Empowerment and Fertility: A Review of the Literature', *Social Science & Medicine*, 115 (2014), 111–20 <https://doi.org/10.1016/j.socscimed.2014.06.014>

[4] Dyson, Tim and Mick Moore, 'On Kinship Structure, Female Autonomy, and Demographic Behavior in India', *Population and Development Review*, 9 (1983), 35 <https://doi.org/10.2307/1972894>

[5] Upadhyay, Ushma D, Jessica D Gipson, Mellissa Withers, Shayna Lewis, Erica J Ciaraldi, Ashley Fraser, and others, 'Women's Empowerment and Fertility: A Review of the Literature', *Social Science & Medicine*, 115 (2014), 111–20 <https://doi.org/10.1016/j.socscimed.2014.06.014>

[6] Forty, James, Kannan Navaneetham and Gobopamang Letamo, 'Determinants of Fertility in Malawi: Does Women Autonomy Dimension Matter?', *BMC Women's Health*, 22 (2022) <https://doi.org/10.1186/s12905-022-01926-4>

[7] Haque, Rezwanul, Khorshed Alam, Syed Mahbubur Rahman, Syed Afroz Keramat and Mohammed Khaled Al-Hanawi, 'Women's Empowerment and Fertility Decision-Making in 53 Low and Middle Resource Countries: A Pooled Analysis of Demographic and Health Surveys', *BMJ Open*, 11 (2021), e045952 <https://doi.org/10.1136/bmjopen-2020-045952>

[8] Amraeni, Yunita, Sudijanto Kamso, Sabarinah B Prasetyo and Muhammad Nirwan, *A Matriarchal and Patriarchal Perception on Women's Autonomy in Decision Making on Contraception: Qualitative Analysis in Indonesia*, *Malaysian Journal of Medicine and Health Sciences*, 2021, XVII

[9] Stein, Petra, Sebastian Willen and Monika Pavetic, 'Couples' Fertility Decision-Making', *Demographic Research*, 30 (2014), 1697–1732 <https://doi.org/10.4054/DemRes.2014.30.63> >

[10] Herawati, Kirani and Windhu Purnomo, 'Hubungan Budaya Patriarki Dan Pemahaman Informasi KB Dengan Kepesertaan Kontrasepsi', *Jurnal Biometrika Dan Kependudukan*, 4 (2015), 162–71

[11] Arsyad, Syahmida Syahbuddin and Septi Nurhayati, 'Determinan Fertilitas di Indonesia', *Jurnal Kependudukan Indonesia*, 11 (2017), 1 <https://doi.org/10.14203/jki.v11i1.65>

contributes to disparities in fertility rates in Indonesia, potentially stemming from patriarchal norms that hinder women's autonomy within households. Women's autonomy, which should enhance their ability to participate in household decision-making, remains limited in Indonesia. According to Putra et al., this low level of autonomy is driven by patriarchal norms that reduce women's capacity to express their views on sexual and reproductive health. Inadequate autonomy perpetuates societal expectations for women to be submissive and avoid conflict within households, which negatively impacts their attitudes and involvement in decisions regarding their desire to have children.[12]

Studies examining women's autonomy in fertility intentions from a couple's perspective are limited. Furthermore, women's autonomy is an endogenous variable influenced by both spouses' socio-economic backgrounds, and not accounting for this endogeneity may lead to biased results. Previous research has predominantly focused on women's perspectives, with limited analysis from the couple's perspective.[13] Therefore, this study seeks to examine how women's autonomy influences fertility intentions from a couple's perspective, while considering its endogeneity in Indonesia.

Methods

Data

This study utilizes data from the 2017 Indonesia Demographic and Health Survey (IDHS), focusing on the Couple's Recode (CR) questionnaire, to examine the link between women's autonomy and their desire to have children. The 2017 IDHS is based on the 2010 Population Census, with sampling weights applied to ensure national and provincial representativeness and adjust for unequal selection probabilities and response rates. The CR questionnaire provides detailed information about each married couple or cohabiting partners, such as household characteristics, fertility behavior, and women's empowerment. This data was collected through interviews with ever-married women of reproductive age (15–49 years) and ever-married men aged 15–54 years. This analysis examines fertility intentions from the couple's perspective to gain a deeper understanding of household dynamics, incorporating couple characteristics as control variables.

