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Abstract

Educationally marginalized women have a lower prevalence of contraceptive use in many studies. However, in the Philippines, its utilization is almost similar across education levels. By applying descriptive statistics and multinomial logistic regression, this study examines the profile of less educated women, variation in their contraceptive use and intention, and its predictors. Results reveal the differences in the distribution of educationally marginalized women in the country. Variation in contraceptive use and intention across socioeconomic, information, cultural, and demographic factors is observed. Multinomial regression reveals that intention to use contraceptives is more likely among employed individuals, with three or more children, internet users, poor households, and Catholic women, while older individuals are less likely. Increased likelihood of using traditional contraceptives is associated with migrants, older, married, with three or more children, internet users, rich and richest households, and Catholic women, while living in a female-headed household is associated with a lower likelihood of traditional contraceptive use. Meanwhile, employed migrants, older, with fertility desire, married, with three or more children, internet users, and Catholic women are more likely to use modern methods, while those who perceive their health as good, belong to the rich and richest households, and live in a female households are less likely. The findings show that non-users with intent, traditional users, and modern users have unique needs. Targeted family planning strategies that expand access to modern methods, particularly for younger, poorer, and unmarried women, and address cultural and informational barriers sustaining traditional method reliance, are recommended.

Keywords: Contraceptives, Educationally Marginalized, Intention, Modern Methods, Traditional Methods,

INTRODUCTION

Education has long been established as a critical determinant of contraceptive use and intention. Generally, women with higher levels of education are more informed

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and more confident in making decisions about their fertility. In one study, it was found that an increase in educational attainment is associated with an increased likelihood of using any type of contraception by 9% and modern methods by 6% (Nguyen, 2025). This is not different from what was reported in other countries, where women with higher education tend to have higher contraceptive usage (Jahanfar & Zendehdel, 2024; Osborne et al., 2024; Michael et al., 2024). These findings cannot be generalized, as one study conducted in another context revealed that the changing pattern in the type of contraception has weakened the association between education and its use (Bashir & Guzzo, 2021).

In Southeast Asian countries, nearly half (47%) of the population are contraceptive users (Ejaz et al., 2023). But that was only applicable when all women were included, as several studies have shown that women with low educational attainment have a lower prevalence of contraceptive use (Biswas et al., 2023; Ang & Lai, 2023). This is because women with little or no formal education often have limited exposure to family planning information or are less informed about its importance (Ang & Lai, 2023). The 2022 Philippine National Demographic and Health Survey (NDHS) report, however, shows that there is little difference in the use of any contraceptive method in terms of educational attainment in the Philippines (PSA & ICF, 2023). Despite this, it remains crucial to examine educationally marginalized women, as findings from other countries have demonstrated the disparities in its use, and women with limited education may have different factors that influence their use and intention.

Beyond disparities observed in contraceptive use in terms of education, other socioeconomic, informational, cultural, and demographic factors also shape contraceptive practices. For instance, employment has been consistently linked to higher contraceptive use. Different studies have shown that women who are employed at the time of the survey tend to have better access to reproductive health services (Efendi et al., 2023; Odimegwu et al., 2023). Interestingly, the migration history is also associated with increased contraceptive adoption. To be specific, in the case of those with HIV positive status, there is a low usage of contraceptives (Namusisi et al., 2024). This is an interesting factor, considering that migrant women have other priorities, such as their everyday expenses, than using contraception.

In some of the studies conducted in Indonesia and Cambodia, the results showed that those in their late 40s are less likely to use contraception, while middle-aged women have a higher prevalence (Gafar et al., 2020; Kinfe & Mankelkl, 2024). This pattern reflects changes in reproductive behavior. As women become older, they become more comfortable using contraception to delay or prevent it. Intention to have children and the actual number of children further reinforce contraceptive use, as having more children or those who express no desire for additional children are far more likely to adopt modern methods (Gafar et al., 2020).

As we live in the digital era, the internet and media exposure have become important in influencing reproductive health behaviors. Exposure to mass media campaigns has been proven to influence planned parenthood in the case of women with higher contraceptive use in the Philippines and Myanmar (Das et al., 2021); while internet access in Indonesia increased contraceptive knowledge, this does not always translate into actual use (Harzif et al., 2023).

Religion, household headship, wealth, and geographic location or place of residence are also important factors that shape contraceptive practices. In Pakistan, it was found that religion is being used as a justification for not using contraceptives (Sarfraz et al., 2023). In a literature review conducted by Gozzi et al (2024), religious affiliation serves as a barrier to contraceptive use in several studies. Wealth was also associated with contraceptive use, with wealthier households tending to have better access to contraceptives (Gafar et al., 2020; Michael et al., 2024). Meanwhile, living in a female-headed household has surprisingly shaped women's safe and protected sex practices negatively in Cambodia (Kinfe & Mankelkl, 2024). Finally, geographic context remains important. Urban women generally report higher contraceptive uptake compared to rural women, due to better access to services and information (Kinfe & Mankelkl, 2024).

