Sociodemographic Correlates of Fertility Preferences of Cordilleran and Non-Cordilleran Youth in the Cordillera Administrative Region

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ABSTRACT

Fertility preferences or the number of children individuals or couples wish to have are strong predictors of actual fertility. Being so, these preferences are meaningful indicators that shape reproductive decision-making and demographic outcomes. In population studies, extensive literature exists on fertility preferences, but cultural influences on these preferences among indigenous populations remain understudied. This paper therefore examines the fertility preferences of young people in the Cordillera Administrative Region (CAR) of the Philippines, where Indigenous Peoples constitute the majority population, and investigates sociodemographic factors associated with fertility preferences between Cordilleran and Non-Cordilleran youth.

Using data from the 2013 Young Adult Fertility and Sexuality Survey (YAFS)—a cross-sectional survey of Filipino young adults aged 15–24, the study provides evidence that Cordilleran youth have a significantly higher mean desired number of children compared to Non-Cordilleran youth. Statistically significant differences in fertility preferences between the two groups were found across sociodemographic indicators which include age, gender, social status, education and media exposure. Contrary to patterns observed in earlier research, the survey results show that contemporary influences such as higher educational attainments and wider access to internet resources did not reduce fertility preferences among the Cordilleran youth respondents suggesting that other factors figure into these preferences. Thus, this paper examines cultural dimensions of fertility preferences to illustrate the intersection of culture and reproduction. It aims to offer insights that can inform a more nuanced and culturally responsive approach to reproductive health initiatives and programs for indigenous communities.

Keywords: Fertility preferences, Cordillera youth, Indigenous Peoples' reproductive health, Cordillera Administrative Region (CAR), cultural factors

Fertility preferences constitute one of the most extensively studied areas in population studies. These preferences have been measured in various ways—from the simple ideal number of children in a lifetime and the desire to limit childbearing, to more complex indicators such as the total wanted fertility rate (Croft, Allen, and Zachary 2023). Regardless of the measure, various studies have documented fertility preferences as strong predictors of fertility outcomes. Using data from 53 developing countries, Bongaarts and Casterline (2018) demonstrated that variations in desired family size closely correspond to differences in unplanned pregnancy rates and the extent to which women achieve their fertility goals. Roy et al. (2008) confirmed the consistency and predictive ability of fertility preference indicators through longitudinal evidence from rural India. Kodzi, Johnson, and Casterline (2010) found that fertility preferences among Ghanaian women accurately predicted subsequent childbearing behavior, and Cruz, Salas, and Cruz (2018) documented similar patterns in the Philippine context, showing that stated preferences align closely with realized fertility. These studies collectively establish that fertility preferences are not merely aspirational statements but meaningful indicators that shape reproductive decision-making and demographic outcomes.

Despite extensive research on fertility preferences globally, studies specifically examining indigenous fertility preferences in the Philippines remain limited, with existing research on Cordilleran youth in the Cordillera Administrative Region (CAR) of the Philippines focusing primarily on cultural practices rather than fertility preferences. This study therefore examines the fertility preferences of young people in CAR and investigates the various factors that influence these preferences. This paper argues that cultural factors significantly shape fertility decisions, yet remain understudied, particularly among indigenous populations. While the literature demonstrates the predictive power of fertility preferences, these studies predominantly examine socioeconomic and demographic determinants—such as education, income, and age—with limited attention to cultural dimensions. Even in the Philippine context, existing research on fertility preferences (Cruz, Salas, and Cruz 2018; Pedroso 2008; Marquez and Westoff 1999) has focused primarily on national patterns and major ethnic groups, leaving indigenous populations largely unexamined. By comparing Cordilleran and Non-Cordilleran youth, this research seeks to demonstrate how cultural contexts interact with sociodemographic characteristics to affect desired family size. The cultural dimensions of fertility preferences

will be explored in this paper to illuminate the cultural dimensions of reproduction and to formulate recommendations for better-informed reproductive programs and policies in the region.

Research on Cordillera Communities

Understanding fertility dynamics among indigenous populations requires examining existing knowledge from multiple geographic contexts, beginning with the limited Cordillera-specific research, expanding to Philippine national patterns, then to comparative ethnic studies, and finally to international theoretical frameworks that inform understanding of cultural influences on reproductive decision-making.