Dependent Variable

To predict future fertility behavior, this study employs the fertility intention variable, which reflects the desire to have children.[14] In the empirical model, the wife's fertility intention is represented as a dichotomous variable, indicating whether she intends to have (more) children or not. This aligns with the DHS question: "Do you want to have (more) children, or do you not want to have any (more) children?"

Independent Variables

The autonomy variables are associated with decision-making authority over personal healthcare, major household expenditures, and the freedom to visit family and relatives. Each decision-making question offers six response options to indicate who was involved: (1) the respondent alone; (2) the respondent and her husband/partner; (3) the respondent and another person; (4) the husband/partner alone; (5) someone else; and (6) others. These responses were recoded by assigning a value of '0' to the last three categories, where the woman had no role in decision-making. A value of '1' was given to the

[12] Putra, I Gusti Ngurah Edi, Tashi Dendup and Pande Putu Januraga, 'The Roles of Women Empowerment on Attitude for Safer Sex Negotiation among Indonesian Married Women', *Women and Health*, 61 (2021), 95–108 <https://doi.org/10.1080/03630242.2020.1831685>.

[13] Nadeem, Muhammad, Muhammad Irfan Malik, Mumtaz Anwar and Sobia Khurram, 'Women Decision Making Autonomy as a Facilitating Factor for Contraceptive Use for Family Planning in Pakistan', Social Indicators Research, 156 (2021), 71–89 <https://doi.org/10.1007/s11205-021-02633-7>

[14] Ajzen, Icek and Jane Klobas, 'Fertility Intentions', *Demographic Research*, 29 (2013), 203–32 <https://doi.org/10.4054/DemRes.2013.29.8>

first three options, signifying the woman's active participation. The overall autonomy score was then derived using Principal Component Analysis (PCA) based on these factors.

This study highlights the challenges in measuring women's autonomy due to its endogenous nature, influenced by socio-demographic factors like age, wealth, and education, which also affect fertility intentions.[15] Endogeneity can cause biased estimates, as unobserved variables may create spurious correlations. The instrumental variable (IV) approach is often used to address this, as it controls for unobserved factors and simulates randomization, if the instruments meet exogeneity (no correlation with the outcome) and relevance (strong correlation with the endogenous variable) criteria[16] However, identifying valid instruments remains a significant challenge.

Instrumental Variable

Since the data were collected at a single point in time, the instrumental variable (IV) approach is the standard method for addressing endogeneity in cross-sectional studies. A valid IV helps account for unobserved and omitted confounders, effectively simulating the conditions of a randomized controlled trial within an observational study like this one. However, identifying a valid instrument can be difficult. For an instrument to be valid, it must meet two essential criteria: exogeneity (not correlated with the outcome) and relevance (have strong association with the treatment variable), which in this case is women's autonomy.

The presence and accessibility of educational institutions in a given area can significantly affect women's autonomy. Among these, the distance to the nearest high school was chosen as a potential instrumental variable, as high schools are theoretically more influential in shaping women's autonomy than other types of educational institution. Living near a high school may provide women with better access to education, which in turn can enhance their autonomy.[17] Access to education enables women to take a more active role in decision-making.[18]

Socio-Demographic Variables

The analysis includes socio-demographic variables such as the wife's age, husband's age, education levels of both spouses, their employment statuses, parity, type of residence, and wealth status. Variables like the wife's and husband's ages are treated as continuous throughout the analysis. Education levels for both women and their partners are categorized into three groups: "primary or no education," "secondary," and "higher." Employment status is categorized into two categories: "working" and "not working." Parity is divided into four groups: "0 parity," "1 parity," "2 parity," and "2+ parity." The type of residence is categorized as either "rural" or "urban." Finally, the wealth index is classified into five groups: "poorest," "poorer," "middle," "rich," and "richest."