Most of the studies regarding contraceptive use rely on binary outcomes. These studies only investigated use versus non-use or modern contraceptive use versus non-use. From the methodological standpoint, these types of approaches often overlook some key distinctions, such as intent to use contraception and whether individuals prefer to use traditional or modern methods. For example, a recent mixed-methods study on the sexual practices of youth among Jordanian and Syrian refugees. Luckenbill et al. (2025) reported not only the disparities in contraceptive prevalence but also substantial variation in method mix. To address this complexity, it is appropriate to understand it by using multinomial logistic regression, which models multiple nominal outcome categories without imposing an inherent order. An example of this kind of approach includes a national-level analysis of the 2019 Ethiopian Mini-Demographic and Health Survey. This particular study employed multinomial logistic regression to distinguish traditional and modern contraceptive method use relative to non-use as the reference category (Negash et al., 2023).

While literature on contraceptive usage and reproductive health exists, there remains a gap in these studies. There is a dearth of studies that specifically investigated family planning practices among women with secondary education or below. In most cases, these studies treated education as either the main dependent variable or as a covariate in their models. No study has tried to focus exclusively on how the situation of being in the margin may interact with socioeconomic, informational, cultural, and demographic factors.

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This study addresses those gaps by examining the predictors of contraceptive choices among women with secondary education or lower in the Philippines. By disaggregating outcomes into non-use, with intention to use, traditional use, and modern use, and analyzing how these are influenced by key socioeconomic, information, cultural, and demographic variables, this research contributes to a more targeted understanding of educational disadvantage in reproductive health. Moreover, with a focus on educationally marginalized women, this study will contribute to the literature by providing findings that specifically focus on the important role of education on issues related to reproductive health practices of women in the Philippines.

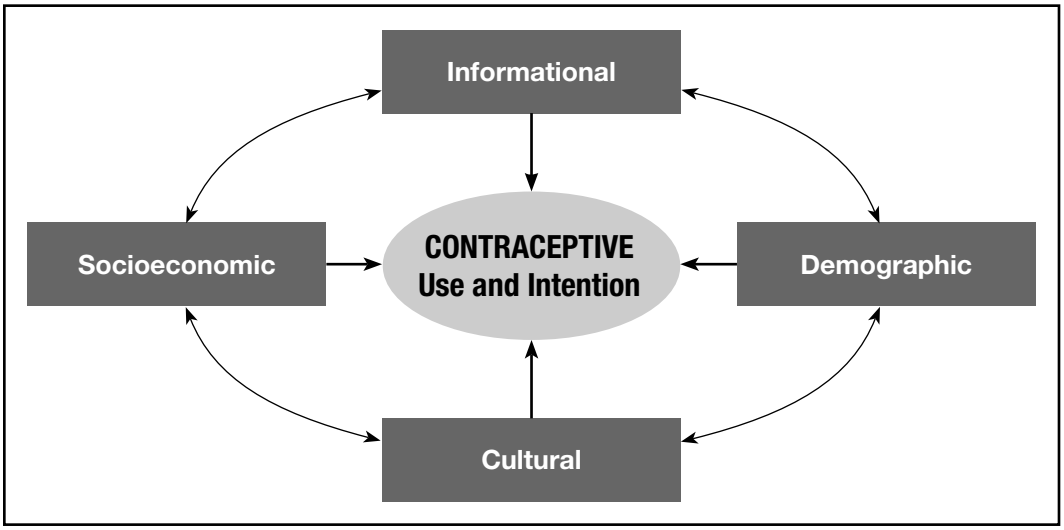
This study aims to present the profile of educationally marginalized women in the Philippines. In addition, part of its objectives is to reveal the variation in contraceptive use and intention by presenting their unweighted percentage according to the selected independent variables, such as residence, employment, migration history, age, desire for children, self-rated health, marital status, number of children, internet use, wealth, religion, and household headship. More importantly, it also seeks to identify factors that may influence women's intention to use contraceptives in the future, their use of traditional contraceptives, and those who use modern methods. By doing this, this study will be able to provide information on the characteristics of educationally marginalized women in the Philippines, how their contraceptive use and intention may vary according to their characteristics, and contribute to the literature on the distinct sets of predictors of contraceptive use and intention in this group. However, given the cross-sectional nature of the data on Filipino reproductive-aged women, this study cannot establish the causal relationship between the selected independent variables in this study and contraceptive use and intention. Therefore, it may only produce results that were observed at a single point in time. Moreover, another limitation of the study is that the participants relied on self-reported information on contraceptive usage, which may present social desirability bias.

Conceptual Framework

The conceptual framework understanding contraceptive use and intention was based on the findings of the reviewed literature, in which the relationship of variables is presented in Figure 1. These four domains capture the hypothesized multifaceted predictors of reproductive health behavior, as identified in numerous studies conducted in different social contexts.