Research specifically focused on fertility preferences among Cordilleran populations is notably absent from the literature. However, studies of Cordilleran cultural practices and socioeconomic conditions provide relevant context for understanding potential fertility dynamics. Early ethnographic work by Eggan and Scott (1963, 1965) documented traditional family formation patterns, noting that children are culturally believed to strengthen marriages and that childlessness is viewed unfavorably. Prill-Brett (2004) observed that female Cordillerans are traditionally assigned primary child-rearing responsibilities, while Peterson (1990) documented early familial responsibilities among youth in Benguet.

The predominantly agricultural nature of CAR provides additional context, with nearly half of the youth population (46%) engaged in agricultural activities (PSA 2020). Indigenous Peoples (IPs) of the Cordillera have unique cultural norms, beliefs, and traditions, with their belief system generally intertwined with agricultural practices. Rice production is central to various rituals related to religion, medicine, and offerings to the gods for successful harvest and community well-being (Kohnen and Kohnen 2022; Molintas 2004). Their reproductive health practices also differ from other ethnic groups, with Maskay's (2020) study revealing persistent belief in traditional healers and *mangilot* during pregnancy, and culturally specific postpartum practices including using *kuba* (a cloth made from the bark of a tree) as a substitute for women's napkins after childbirth, and placing snake skin on the mother's womb during labor complications. More recently, Del Castillo et al. (2023) found that Cordilleran youth integrate traditional beliefs with modern religious practices, suggesting cultural persistence amid social change. These cultural and economic characteristics provide strong theoretical reasons to expect distinct fertility preferences, yet no quantitative research has examined these patterns among contemporary Cordilleran youth.

Fertility Preferences in the Philippines

Research on fertility preferences in the Philippines reveals consistent demographic patterns across multiple sociodemographic factors. Age demonstrates a positive association with desired family size, with younger groups preferring smaller families (Pedroso 2008; Marquez and Westoff 1999). Gender differences are pronounced, as males often express pronatalist attitudes due to lineage continuation desires, reduced child-rearing responsibilities, and lesser involvement in family planning education (David and Atun 2014; Greene and Biddlecom 1997). Marital status influences preferences, with married couples typically desiring more children, largely driven by husbands' pronatalist views (Tilahun et al. 2014; Blair and Madigan 2021).

Educational attainment consistently correlates with smaller family preferences, particularly among women, due to increased opportunities and reproductive health knowledge (Matsumoto and Yamabe 2013; Pedroso 2008). This relationship is particularly relevant given that indigenous communities often receive lower-quality education (Cariño 2012). Similarly, higher socioeconomic status is linked to desires for fewer children due to childrearing costs (Pedroso 2008; Matsumoto and Yamabe 2013), while employment effects show mixed results depending on financial security and resource access (Atake and Gnakou Ali 2019; Adserà 2005).

Urban-rural residence significantly affects fertility preferences, with rural residents favoring larger families due to children's economic advantages including potential labor, financial support and household assistance, while urban residents value children more for psychological support (Bulatao 1975; Pedroso 2008; Conteh-Khali 2014). Media exposure consistently correlates with smaller family preferences through increased contraceptive knowledge and contemporary inclinations. Pedroso's (2008) analysis showed significant reductions in desires for large families among both husbands (46.9%) and wives (38%) due to higher media exposure. Intergenerational transmission also influences preferences, as parents' childbearing behavior affects children's fertility desires (Axinn, Clarkberg, and Thornton 1994; Beaujouan and Solaz 2019). These national patterns provide baseline expectations against which regional and cultural variations can be assessed.

Cultural Influences on Filipino Fertility Preferences

Research comparing ethnic groups within the Philippines demonstrates significant cultural influences on fertility desires. Pedroso (2008) found that couples from major ethnic groups in Muslim Mindanao significantly favor larger families, with 93.5% of husbands and 77.2% of wives from these groups preferring four or more children. These preferences are

attributed to combined socioeconomic, religious, and cultural factors including family lineage continuation. Aniban (2012) documented similar patterns among male Jama Mapuns, Samals, Tausugs, and Maranaos compared to Tagalogs, Cebuanos, and Ilocanos, attributing differences to religious beliefs viewing children as blessings, traditional kinship systems, and socioeconomic structures where children provide household economic security.