This study primarily aims to assess the effect of women's autonomy on fertility intentions. Both the dependent variable (fertility intention) and the endogenous variable (women's autonomy) are

[15] Haider, Mohammad Rifat, Zaina P Qureshi and M Mahmud Khan, 'Effects of Women's Autonomy on Maternal Healthcare Utilization in Bangladesh: Evidence from a National Survey', *Sexual & Reproductive Healthcare*, 14 (2017), 40–47 <https://doi.org/10.1016/j.srhc.2017.09.002>

[16] Angrist, Joshua, Victor Lavy and Analia Schlosser, 'Multiple Experiments for the Causal Link between the Quantity and Quality of Children', *Journal of Labor Economics*, 28 (2010), 773–824 <https://doi.org/10.1086/653830> Haider, Mohammad Rifat, Zaina P Qureshi and M Mahmud Khan, 'Effects of Women's Autonomy on Maternal Healthcare Utilization in Bangladesh: Evidence from a National Survey', *Sexual & Reproductive Healthcare*, 14 (2017), 40–47 <https://doi.org/10.1016/j.srhc.2017.09.002>

[17] Haider, Mohammad Rifat, Zaina P Qureshi and M Mahmud Khan, 'Effects of Women's Autonomy on Maternal Healthcare Utilization in Bangladesh: Evidence from a National Survey', Sexual & Reproductive Healthcare, 14 (2017), 40–47 <https://doi.org/10.1016/j.srhc.2017.09.002>

[18] Putra, I Gusti Ngurah Edi, Tashi Dendup and Pande Putu Januraga, 'The Roles of Women Empowerment on Attitude for Safer Sex Negotiation among Indonesian Married Women', Women and Health, 61 (2021), 95–108 <https://doi.org/10.1080/03630242.2020.1831685>

binary. To analyze binary dependent variables, this study uses the instrumental variable probit method, which is designed to address endogeneity issues. This method eliminates correlations between covariates and errors, enabling consistent maximum likelihood (ML) probit estimation in large samples.[19]

Results And Discussion

Descriptive Characteristics

The description of the couples observed in this study is a married couple who live together with the characteristics of a wife aged 15 to 49 years and a husband aged 15 to 54 years. The number of married couples sampled in this study was 8,838 couples based on the 2017 SDKI data. From this sample, there was missing data on several variables amounting to 0.99% of the total data so that data cleaning was carried out and resulted in a sample size of 8,781 samples. The use of samples with couple data is intended to capture the dynamics of the relationship between two individuals in one data unit and the personal context of the couple that is relevant to the decision-making process, especially regarding having children (Qian & Jin, 2018; Stein et al., 2014).

In this study, the women's autonomy variable was constructed based on their participation in household decision-making, aligning with previous research by Haider et al. and Upadhyay et al.[20] This decision-making is measured across three dimensions: decisions about women's healthcare, major household purchases, and visits to family or relatives.

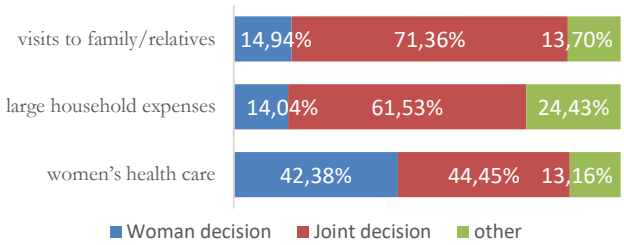

Figure 1. Women's Autonomy based on dimensions
Source: IDHS 2017, author's calculation

Figure 1 presents the dimensions of women's autonomy. The first dimension highlights women's involvement in decisions related to their own healthcare. The percentage of women who decide for themselves regarding health care is 42.38 percent. Health-related decisions are the only aspect in which more wives have their own control than other aspects. Meanwhile, when it comes to decisions regarding major household expenditures and visiting family or relatives, the majority are joint decisions, with 61.53% and 71.36%, respectively. This shows that decisions in financial matters and family visits are generally decided together in the household and are shared responsibilities.