Figure 1

Conceptual Framework for Contraceptive Use and Intention



Socioeconomic factors are those that have something to do with women's economic and social standing, as they can affect their access to reproductive health-related services. In the context of this study, socioeconomic factors are considered as one of the related factors that shape contraceptive use and intention. Education, employment, and wealth are considered socioeconomic factors. Informational factor is their access to the internet, while cultural factors refer to the factors related to social norms and gender roles. In this study, religion and household headship were considered cultural. Meanwhile, demographic factors include personal characteristics such as their current age, marital status, number of children, fertility intention, migration history, and place of residence.

The framework assumes that non-use, intention to use, use of traditional contraceptives, and modern methods vary according to socioeconomic, cultural, informational, and demographic factors. This framework also posits that the four domains are working collectively and significantly shape contraceptive use and intention among educationally marginalized women. Thus, the decision of a woman is not only shaped by her individual choice, but it is the outcome of intersecting structural and individual factors.

METHODS

Data and Sampling

This study utilized data from the 2022 NDHS, which is a nationally representative survey that collected data on women of reproductive age using two-stage stratified

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sampling based on the Master Sample Frame derived from the 2010 Census of Population and Housing and updated with the 2015 Census. In the first stage, 1,247 primary sampling units (PSUs) were systematically selected nationwide, and in the second stage, a fixed number of housing units per PSU were randomly chosen, with all eligible households interviewed (PSA & ICF, 2023).

Analytical sample

Our analysis focused primarily on the contraceptive choices of educationally marginalized women. For this study, the analytic sample was restricted to educationally marginalized women of reproductive age (15–49 years old). To identify this subgroup, the education variable in the 2022 NDHS was recoded to combine the categories of secondary, primary, and no education into a single group labeled "educationally marginalized". Respondents who had attained tertiary education or higher were excluded from the analysis.

In addition to the educational restriction, the sample was further refined by excluding infecund women (i.e., women who reported being unable to bear children) and those who reported never having had sexual intercourse at the time of the survey, as these respondents are not considered to be at risk of becoming pregnant and therefore are not the target population for contraceptive behavior analysis. Moreover, respondents with missing data were excluded to maintain the integrity of the multinomial regression analysis.

After applying these criteria, the final analytic sample consisted of 17,759 women, which represents a substantial sample of the reproductive-aged, educationally marginalized female population in the Philippines. By doing this, we were able to address the missing cases and ensure only variables with complete information on contraceptive use and intention, and the independent variables remained.

With multinomial logistic regression in mind, the independent variables and the dependent variable were recoded appropriately. This process of recoding was crucial in ensuring that every variable is important for categorization, which aligns with the population of interest. Below are their measures and operational definitions.

The dependent variable in this study was contraceptive use and intention. Respondents were asked about their contraceptive usage. The recoding distinguishes between non-users with no intention, non-users who have the intention to use in the future, and current users of either traditional methods or modern methods. The final categories were coded as 0 for those who do not use and have no intention to use (reference group), 1 for those non-users who have the intention to use, 2 for those who are using traditional methods, and 3 for those who use modern methods.

The independent variables were chosen based on theoretical relevance and prior empirical findings. Its availability on the 2022 NDHS was also considered. The first variable is the place of residence of the woman. This variable indicates the respondent's current living environment. It was recoded into a binary variable where Urban = 1 and Rural = 0. Urban residency was hypothesized to be associated with greater access to contraceptive services and information. The second one is the employment status. These variables measure whether the respondent has worked in the past 12 months. It was recoded such that Employed = 1 and Unemployed = 0. Migration History was also theorized to influence contraceptive use. This variable captures whether the respondent has changed place of residence since birth. It was recoded to reflect Migrant = 1 and Non-migrant = 0.

Age was grouped into five categories, which include 0 for the 15-24 age group, 1 for 25-29, 2 for 30-34, 3 for 35-39, and 4 for 40-49 years old. The youngest age group is the reference group for age, and the distribution of the respondents was considered in this categorization. Meanwhile, the desire for children was also included in the list of independent variables in this study. This variable measured whether the respondent had a desire to have children. It was recoded into a binary variable where No desire for children = 1 and With desire = 0. Fertility intentions are central to understanding contraceptive behavior, as those who express no further childbearing desires are more likely to adopt contraceptive methods. While no literature has found the association of self-rated health with contraceptive use, we still included this in the list of predictors. This variable captures the respondent's subjective assessment of their own general health. It was recoded into a binary indicator where Good health = 1 and otherwise = 0.

Marital status is assumed to influence contraceptive use, as they are more directly engaged in family planning decisions. This particular variable was recoded into currently married and not currently married (never married, divorced, separated, and widowed). The categorization of this variable also took into account the distribution of responses. Parity, or the number of children, is also included in the set of predictors in this study. It was recoded as a binary variable. Two or fewer children were recoded as 0, while those with three or more children were recoded as 1. We assumed the women with more children are more inclined to use contraceptives as they may feel they already have enough kids.