These findings demonstrate that childbearing decisions are deeply embedded in cultural, religious, and socioeconomic communities, with both researchers noting that lower education levels and limited family planning access among these ethnic groups further sustain preferences for larger families. These studies establish precedent for examining cultural variations in fertility preferences and suggest that indigenous communities may maintain distinct reproductive ideals.

Global Perspectives on Fertility Preferences

International research provides theoretical frameworks for understanding cultural influences on fertility preferences in agricultural and indigenous communities. Easterlin's (1975) Theory of Supply and Demand of Fertility explains higher fertility preferences through practical labor demands in agricultural settings, while Bulatao's (1975) work highlights children's economic value in agrarian societies where they contribute substantially to household work. Similarly, Caldwell (2005) noted that rural agricultural settings create ongoing demand for inexpensive labor, thus perpetuating higher fertility preferences.

However, economic theories alone cannot fully explain fertility variations within similar contexts. Cultural persistence research demonstrates that core values related to family formation can remain stable amid rapid modernization (Inglehart and Baker 2000), while studies of media influence show that information technologies entering indigenous environments can bring global influences that conflict with local traditions, yet traditional values often demonstrate remarkable resilience (Chisa and Hoskins 2016). Research on intergenerational transmission shows that parental fertility behavior influences children's preferences as they seek to recreate familiar family experiences (Axinn, Clarkberg, and Thornton 1994; Beaujouan and Solaz 2019). These frameworks provide the theoretical foundation for examining how cultural factors interact with sociodemographic characteristics to influence fertility preferences among indigenous populations.

Despite the wealth of research on fertility preferences, there is a limited number of studies specifically focused on the fertility preferences of IPs. IPs constitute a smaller community with a shared culture, traditions, and beliefs within a larger population, and are recognized as a minority in the Philippines, like in other parts of the

world. IPs in the country are officially designated as a minority by the National Commission on Indigenous Peoples (NCIP) as they comprise 9% or 9.84 million of the country's total population of 108.67 million (PSA 2023).

Nowhere is a study of the fertility preferences of IPs more salient than in CAR whose population is predominantly composed of IPs. CAR is a mountainous area in the northern Philippines, comprising six provinces—Abra, Apayao, Benguet, Ifugao, Kalinga, and Mountain Province—and two cities, Baguio City and Tabuk City. Based on the 2020 Census of Population and Housing (CPH), CAR has a total population of 1,797,660, making it the least populated region in the country (PSA 2021). Despite its small population, CAR is home to several IP groups such as the Ibaloys, Kankanaeys, Bontoks, Kalingas,Ifugaos, Isnegs, and Tingguians or Itnegs. Collectively, they are known as "Cordillerans" or sometimes referred to as "Igorots" which means "mountain people" (Prill-Brett 2019; Scott 1962). The majority (68%) of the region's inhabitants are Indigenous Peoples, consisting of 42% Cordillerans and 26% members of other ethnic groups in the Philippines (PSA 2021).

The 2020 CPH further shows that the population of the youth aged 15 to 24 in CAR stands at 352,302 which accounts for 20% of the regional population (PSA 2020). Of this number, more than half, 54% are Cordillerans (PSA 2024). CAR also stood out in 2013 as the region with the highest proportion of young women initiating early childbearing (Natividad 2016a).

There is a vast literature about Cordillerans, as many scholars and researchers have been interested in the diverse facets of Cordilleran culture. However, within this pool of studies about the people of CAR and their culture, no study has explored their fertility preferences and the different factors associated with these preferences. Thus, building upon the extensive research on sociodemographic determinants of fertility preferences, this paper aims to shed light on the unexplored cultural influences within CAR by demonstrating differences between Cordillerans, the youth indigenous to CAR, and Non-Cordillerans.

In light of the context provided, the study seeks to examine the fertility preferences of young people in CAR and determine whether there is a disparity in fertility preferences between Cordilleran and Non-Cordilleran youth. Specifically, it aims to (1) identify the desired number of children of Cordilleran and Non-Cordilleran youth; (2) determine whether there is a significant difference in the fertility preferences between Cordilleran and Non-Cordilleran youth; and (3) if a significant difference exists, explore the sociodemographic factors that could explain the difference in the fertility preferences between Cordilleran and Non-Cordilleran youth.