From the three dimensions, women's autonomy variables are then formed using polycaric PCA. The use of the polycaric PCA method is because the variables forming women's autonomy are discrete. The assumption of multivariate normality in the usual PCA procedure is not suitable for discrete data, which tends to have high skewness and kurtosis and can produce false correlations when using dummy variables (Kolenikov & Angeles, 2009). To address this issue, Kolenikov & Angeles (2009) introduced Polychoric Principal Component Analysis (PPCA), which uses polychoric correlation matrix and maximum likelihood estimation to analyze discrete variables more precisely. The PCA scores are

[19] Bollen, Kenneth A, 'Instrumental Variables in Sociology and the Social Sciences', Annual Review of Sociology, 38 (2012), 37–72 <https://doi.org/10.1146/annurev-soc-081309-150141>

[20] Haider, Mohammad Rifat, Zaina P Qureshi and M Mahmud Khan, 'Effects of Women's Autonomy on Maternal Healthcare Utilization in Bangladesh: Evidence from a National Survey', *Sexual & Reproductive Healthcare*, 14 (2017), 40–47 <https://doi.org/10.1016/j.srhc.2017.09.002>

standardized, with negative values reflecting a lack of empowerment and positive values indicating varying levels of empowerment. The results for the women's autonomy variable reveal that only 38.77 percent of women are involved in all household decisions, either independently or jointly with their husbands (see Table 1). This suggests that husbands may still be dominant in holding decision-making power in the household.

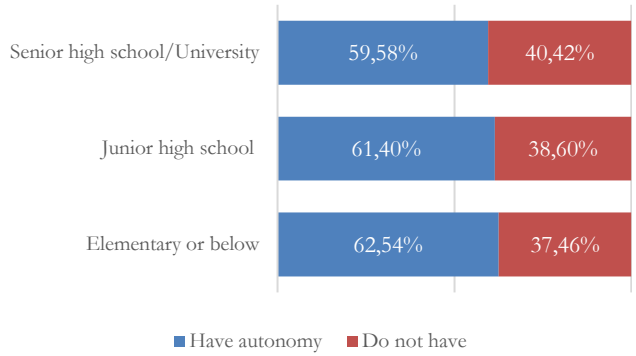

Figure 2. Women's Autonomy by Education
Source: IDHS 2017, author's calculation

Figure 2 illustrates the relationship between women's autonomy and their level of education. Overall, women with higher levels of education tend to have greater autonomy within the household, namely in terms of involvement in household decisions. Higher education gives women a greater awareness of their rights, improving decision-making skills. However, it is important to note that despite the increase in women's autonomy with higher levels of education, more than 50 percent of women in each educational category still lack autonomy. This is possible because in Indonesia patriarchal norms are still held firmly, which limit women in making decisions and economic and social control still remains in the hands of the husband.

Table 1 presents the description and distribution of couples in the IDHS. Regarding fertility intentions, 41.88% of wives expressed a desire to have children. Among the couples, only 38.43% of women reported having autonomy, as measured by household decision-making either alone or jointly with their husbands. This suggests that men may predominantly hold decision-making power within households, limiting women's autonomy in family matters. In terms of place of residence, 48.38% of respondents live in urban areas, while 51.62% reside in rural areas, indicating a fairly balanced distribution between urban and rural settings. This distribution could have implications for understanding household dynamics and fertility preferences, where rural areas may have different socio-cultural norms influencing decision-making and fertility intentions compared to urban areas. The desire for children among 41.88% of wives suggests a significant interest in expanding families, which might be influenced by cultural, economic, or personal factors specific to the respondents' environments.

Table 1. Summary statistics of sample

Characteristics	Percentage/mean
Wife's fertility intention	
Yes	41.88
No	58.12
Woman autonomy	
Yes	38.43
No	61.57
Area of residence	
Urban	48.38
Rural	51.62
Wealth quintile	
Poorest	17.03
Poorer	20.4
Middle	21.06
Richer	20.81
Richest	20.7
Wife Age (mean)	35.11
Husband Age (mean)	38.95
Wife education	
Elementary or below	34.55
Junior high school	53.13
Senior high school/University	12.32
Husband education	
Elementary / Did not finish elementary/ did not go to school (ref)	35.15
Junior high school	52.15
Senior high school/University	12.71
Parity	
0	7.24
1	24.36
2	35.14
2+	33.26

Characteristics	Percentage/mean
Wife's status working	
Not working	43.38
Working	56.62
Husband's status working	
Not working	1.92
Working	98.08