Internet use was recoded into a binary indicator where Used recently = 1 and Did not use = 0. Internet use is treated as a proxy for access to information in many traditional media, social media, and other platforms that can influence their awareness and attitudes regarding contraceptive methods. In terms of socioeconomic status, the wealth index serves as a composite measure of a household's cumulative living standard and is constructed using asset ownership, housing characteristics, and access to basic services. For this study, the wealth index was retained. Religion is a variable that indicates

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the woman's religious affiliation. It was recoded into a binary variable where Catholic = 1 and Other religions = 0 (including Protestant, Iglesia ni Cristo, Islam, and other minority faiths). As the Philippines is a predominantly Catholic country, it is essential to consider the distribution of the responses, as most women are affiliated with the Catholic religion. Another variable in this study is the household headship, which refers to whether the head of the household is a male or female. It was recoded as Female-headed household = 1 and Male-headed household = 0. The sex of the household head can reflect broader gender dynamics and decision-making authority that may impact.

Statistical Analysis

Descriptive statistics were conducted to provide a comprehensive overview of the sample, specifically focusing on the socioeconomic, information, cultural, and demographic characteristics of sexually active, educationally marginalized women. This initial analysis offered valuable context for interpreting the results before conducting regression analyses. Bivariate analysis using crosstabulation was employed to determine whether socioeconomic, information, cultural, and demographic variables are associated with contraceptive use. Both these tests were done using an unweighted sample. Weights were applied in the multinomial logistic regression model as this is the recommended practice when dealing with secondary data that used a complex sampling survey design, such as the NDHS (PSA & ICF, 2022). Applying weights in a regression model provides accurate parameter estimates, thus reducing underestimation and overestimation of standard error. To account for the complex survey design, we applied the appropriate sampling weights to account for the two-stage stratified sampling design using the SVYSET command. Specifically, weight variables, strata, and primary sampling units were represented appropriately.

We employed a multinomial logistic regression to examine the relationship between socioeconomic, information, cultural, and demographic predictors and contraceptive use and intention. This was performed under the SVY command in Stata 19. This method was chosen because the dependent variable had more than two unordered categories. Coefficients were reported as Relative Risk Ratios (RRRs) with their corresponding confidence intervals (CI) and p-values. Post-estimation diagnostics were also performed, and the results showed no concerning presence of multicollinearity, and the R-squared revealed an acceptable model fit. The Independence of Irrelevant Alternatives was satisfied, and classification statistics verified that the model correctly distinguished the dependent variable categories.

RESULTS AND DISCUSSION

Characteristics of Sexually Active, Educationally Marginalized Women in the Philippines

Table 1

Profile of Sexually Active, Educationally Marginalized Women: NDHS, 2022

PREDICTOR	FREQUENCY	%
Residence		
Rural	11,243	63.31
Urban	6,516	36.69
Employment		
Unemployed	9,933	55.93
Employed	7,826	44.07
Migration History		
Non-migrant	10,755	60.56
Migrant	7,004	39.44
Age Groups		
Age 15-24	7,638	43.01
Age 25–29	1,823	10.27
Age 30–34	2,065	11.63
Age 35–39	2,039	11.48
Age 40–49	4,194	23.62
Desire for Children		
With Desire	6,549	36.88
No Desire	11,210	63.12
Self-Rated Health		
Bad health perception	5,321	29.96
Good health perception	12,438	70.04
Marital Status		
Not Married	11,127	62.66
Married	6,632	37.34
Number of Children		
Has 2 or fewer children	11,946	67.27
Has 3+ children	5,813	32.73

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PREDICTOR	FREQUENCY	%
Internet Use		
Did not use	5,674	31.95
Internet users	12,085	68.05
Wealth Status		
Wealth: Poorest	5,836	32.86
Wealth: Poor	4,595	25.87
Wealth: Middle	3,315	18.67
Wealth: Rich	2,388	15.45
Wealth: Richest	1,625	09.15
Religion		
Other Religons	5,518	31.07
Catholic	12,241	68.93
Household Head		
Male	14,237	80.17
Female	3,522	19.83
TOTAL	**17,750**	**100**

The profile shows that most respondents are living in rural areas, while just more than a third live in urban areas. In terms of employment, more than half are unemployed, compared with 44.07% who reported being currently unemployed or have not worked in the last 12 months prior to the survey. Migration patterns reveal that six in ten women are non-migrants, while about four in ten have experienced migration.

When it comes to the distribution of the respondents based on age, a large proportion belongs to the 15-24 age group, demonstrating that the younger age group dominates the sample of educationally marginalized women. When it comes to fertility desire, nearly two-thirds of the participants have no desire to have children, while more than a third reported they want to have children. Seven in ten of the respondents perceive themselves to be in good health, while nearly a third consider themselves unhealthy. In terms of marital status, the majority are currently married, while more than a third are married. More than two-thirds of women have two or fewer children, while nearly a third have three or more.

Access to information appears widespread, as a great majority have internet access compared to those who do not. When it comes to their socioeconomic status, a third of the participants came from the poorest households, a quarter of the respondents are poor, nearly a fifth are in the middle, while nearly a quarter are either rich (15.5%) or

the richest (9.2%). Educationally marginalized women are dominated by Catholic (68.9%), while nearly a third belong to other religions. Four in five educationally marginalized women are living in a male-headed household, with about 1 in five residing in a female-headed household.