In line with this, the various sociodemographic characteristics of CAR youth are hypothesized to be associated with fertility preferences

as measured by the desired number of children. Based on relevant literature, these sociodemographic characteristics include age, sex, marital status, religion, educational attainment, number of siblings, internet exposure, socioeconomic status, main activity, and urban-rural residence. The potential influence of cultural factors on fertility preferences was examined by using ethnicity. Specifically, the study posits that Cordilleran youth tend to prefer a larger family size compared to Non-Cordilleran youth and that this difference can be explained by differences in their sociodemographic characteristics.

This study addresses the insufficiency of research examining the intersection of culture and reproduction, as well as the limited studies on the fertility preferences of males and young people. Examining the youth population is crucial as they are at a stage where critical life transformations in education, employment, and relationships can greatly affect their fertility decision-making (Bledsoe and Cohen 1993; Natividad 2016b; UN 2013). As documented earlier, men's fertility preferences are also significant as men's desires often influence family size decisions of couples.

The study considers the cultural and sociodemographic dimensions necessary to understand fertility dynamics among the youth in the Cordillera region. It intends to enhance policymakers' and population program managers' understanding of indigenous fertility practices in the Cordillera. By comparing Cordilleran and Non-Cordilleran youth, the study seeks to ensure that reproductive health policies and strategies are effectively tailored to their distinct needs. This approach is crucial for addressing existing gaps in knowledge and formulating effective, culturally inclusive policies and programs. The research recognizes the limitations of the country's Reproductive Health Law's generalist approach. Republic Act No. 10354, also known as the Responsible Parenthood and Reproductive Health Act of 2012, guarantees universal access to reproductive health services, family planning methods, and maternal care while recognizing Filipinos' right to reproductive self-determination (Republic of the Philippines 2012). However, its standardized implementation framework fails to account for cultural factors influencing IP practices and preferences, potentially limiting its effectiveness among communities like the Cordillerans who maintain distinct cultural values around family formation. By proposing policy and program recommendations tailored to these findings, the study advocates for a more nuanced and culturally sensitive approach to reproductive health initiatives in the region.

Methodology

The study utilizes data from the 2013 Young Adult Fertility and Sexuality Survey (YAFS), a nationally representative cross-sectional

survey of Filipino young adults aged 15-24 years. YAFS is conducted periodically by the Demographic Research and Development Foundation Inc. (DRDF) in collaboration with the University of the Philippines Population Institute (UPPI) to provide comprehensive data on the sexual and reproductive health behaviors, fertility preferences, knowledge, and attitudes of Filipino youth. The survey serves as a key data source for understanding demographic trends and informing reproductive health policies in the Philippines. The 2013 wave comprised 19,178 respondents. Access to the YAFS dataset was obtained through a formal request to DRDF and UPPI, following their protocols for public use files.

Since this study focuses on the youth residing in CAR, the sample was restricted to the 928 respondents distributed across the region's six provinces (Abra, Apayao, Benguet, Ifugao, Kalinga, and Mountain Province) and two cities (Baguio and Tabuk). These respondents were selected through a two-stage sampling process: first, barangays were stratified by population size and selected proportionally across the region; then, within each selected barangay, households were chosen using systematic sampling, and all eligible youth in these households were interviewed. Sampling weights were applied to ensure the representativeness of the results at the regional level, resulting in 370 weighted cases (DRDF and UPPI 2016). This weighted sample size represents the appropriate denominator for statistical analysis, following standard demographic survey methodology (Croft, Allen, and Zachary 2023), where weights adjust for differential selection probabilities and non-response to accurately reflect the target population characteristics rather than the raw number of interviews conducted.

2013 YAFS was selected as the most appropriate dataset for this analysis for several reasons. First, the 2013 YAFS was the most recent survey with comprehensive ethnicity disaggregation available when this research was initiated. While the 2021 YAFS has since become available, the methodology and question formulations for fertility preferences differ substantially across YAFS waves (1982, 1994, 2002, 2013, 2021), making cross-wave trend analysis—comparisons of data across different survey rounds to identify changes over time—methodologically inappropriate. Additionally, the 2013 YAFS is a comprehensive source of disaggregated data on indigenous youth fertility preferences in the Philippines, as most national surveys only capture major ethnic groups without the detailed indigenous classifications necessary for this study. The temporal relevance of the 2013 dataset is further underscored by the documented fertility patterns in CAR during this period, making this survey particularly appropriate for examining cultural influences on reproductive preferences among the region's youth populations.