Source: IDHS 2017, author's calculation

The distribution of respondents across wealth quintiles is relatively even. The average age of wives in the sample is 35.11 years, whereas husbands tend to be older, with an average age of 38.95 years. From educational attainment, the majority of wives have secondary education (53.13%), followed by primary education or lower (34.55%), and only 12.32% have attained higher education. A similar trend is observed among husbands, with most having secondary education (52.15%), while 35.15% have primary education or lower, and 12.71% have higher education. In terms of employment status, 56.62% of wives are employed. In contrast, nearly all husbands are employed (98.08%), with only 1.92% being unemployed. The majority of women in the sample have two children (35.14%), followed by those with more than two children (33.26%), one child (24.36%), and no children (7.24%).

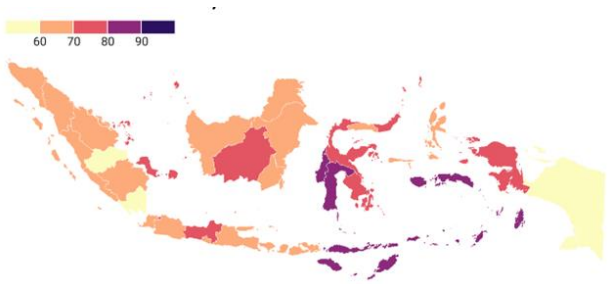

Figure 3. Women's Autonomy by Province in Indonesia
Source: IDHS 2017, author's calculation

Figure 3 illustrates the variation in women's autonomy across different regions in Indonesia. Provinces in eastern Indonesia, particularly parts of Sulawesi, Maluku, and West Papua, exhibit the highest levels of women's autonomy. This indicates that women in these regions have significant decision-making power in household. In contrast, the provinces of Java, Sumatra, and Kalimantan, which show moderate levels of autonomy, reflect a more complex landscape. These areas experience both economic growth and greater access to education, yet traditional gender roles and patriarchal structures continue to limit women's autonomy in certain contexts. The regions of West Papua, East Nusa Tenggara (NTT), and Aceh, with lower levels of female autonomy, are influenced by factors such as cultural conservatism, limited access to education, and economic opportunities.

The variation in women's autonomy across Indonesia can be attributed to a range of socio-cultural, economic, and cultural factors. In patrilocal communities, where women live with their husband's family, their autonomy is reduced. Conversely, in uxorilocal communities, where women live with their own family, they experience greater decision-making autonomy.[21] Beside that the rise of Muslim fundamentalism in certain regions has influenced gender relations, often reinforcing traditional roles and limiting women's autonomy.[22]

Fertility Intention by Women's Otonomy Status and Couple's Characteristics

From table 2. present that women with autonomy tend to show lower fertility intentions (40,11%). This indicates that while individual autonomy decreases fertility intentions for couples, it also leads to more divergent or less aligned fertility preferences between them. The results suggest that women's autonomy has lowered fertility intentions. Women with autonomy tend to show lower fertility intentions. This indicates that as women gain more autonomy in decision-making, their desire to have children may decrease. The underlying reason could be that with greater autonomy, women are more likely to prioritize

[21] Rammohan, A and M Johar, 'The Determinants of Married Women' s Autonomy in Indonesia', *Feminist Economics*, 15 (2009), 31–55 <https://doi.org/10.1080/13545700903153989>

[22] Wieinga, SE, 'Women Resisting Creeping Islamic Fundamentalism in Indonesia', *Asian Journal of Women's Studies*, 15 (2009), 30–56 <https://doi.org/10.1080/12259276.2009.11666077>

personal goals, career aspirations, or other aspects of life over traditional expectations of having children. Additionally, increased autonomy may lead to a shift in values and priorities, making women more focused on their individual well-being rather than family expansion. Moreover, the finding that autonomy leads to more divergent or less aligned fertility preferences between couples suggests that as women gain more influence over household decisions, their fertility desires may no longer align with their husband's expectations or preferences. This divergence could reflect changing societal norms, where women increasingly assert control over reproductive choices, which may contrast with traditional views held by men, particularly in societies where male decision-making power has historically been dominant.