Educationally marginalized women in the Philippines have diverse characteristics. They are disproportionately young, reside in rural areas, are poor, and are concentrated in male-headed households. Despite limited educational attainment, a majority report good health and are active internet users, suggesting potential entry points for access to reproductive health communication. Moreover, the fact that a vast majority of women express no further desire for children suggests that the majority of women are willing to have a birth control program, but were perhaps affected by misconceptions and disinformation against different types of contraceptives available.

It is worth noting that the educationally marginalized women in the Philippines have diverse socioeconomic and demographic characteristics, thus it may mean that while they are vulnerable to unequal access to contraceptives, there are also other favorable characteristics we can take advantage of to implement interventions. Living in rural areas, being young adults, and their concentration on the poor and poorest households collectively present a structural disadvantage that may shape their lived realities. These disadvantages may put them at risk of having an unintended pregnancy or may limit their access to contraceptives and family planning services.

Despite these challenges, it is also important to point out that there is widespread internet access, which may serve as an important avenue for intensive reproductive health and family planning information dissemination. As reports revealed that the Philippines is one of the most active countries in internet use (Zamora, 2025), this may provide us window of opportunity for targeted intervention that maximizes social media campaigns. Furthermore, it is a good thing that the majority do not have the desire to have a child soon, which shows an unwillingness to have pregnancies. Thus, it is important to recognize that even though many are vulnerable or at risk of unmet need, there are ways to reduce reproductive health inequalities by recognizing how poverty, household structures, and residence intersect with evolving opportunities such as digital access to reproductive health information.

Varied Realities of Contraceptive Use Across Women's Lives

The unweighted crosstabulation results of contraceptive choices by selected characteristics are presented in Table 2. The table shows variations in contraceptive behavior for non-use, intention to use, traditional method use, and modern method use across selected socioeconomic, information, cultural, and demographic variables.

Table 2

Unweighted Crosstabulation of Contraceptive Choices by Selected Characteristics of Sexually Active Women: NDHS, 2022

PREDICTOR	NON-USERS	%	INTEND TO USE	%	TRADITIONAL USERS	%	MODERN USERS	%
Residence*								
Rural	4,883	43.43	2,454	22.13	840	07.47	3,066	27.27
Urban	2,961	45.44	1,442	21.83	556	08.53	1,557	23.90
Employment*								
Unemployed	4,909	24.02	2,386	24.02	642	06.46	1,996	20.09
Employed	2,935	19.29	1,510	19.29	754	09.63	2,627	33.57
Migration History*								
Non-migrant	4,867	45.25	2,692	25.03	678	06.30	2,518	23.41
Migrant	2,977	42.50	1,204	17.19	718	10.25	2,105	30.05
Age Groups*								
Age 15-24	4,086	53.50	2,809	36.78	192	02.51	551	07.21
Age 25–29	561	30.77	322	17.66	186	10.20	754	41.36
Age 30–34	598	28.96	291	14.09	243	11.77	933	45.18
Age 35–39	622	30.51	219	10.74	243	11.92	955	46.84
Age 40–49	1,977	47.14	255	06.08	532	12.68	1,430	34.10
Desire for Children*								
With Desire	2,873	43.87	2,390	36.49	363	05.54	923	14.09
No Desire	4,971	44.34	1,506	13.43	1,033	09.21	3,700	33.01
Self-Rated Health*								
Bad health perception	2,154	40.48	1,049	19.71	491	09.23	1,627	30.58
Good health perception	5,690	45.75	2,847	22.89	905	07.28	2,996	24.09
Marital Status*								
Not Married	5,577	50.12	3,352	30.12	524	04.71	1,674	15.04
Married	2,267	34.18	544	08.20	872	13.15	2,949	44.47

PREDICTOR	NON-USERS	%	INTEND TO USE	%	TRADITIONAL USERS	%	MODERN USERS	%
Number of Children*								
Has 2 or fewer children	6,103	51.09	3,380	28.29	639	05.35	1,824	15.27
Has 3+ children	1,741	29.95	517	08.88	757	13.02	2,799	48.15
Internet Use*								
Did not use	2,566	45.22	629	11.09	509	08.97	1,970	34.72
Internet Users	5,278	43.67	3,267	27.03	887	07.34	2,653	21.95
Wealth Status*								
Wealth: Poorest	2,602	44.59	1,021	17.49	459	07.86	1,754	30.05
Wealth: Poor	1,831	39.85	1,062	23.11	396	08.62	1,306	28.42
Wealth: Middle	1,423	42.93	745	22.47	276	08.33	871	26.27
Wealth: Rich	1,165	48.79	579	24.25	177	07.41	467	19.56
Wealth: Richest	823	50.65	489	30.09	88	05.42	225	13.85
Religion*								
Other Religions	2,989	54.17	981	17.78	308	05.58	1,240	22.47
Catholic	4,855	39.66	2,915	23.81	1,088	08.89	3,383	27.64
Household Head*								
Male	5,955	41.83	2,978	20.92	1,203	08.45	4,101	28.81
Female	1,889	53.63	918	26.06	193	05.48	544	14.82