Ethnicity is used in the study as a proxy variable for cultural factors. To distinguish between Cordillerans and Non-Cordillerans

in the sample, the study employed the ethnicity variable which is based on the question "How do you classify yourself?" To make the question clearer, survey interviewers probed for ethnicity through a follow-up question mentioning some of the predominant ethnic groups in the area. For example, respondents in Baguio City might be asked, "How do you classify yourself? Are you an Ibaloy, Ilocano, or Kankanaey?" In the study, Cordillerans include individuals who self-identify as members of any of the following ethnic groups: Apayao/yApayao, Bontok/Binontok, Ibaloi/Ibaloy/Inibaloi, Ibontoc, Ifugao, Ikalahan/Kalanguya, Isneg, Itneg, Kalinga, Kankanaey/Kankanai, and Tinggian according to Prill-Brett (2019). For this group, there were 187 respondents when weighted to represent the population (weighted) and 436 actual interviews (unweighted). Respondents who reported their ethnicity as "Igorot" were classified as Cordillerans since Igorot is a collective term that some Cordillerans use to identify themselves rather than their specific ethnicities. Thus, Non-Cordillerans (183 weighted; 492 unweighted) are those who do not classify themselves under any of the mentioned ethnicities. Indigenous youth who are not included in Prill-Brett's classification of Cordillerans, such as Tigwahanon, Itawes, Malaueg, and others which constitute about 7.6% of all youth in CAR, are considered in this study as Non-Cordillerans.

The dependent variable, fertility preferences, was measured using the respondents' desired number of children. This is based on the response to the question "How many children do you want to have?" and responses range from 0 to 12 children. Ten sociodemographic characteristics of the youth were examined. In univariate analyses (which examine each variable individually to describe their distribution), age was grouped into 15–19 and 20–24 years old while sex was classified into male and female. Marital status was categorized into never married, formally married, living-in, and separated. Religion was grouped into Catholic and non-Catholic. Education was classified into five categories: elementary, high school undergraduate, high school graduate, post-high school, and college or higher. The number of siblings was derived by combining the number of biological brothers and the number of biological sisters given by the respondents. For the univariate analysis, this was categorized into none, 1, 2, 3, 4, and 5 or higher. Internet exposure refers to whether the youth use the internet or not and was categorized into "with exposure" and "no exposure." Socioeconomic status was based on the wealth quintile and was grouped into poorest, second, middle, fourth, and wealthiest. The original six categories of main activity in the data were used, as follows: none, student, unemployed, housework, unpaid family worker, and working. The type of residence was initially considered but was eventually excluded from the analysis due to its lopsided distribution in CAR.

In bivariate analyses (comparing between groups), the same categorization was used except for the following variables: marital status was grouped into never married and ever married (formally married, living-in, and separated); education was classified into high school undergraduate and high school graduate or higher; number of siblings was converted into a dichotomous variable with "less than 3" and "3 or more" as categories; socioeconomic status was dichotomized into poor (those belonging to the first and second wealth quintile) and non-poor (those belonging to the third, fourth, and fifth wealth quintile); and main activity was grouped into student, non-working (unemployed, housework and unpaid family worker), and working. The study used the Statistical Package for the Social Sciences (SPSS) version 29.0 to process the data and generate the statistical tables.

The study initially compared the profiles of Cordilleran and Non-Cordilleran youth by examining the percent distribution and descriptive statistics of the youth according to their background characteristics. Secondly, statistical testing (one-tailed t-test) was used to determine whether the difference in average desired number of children between Cordilleran and Non-Cordilleran youth was statistically significant and to confirm the direction of this difference. Finally, sociodemographic characteristics that significantly differed between these two groups of CAR youth in terms of fertility preferences were identified by comparing the mean desired number of children for each category of the sociodemographic characteristics using statistical comparison tests (t-test of means).

Profile of Cordilleran and Non-Cordilleran youth

This section offers insights into the background characteristics that differentiate Cordilleran and Non-Cordilleran youth by examining the percent distribution of the selected sociodemographic characteristics of these two groups of young people.