Table 2. Characteristics of Couples by Fertility Intentions

Variables	Wife fertility intention	
	No	Yes
Woman's Autonomy		
No	57.02	42.98
Yes	59.89	40.11
Wife's age	38.8	30.2
Husband's age	42.8	34.1
Wife education		
Elementary / Did not finish elementary/ did not go to school (ref)	67.61	32.39
Junior high school	54.66	45.34
Senior high school/University	46.42	53.58
Husband education		
Elementary / Did not finish elementary/ did not go to school (ref)	63.23	36.77
Junior high school	55.49	44.51
Senior high school/University	54.77	45.23
Wife's status working		
Not working (ref)	55.29	44.71
Working	60.29	39.71
Husband's status working		
Not working (ref)	51.37	48.63
Working	58.25	41.75
Area of residence		
Urban (ref)	60.02	39.98
Rural	56.34	43.66
Wealth index		
poorest (ref)	54.19	45.81
poorer	57.33	42.67
middle	57.24	42.76
richer	58.70	41.30
richest	62.44	37.56
Parity		
0 (ref)	7.1	92.9
1	17.58	82.42
2	69.96	30.04
2+	86.41	13.59

Source: IDHS 2017, author's calculation

The table 2. shows that younger couples tend to have higher fertility intentions. Older couples, on the other hand, tend to show a reduction in fertility intentions, particularly the wife, whose fertility intention drops as her age increases. In terms of education, wives with higher education (high school and above) are more likely to want to have more children, which is contrary to the general assumption that higher education reduces the desire to have children. A similar pattern is observed among husbands with higher education, who are more likely to desire more children compared to those with lower education, possibly reflecting better economic conditions and greater family stability. Additionally, wives who are not employed tend to have higher fertility intentions than those who are employed.This is likely because wives can focus on caring for and nurturing their children when their wives are not working, thus increasing the decision to have children. Husbands who work show the same pattern where husbands who do not work show higher fertility intentions.

From the place of residence, it shows that couples who live in rural areas have higher fertility intentions for their wives. This is likely because there is still a culture in rural areas that many children bring good fortune. Based on wealth quintiles, the higher the wealth quintile of the couple, the lower the desire to have good children. This condition is possible because couples prioritize the quality of their children along with their increasing economic status. Lastly, parity (the number of children a couple has) shows a clear trend. Couples with fewer children (0 or 1) have stronger fertility intentions, while those with more children (2+) show considerably lower fertility intentions. This suggests that as couples have

more children, their intention to have more children decreases.

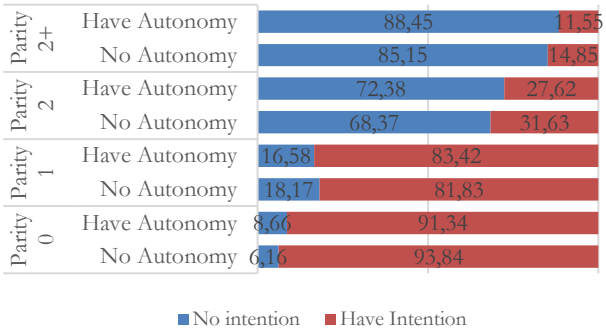

Figure 4. Women's autonomy and fertility intentions of wives based on parity.

Source: IDHS 2017, author's calculation

When analyzed more deeply regarding The association between women's autonomy and wives' fertility intentions based on parity, it can be seen that fertility intentions decrease as parity increases (Figure 4). Wives who have autonomy show a lower percentage at any parity level, except for parity 1. This indicates that women with higher autonomy have increased ability to make decisions about their desired number of children, whether in terms of health, financial well-being, or the fulfillment of personal goals. When a woman has had her first child, even though their autonomy is quite high, the desire to have a second child can still arise, either due to cultural, social, or personal expectations.

At higher parity levels, factors such as economic well-being, physical health, and readiness to provide attention and resources to existing children tend to influence the decision not to have more children. Women with greater autonomy are more likely to limit the number of children they have after a certain parity, because they are better able to rationally evaluate family needs and the consequences of having more children. Additionally, in many societies, although women have autonomy in many aspects of their lives, decisions about the number of children are often influenced by social norms or the extended family, which can reduce the influence of autonomy on fertility decisions.