*Note: *p < .05 **p <.01 *** p < .001*

Differences were observed in every selected independent variable in this study. The results of this analysis revealed that women living in rural areas have higher modern contraceptive use compared to women from urban areas, while employed women have higher uptake of modern contraceptive methods than women who are not employed in the last 12 months. Migrant women also demonstrated that they have higher reliance on both modern and traditional contraceptive methods compared to those who have lived their entire life in their place of residence. It also observed that non-migrant women have a higher percentage of non-users than migrants.

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The age of the woman at the time of the survey, their fertility preference, and marital status further differentiate contraceptive behavior. Non-users of contraceptives are high among young adults and non-users, but have the intention to use eventually, while modern use is highest among women aged 30-34 and 35-39. Those with no intention for a child have a higher prevalence of modern contraceptive use, and those with the intention to use. Married women also have a considerably higher prevalence of modern contraceptive use than unmarried women, while around half of currently not married women are not using contraceptives.

Differences in contraceptive use are also present in terms of the self-reported health, number of children, and internet use of the woman. Those who perceive their health as poor are more likely to be users of modern contraception compared to those who think they are healthy. Similarly, women with three or more children demonstrated have higher reliance on modern methods relative to those with two or fewer children. Surprisingly, in terms of internet use, internet users showed a higher intention to use contraceptives, while those who do not use the internet have a higher rate of using modern contraceptives.

The contraceptive use and intention also vary significantly by wealth, religion, and household headship. Across wealth categories, non-use with no intention to use at all is highest among women from the richest quintile and lowest among the poorest group. Interestingly, intention to use increases with wealth. It is increasing from 17.49% among the poorest women to 30.09% among the richest. However, modern methods decline as wealth increases. In the use of the traditional method, there are no significant differences across wealth categories. Aside from wealth, contraceptive use and intention also vary in terms of religious affiliation. Catholic women are more inclined to use contraception than women from other religions. They also have a higher intention to use and the actual use of traditional and modern methods. When it comes to household headship, women in male-headed households have a higher prevalence of modern contraceptive use compared to those in female-headed households, while non-use is higher among female-headed households.

The differences in contraceptive use and intention among educationally marginalized women in the country show that the socioeconomic, information, cultural, and demographic factors shape reproductive health behaviors, rather than by access alone. Similar to the findings of earlier studies, this study shows that contraceptive use is higher among working and migrant women (Efendi et al., 2023; Odimegwu et al., 2023). However, the finding that rural women have higher modern contraceptive use contradicts the findings in another study (Kinfe &Mankelkl, 2024). This may imply that because of the service delivery efforts, the rural and urban disparities in access to contraceptive and proper information may be narrowing. In agreement with the findings of Gafar et al (2020) and Kinfe and Mankelkl (2024), middle-aged women have the highest prevalence

of modern contraceptive use, while those who do not desire to have children use modern methods higher than those with desire (Gafar et al., 2020).

Unexpectedly, the finding that non-internet users rely more on modern contraceptives than internet users challenges a study that involves the Philippines (Das et al., 2021) but echoes another study where digital access does not necessarily translate to actual contraceptive use (Harzif et al., 2023). Meanwhile, despite contraceptive use being generally higher among wealthier women (Gafar et al., 2020), the finding of this study shows that modern methods decline as wealth increases. This implies that wealthier women may not see the need to use contraception because of their socioeconomic condition. The fact that they can afford to have a child may not concern them. This is probably because they are financially capable of raising a child, or perhaps they are more confident about the potential challenges brought by having a child.

Factors Associated with Contraceptive Use and Intention among Educationally Marginalized Women

The multinomial logistic regression model estimated the relative risk of intending to use contraception, or being a traditional or modern contraceptive user, compared to not intending to use contraception. Several predictors were found to be significantly associated with contraceptive choice.

Table 3. Weighted Multinomial Logistic Regression Predicting Contraceptive Choices: NDHS, 2022