Background Characteristics	Cordilleran Youth	Non-Cordilleran Youth	CAR
Age			
15–19 years old	49.2	54.6	51.8
20–24 years old	50.8	45.4	48.2
Mean (SD)	19.4 (2.8)	19.2 (2.7)	19.3 (2.7)
Sex			
Male	42.8	50.3	46.6
Female	57.2	49.7	53.4
Marital Status			
Never Married	76.0	69.0	72.6
Formally Married	13.0	13.8	13.4
Living-In	10.7	16.8	13.8
Separated	0.0	0.4	0.2

Religion			
Catholic	58.3	73.8	66.0
Non-Catholic	41.7	26.2	34.0
Education			
Elementary	3.7	6.6	5.2
High School Undergraduate	37.4	36.6	37.3
High School Graduate	18.2	18.0	18.1
Post-High School	9.6	8.8	9.0
College or Higher	31.0	30.0	30.5
Number of Siblings			
None	11.9	13.1	12.5
1	27.1	25.5	26.3
2	20.1	23.9	22.0
3	16.5	17.1	16.8
4	10.7	10.0	10.4
5 or more	13.7	10.4	12.1
Mean (SD)	2.4 (1.8)	2.2 (1.7)	2.3 (1.7)
Internet Exposure			
With Exposure	43.4	42.5	42.9
No Exposure	56.6	57.5	57.1
Socioeconomic Status			
Poorest	26.7	23.7	25.2
Second	31.5	23.0	27.3
Middle	19.7	25.8	22.7
Fourth	13.4	17.8	15.5
Wealthiest	8.7	9.7	9.2
Main Activity			
None	1.2	1.4	1.3
Student	35.0	31.1	33.1
Unemployed	6.6	4.2	05.4
Housework	24.2	23.8	24.0
Unpaid Family Worker	7.8	9.1	8.5
Working	25.1	30.4	27.7
Urban-Rural Residence			
Urban	3.0	4.3	3.8
Rural	96.7	95.7	96.2
Total	100.0	100.0	100.0
N	187	183	370

Table 1. Percent Distribution and Descriptive Statistics of the Background Characteristics of Cordilleran and Non-Cordilleran Youth: 2013 YAFS

Table 1 presents the sociodemographic profile of youth respondents in CAR. It is important to note that these statistics, derived through the application of sampling weights, reflect the broader youth population of the region rather than just the study participants. The profile reveals some notable differences between the two groups: Cordilleran youth are predominantly female (57.2%) compared to the more balanced gender distribution of Non-Cordillerans; fewer Cordillerans identify as Catholic (58.3% vs. 73.8%); and Cordillerans tend to have lower socioeconomic

status, with 58.2% falling within the two poorest wealth quintiles compared to 46.7% of Non-Cordillerans. Both groups show similarities in educational attainment, internet exposure, and main activities, with most being students, workers, or engaged in housework. Due to this lopsided distribution, urban-rural residence is no longer explored in subsequent analyses. These sociodemographic characteristics provide context for understanding the fertility preference patterns examined in the subsequent sections, which constitute the primary focus of this study.

Fertility Preferences of Cordilleran and Non-Cordilleran youth

To address the first and second objectives of the study, this section compares the fertility preferences of Cordilleran and Non-Cordilleran youth and places their preferences in the context of national and regional averages. For this purpose, the percent distribution of the preferred number of children of these two groups of young people is presented in Table 2, along with selected descriptive statistics.

Preferred Number of Children	Cordilleran Youth	Non-Cordilleran Youth
	Percent	Percent
0	0.0	1.6
1	5.9	5.5
2	40.1	45.9
3	31.6	36.6
4	13.4	8.2
5	7.5	2.2
6-12	1.0	0.4
Total	100.0	100.0
N	187	183
Min	1	0
Max	12	10
Mean (SD)	2.8 (1.2)	2.6 (1.0)
N	187	183
1-tailed p-value	0.007	

Table 2. Percent Distribution and Descriptive Statistics of the Preferred Number of Children of Cordilleran and Non-Cordilleran Youth: 2013 YAFS

Table 2 reveals that Non-Cordillerans exhibit a higher percentage than Cordillerans in preferences for two and three children, registering at 45.9% vs. 40.1%, and 36.6% vs. 31.6%, respectively. Conversely,

Cordillerans demonstrate a higher percentage in preferences for four and five children, constituting 13.4% and 7.5% compared to Non-Cordillerans at 8.2% and 2.2%, respectively.