Association between women's autonomy and fertility intention: IV-Probit analysis

Endogeneity test with IV probit is seen through the Wald test of exogeneity. The results reveal that the availability of schools, measured by the distance to the nearest high school, significantly affects women's autonomy. This suggests that the instrument uniquely influences the autonomy variable without any direct relationship to fertility intentions. Living closer to a high school may provide women with improved access to education, which in turn enhances their autonomy. This finding underscores the importance of educational infrastructure in shaping women's empowerment, highlighting the potential role of education in fostering greater autonomy, independent of fertility-related decisions.

Tabel 3. Result of IV-probit regression model examining association between women's autonomy and fertility intention

Variables	Wife fertility intention		
	Coef.	**Std.err**	**Marginal Effect**
Woman autonomy			
No (ref)			
Yes	-1.188***	0.106	-0.320***
Wife's age	-0.037***	0.004	-0.011***
Husband's age	-0.024***	0.003	-0.007***
Wife education			
primary or under (ref)			
secondary	-0.001	0.034	0.001
higher	0.194***	0.054	0.061***
Husband education			
primary or under (ref)			
secondary	-0.047	0.034	-0.014
higher	0.012	0.054	0.004
Wife's status working			
Not working (ref)			
Working	0.049*	0.028	0.015*
Husband's status working			
Not working (ref)			
Working	-0.188*	0.099	-0.059*
Area of residence			
Urban (ref)			
Rural	0.059*	0.031	0.018*

Variables	Wife fertility intention		
	Coef.	**Std.err**	**Marginal Effect**
Wealth quintile			
poorest (ref)			
poorer	-0.112***	0.043	-0.035***
middle	-0.190***	0.045	-0.059***
richer	-0.188***	0.048	-0.058***
richest	-0.216***	0.053	-0.066***
Parity			
0 (ref)			
1	-0.428***	0.087	-0.126***
2	-1.315***	0.099	-0.478***
2+	-1.637***	0.111	-0.597***
constant	3.968	0.208	-
log likehood		-9729.13	
wald test exogeneity		10.49***	

Noted: ***p<0,01; **p<0,05; *p<0,1

Source: IDHS 2017, author's calculation

The IV-probit regression results indicate a strong and statistically significant negative relationship between women's autonomy and fertility intention. Women who have autonomy in decision-making are significantly less likely to express a desire for more childre. The marginal effects further illustrate this trend, showing that women's autonomy reduces the probability of wanting more children by 32.0% for wives. There is a statistically significant negative association between the ages of both the wife and the husband and their fertility intentions. A one-year increase in the wife's age reduces the probability of wanting another child by approximately 1.1%. Higher education among wives significantly increases fertility intention, with a corresponding marginal effect of 6.1%, while the effect of secondary education is insignificant. In contrast, the husband's education does not show a statistically significant effect. The employment status of wives and husbands shows positive affect to fertility intention. Meanwhile working husbands have a negative association with wives' fertility intentions.

Residing in rural areas significantly increases fertility intentions across all model. The marginal effects is 1.8 percent supporting the notion that rural households may have higher fertility preferences due to socio-cultural norms, economic reliance on larger families, or limited access to contraceptive services. Wealthier households generally exhibit lower fertility intentions. Households in the richest group are significantly less likely to want more children compared to those in the poorest group. Parity shows the strongest negative impact on fertility intentions. Having one child reduces fertility intentions significantly, while having two or more children dramatically declines fertility preferences. The marginal effects suggest that couples with two or more children are 48% to 59% less likely to desire additional children, reinforcing the idea that fertility intentions decline as family size increases.