PREDICTOR	INTENDS TO USE (RRR)	95% CI	TRADITIONAL USER (RRR)	95% CI	MODERN USER (RRR)	95% CI
Urban	0.89	[0.76, 1.04]	1.23	[0.99, 1.53]	0.96	[0.82, 1.14]
Employed	1.36***	[1.17, 1.58]	1.25	[0.99, 1.59]	1.45***	[1.26, 1.67]
Migrant	0.89	[0.77, 1.03]	1.33**	[1.10, 1.61]	1.15*	[1.02, 1.30]
Age 25–29	0.80	[0.63, 1.02]	4.76***	[3.41, 6.64]	4.51***	[3.46, 5.87]
Age 30–34	0.62***	[0.49, 0.78]	4.06***	[2.84, 5.81]	3.10***	[2.47, 3.89]
Age 35–39	0.45***	[0.34, 0.59]	3.20***	[2.22, 4.61]	2.70***	[2.07, 3.52]
Age 40–49	0.16***	[0.12, 0.22]	1.99***	[1.38, 2.87]	0.94	[0.72, 1.23]
No desire for a child	0.50***	[0.44, 0.58]	0.90	[0.73, 1.11]	1.34***	[1.14, 1.56]
Good health perception	0.89	[0.78, 1.02]	0.85	[0.67, 1.06]	0.81**	[0.71, 0.94]
Married	1.01	[0.82, 1.26]	2.54***	[2.00, 3.22]	2.43***	[2.06, 2.86]
Has 3+ children	2.30***	[1.82, 2.91]	2.41***	[1.91, 3.04]	3.47***	[2.92, 4.13]
Internet Users	1.60***	[1.35, 1.90]	1.48***	[1.21, 1.81]	1.22*	[1.04, 1.42]
Wealth: Poor	1.21*	[1.00, 1.46]	0.95	[0.74, 1.21]	1.11	[0.93, 1.32]
Wealth: Middle	0.96	[0.80, 1.16]	0.77	[0.57, 1.05]	0.90	[0.73, 1.10]
Wealth: Rich	0.97	[0.77, 1.20]	0.64**	[0.45, 0.89]	0.60***	[0.48, 0.75]
Wealth: Richest	0.99	[0.78, 1.24]	0.52***	[0.36, 0.75]	0.62***	[0.48, 0.78]
Catholic	1.50***	[1.29, 1.75]	1.91***	[1.45, 2.51]	1.91***	[1.64, 2.23]
Female	1.01	[0.86, 1.18]	0.56***	[0.44, 0.72]	0.49***	[0.41, 0.57]

*Note: N = 17,759 | RRR = Relative Risk Ratio | CI = Confidence Interval | *p < .05 **p <.01 *** p < .001*

Reference category = Does not use contraception

In the multinomial logistic regression model, residence is the only not significant in influencing intention to use, use of traditional contraceptives, and modern use. This may mean that disparities in access to contraceptives between rural and urban residents are narrowing already. Meanwhile, other factors have a significant association with contraceptive use and intention. Employment was associated with contraceptive use and intention. Specifically, results show that employed women were significantly 36% more likely to have the intention to use contraception and 45% more inclined to adopt modern methods relative to unemployed counterparts. Migration status also shaped contraceptive choices, as migrant mothers were 33% and 15% more likely than non-migrants to use traditional and modern methods, respectively.

A life-course pattern was observed when it comes to the woman's age. It shows that those aged 25-39 were several times more likely than young adults to use traditional and modern contraceptives and to have the intention of using them in the near future, but the oldest age group (40-49 year olds) is not significant in the use of modern contraceptives. When it comes to the desire of women to have children, it shows that they are 50% less likely to express their intention to use, but they are 34% more inclined to adopt modern contraceptives. Those women who have three or more children had two to three and a half times higher odds of intention to use and adopt traditional and modern methods. Good health perception was only significant in modern contraceptive use, as having good health increases the odds by 84%. Meanwhile, marital status was around two and a half times more likely to use either traditional or modern contraception.

Internet use was strongly associated with contraceptive outcomes. Internet users were 60% open to use, 48% and 22% more inclined to adopt traditional methods, and to adopt modern methods. Wealth disparities showed mixed results. It was found that women from richer and richest households were significantly less likely to use traditional and modern methods compared to the poorest group, while poorer households showed a small odds in intention to use by only 21%.

Religion emerged as a significant factor, as women affiliated with Catholics were more likely than women of other religions to have the intent to use contraception by 50% and to adopt both traditional and modern methods nearly twice. Household dynamics also mattered in contraceptive use. But surprisingly, women in female-headed households were substantially around 50% less likely to use traditional or modern methods than those in male-headed households.

This study examines factors associated with contraceptive choices among educationally marginalized women in the Philippines. By focusing specifically on educationally marginalized women and by analyzing intention to use, traditional method use, and modern method use, this research extends the current literature in two significant

ways. First, unlike the consulted literature that treated education as a covariate (Jahanfar & Zendehdel, 2024; Osborne et al., 2024; Michael et al., 2024; Bashir & Guzzo, 2021; Nguyen, 2025), this research shifts its focus from education as the usual covariate to education as the defining condition of vulnerability. Second, it demonstrates that factors that influence contraceptive choices among educationally marginalized women are multidimensional and that they influence intention to use, use of traditional methods, and modern methods vary.

Economic and Structural Dimensions

The positive association between employment and contraceptive use reinforces the argument that economic independence of a woman enhances reproductive autonomy. This finding is congruent with regional and global studies that report higher contraceptive use and intention among working women (Efendi et al., 2023; Odimegwu et al., 2023). However, this study adds nuance by demonstrating that being employed not only increases the chance of using modern contraceptives but also encourages non-users to have the intention to use in the near future. Therefore, employment is not simply about economic access to health services but also a transformative tool in empowering women in making decisions regarding their own reproductive health.