Discussion

The findings of this study suggest that women with autonomy are less likely to have children or to desire additional children. Women's autonomy in household decision-making plays a key role in shaping their childbearing decisions. This condition suggests that wives who have autonomy within the household possess the ability to make choices and decisions regarding their desire to have children, taking into account reproductive health. Previous research has shown that women's autonomy within the household has a significant influence on and helps shape wives' fertility decisions.[23]

Wives who are participate in household decision-making process demonstrate a form of negotiation strength, commonly referred to as bargaining power. This strength allows them to engage in discussions with their husbands about

[23] Qian, Yue and Yongai Jin, 'Women's Fertility Autonomy in Urban China: The Role of Couple Dynamics Under the Universal Two-Child Policy', *Chinese Sociological Review*, 50 (2018), 275–309 <https://doi.org/10.1080/21620555.2018.1428895>; Doepke, Matthias and Fabian Kindermann, 'Intrahousehold Decision Making and Fertility', IZA Discussion Paper No 8726, 2017 <https://doi.org/https://ssrn.com/abstract=2543921>; Atake, Esso-Hanam and Pitaloumani Gnakou Ali, 'Women's Empowerment and Fertility Preferences in High Fertility Countries in Sub-Saharan Africa', BMC Women's Health, 19 (2019), 54 <https://doi.org/10.1186/s12905-019-0747-9>

their desire to have children (or additional children). In this context, women's autonomy enables wives with personal aspirations related to childbearing decisions to confidently express those aspirations and negotiate with their husbands as part of the process of realizing their reproductive choices. The presence of women's autonomy enhances their empowerment and fosters gender equality, even within societies such as Indonesia that are traditionally shaped by patriarchal values. These findings align with the research by Upadhyay et al., which suggests that Women who possess autonomy within the household tend to have a stronger influence on shaping household decisions, particularly those related to fertility.[24] Additionally, the study by Sougou et al. shows that women with higher levels of autonomy are more likely to have greater control over their reproductive decisions. This control provides women with more bargaining power, allowing them to implement their fertility preferences. In contrast, limited autonomy restricts women's participation in decision-making, reinforcing social norms that prioritize male authority in fertility-related matters.[25]

Social, economic and demographic factors also influence women's fertility intentions. Research shows that as age increases, due to health considerations and the fulfillment regarding the preferred number of children. A woman's ability to conceive and give birth also declines with age. In terms of education, the higher the wife's education, the greater the tendency for women to have children, as higher education provides better access to employment and family economic stability, while the husband's education does not affect fertility intentions. Employment status generally increases fertility intentions as it may provide both women and men with greater financial stability, making them feel more capable of supporting additional children. However, for working husbands, their involvement in work may shift the household dynamics, possibly leading to a reduced desire for children, particularly if there is a conflict between career aspirations and family life. Couples living in rural areas generally have higher fertility intentions due to socio-cultural norms that support higher fertility preferences in rural areas and the contrasting demographic and socio-economic traits between rural and urban populations, such as age and economic opportunities, also influence this decision. Wealthier households generally show lower fertility intentions. Compared to the poorest group, the wealthiest households are significantly tend to have reduced intentions for further childbearing.

CONCLUSION

This study analyzes the role of women's autonomy in the fertility intentions of married couples. The analysis using an instrumental variable approach shows that women's autonomy significantly reduces a wife's intention to have another child. Women with autonomy have a stronger ability to negotiate reproductive decisions with their husbands, enabling them to align their reproductive choices with their personal aspirations. From a policy perspective, it is essential for policymakers to promote gender equity and strengthen women's empowerment, particularly in household decision-making. This can be achieved through targeted interventions such as promoting equal educational access to female students at all levels, supporting community-based programs that challenge patriarchal norms, and incorporating women's

[24] Upadhyay, Ushma D, Jessica D Gipson, Mellissa Withers, Shayna Lewis, Erica J Ciaraldi, Ashley Fraser, and others, 'Women's Empowerment and Fertility: A Review of the Literature', *Social Science & Medicine*, 115 (2014), 111–20 <https://doi.org/10.1016/j.socscimed.2014.06.014>

[25] Sougou, NM, O Bassoum, A Faye and MMM Leye, 'Women's Autonomy in Health Decision-Making and Its Effect on Access to Family Planning Services in Senegal in 2017: A Propensity Score Analysis', *BMC Public Health*, 20 (2020) <https://doi.org/10.1186/s12889-020-09003-x>; Doss, C, 'Intrahousehold Bargaining and Resource Allocation in Developing Countries', The World Bank Research Observer, 28 (2013), 52–78 <https://doi.org/10.1093/wbro/lkt001>

empowerment indicators into national development planning and monitoring frameworks.

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