The migration history of the woman also significantly influences contraceptive use. This challenges the results found in rural Uganda, demonstrating that having a migrant history may pressure women not to get pregnant because they may have other priorities (Namusisi et al., 2024). Yet, while the finding demonstrates that migration history encourages *current use*, it does not necessarily influence intention to use. Meanwhile, unlike what was found in other studies (Kinfe & Mankelkl, 2024), residence has no significant influence on contraceptive usage. This may mean that national family planning initiatives in the Philippines may have succeeded in narrowing geographic disparities between urban and rural women. This may imply that inequalities in contraceptive access are no longer primarily based on the location where the woman lives.

Life Journey and Fertility Intentions

The influence of the current age of women stresses that reproductive behavior may vary depending on the age cohort to which they belong. Similar to what was found in Cambodia and Indonesia (Gafar et al., 2021; Kinfe & Mankelkl, 2024), the use of birth control among Filipino women peaks during their mid-reproductive years and declines sharply after age 40. This is possibly because women in their late reproductive age are starting to become less sexually active. Meanwhile, it is also worth noting that one thing that these findings contributed is that the future intention to use also decreases as the age

of the woman increases, suggesting that this may be due to biological reasons or negative social expectations about childbearing among older women.

Fertility desire and the number of children remain among the strongest predictors of use, with women desiring no more children and those with three or more children already being more likely to adopt modern methods. While this finding is consistent with global literature (Odimegwu et al., 2023), the Philippine case features that even educationally marginalized women, despite being often assumed to have limited agency, demonstrate clear strategic use of contraception to align fertility with personal goals. This also demonstrates that while the goals of the women and their current condition are important influenced them to use modern contraceptives.

Informational and Cultural Pathways

Access to the internet significantly shapes intention to use among non-users and current use of both traditional and modern methods. This aligns with studies in Southeast Asia that demonstrate the power of disseminating reproductive health knowledge in shaping reproductive practices (Das et al., 2021; Harzif et al., 2023). Yet this study contributes by showing that, even among women with limited schooling, digital exposure bridges informational gaps. This provides the potential of technology-driven interventions in narrowing reproductive health inequalities. Therefore, it is important to note that policymakers should take advantage of social media as an avenue to inform reproductive-aged women in the country on the importance and proper use of contraceptives.

Some of the most striking insights were provided by the religious affiliation of the woman and the status of household headship. While the most common expectation is that religion hinders contraceptive use, the results demonstrated that Catholic women in the Philippines are more inclined to use both modern and traditional methods. It is a reflection of how Catholicism allows for a pragmatic family planning (Michael et al., 2024). This is in contrast to the deterministic framing that religion serves as a barrier to contraceptive use. While the Catholic church in the country has been challenging laws related to different population control programs, its members are not necessarily discouraged from deciding to plan for their own family size.

Similarly, while there were conflicting findings on the influence of household headship in other studies, the finding on household headship aligns with what was found in Cambodia, that women in female-headed households are less likely to use contraception (Kinfe & Mankelkl, 2024). This contributes to debates on household power dynamics by demonstrating that female headship does not automatically imply greater reproductive autonomy; instead, it may reflect economic vulnerability or the absence of supportive partners.

CONCLUSION AND RECOMMENDATIONS

This study offers three important insights into understanding contraceptive use and intention among educationally marginalized women. First, instead of using the education variable as a predictor of contraceptive use, it is reframed as a condition of marginalization. Second, as opposed to the existing literature, this research presents a within-group difference of contraceptive choices. And lastly, it contextualizes the existing global and local findings in the context of educationally marginalized populations. Moreover, the study also disaggregated contraceptive use into four categories, revealing that there is generally a heterogeneity in its use. An example of this is that some factors shape the use of traditional methods, but not the modern method, nor the intention to use. These complexities cannot be observed by simply conducting a binary analysis. In addition, while most of the results align with the global findings, this study offers a distinct dynamic. An example of this is that religious affiliation, such as Catholic membership, challenges the most common assumptions that religion restricts family planning practices.

This paper recommends that policymakers should not rely on education campaigns alone. Economic empowerment programs and digital literacy campaigns play a crucial role in shaping women's reproductive behavior. In addition, it is also important to have a context-specific approach to other religious groups, as they are less likely to use family planning services compared to Catholic women. It is also equally important to note that having a woman as a household head does not guarantee that they has more autonomy in using contraceptives. Lastly, the heterogeneity of educationally marginalized women in the Philippines must be recognized to avoid mechanical programs and to ensure that interventions address unequal access to family planning services.

The study posits that giving attention to having an integrated reproductive health program in the country, which not only offers access to contraceptives but also has gender-sensitive and context-specific initiatives. Future research may use this study and investigate contraceptive usage more comprehensively by employing a longitudinal design or by employing qualitative approaches to capture the lived experiences of women in disadvantaged positions, such as women with lower levels of education.

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