Noteworthy distinctions arise in the range of the desired number of children. Cordillerans express a broader range, citing a minimum of 1 child and a maximum of 12 children, in contrast to Non-Cordillerans whose minimum preferred number of children stands at 0 and maximum at 10 children. Cordilleran youth prefer to have 2.8 children, on average, while the corresponding figure for Non-Cordillerans is slightly lower at 2.6. Although the figures do not appear to be substantially different, the one-tailed t-test reveals a statistically significant difference in these means ($p=0.007$). While the 0.2-child difference may appear modest in absolute terms, it represents a statistically significant divergence with meaningful demographic implications. In population studies, seemingly small differences in fertility preferences can indicate important underlying cultural dynamics that, when projected across entire populations, suggest substantial demographic patterns requiring policy attention. The significance of this finding is particularly noteworthy, given the limited research on indigenous fertility preferences in the Philippines, and establishes an empirical foundation for understanding the cultural influences on reproductive decision-making among Cordilleran youth.

When compared with the national average, CAR youth reported a higher mean preferred number of children at 2.7 compared to the national average of 2.6. This mean of 2.7 children is also among the highest in all regions of the country, along with Eastern Visayas (2.7), SOCCSKSARGEN (2.7), and ARMM (4.1 children) (Natividad and Marquez 2016). It is also important to note here that ARMM was replaced with BARMM (Bangsamoro Autonomous Region in Muslim Mindanao) in 2019. These regional variations are significant because they suggest that fertility preferences are not uniform across the Philippines but rather shaped by regional contexts. The clustering of CAR with regions that have substantial indigenous populations (particularly in ARMM and in SOCCSKSARGEN) and/or predominantly agricultural economies points to the importance of examining both cultural and economic factors beyond standard sociodemographic predictors. The following section explores these patterns in greater detail by examining which specific characteristics differentiate Cordilleran from Non-Cordilleran youth.

Correlates of Fertility Preferences

This section addresses the third objective by identifying the sociodemographic factors that could explain the significant difference in fertility preferences between Cordilleran and Non-Cordilleran youth. Table 3 presents the outcomes of t-tests that examined the significant

differences in the mean preferred number of children between Cordilleran and Non-Cordilleran youth across various background characteristics.

Background Characteristics	Cordilleran Youth		Non-Cordilleran Youth		p-value
	Mean	N	Mean	N	
Age					
15–19 years old	2.8	92	2.5	100	0.027
20–24 years old	2.9	95	2.7	83	0.208
Sex					
Male	3.1	80	2.7	92	0.057
Female	2.6	107	2.4	91	0.033
Marital Status					
Never Married	2.8	142	2.6	126	0.046
Ever Married	2.8	45	2.5	57	0.142
Religion					
Catholic	2.8	109	2.5	135	0.092
Non-Catholic	2.9	78	2.6	48	0.112
Education					
HS Undergraduate	2.8	77	2.6	79	0.154
High School Graduate	3.0	110	2.7	104	0.044
Number of Siblings					
Below 3	2.8	110	2.5	114	0.015
3 or more	2.9	77	2.7	69	0.347
Internet Exposure					
With Exposure	2.8	79	2.4	76	0.018
No Exposure	2.9	103	2.7	103	0.149
Socioeconomic Status					
Poor	2.8	109	2.7	85	85
Non-Poor	2.9	78	2.5	98	98
Main Activity					
Student	2.7	65	2.4	57	0.080
Non-Working	3.1	47	2.8	56	0.294
Working	2.8	74	2.5	71	0.321
Total	2.8	187	2.6	183	0.013

Table 3. Mean Preferred Number of Children of Cordilleran and Non-Cordilleran Youth by Background Characteristics: 2013 YAFS

There are statistically significant differences in the mean desired number of children between Cordilleran and Non-Cordilleran youth among the following sociodemographic subgroups: (1) Younger youth (2.8 vs. 2.5), (2) Females (2.6 vs 2.4), (3) Never Married (2.8 vs. 2.6), (4) High School Graduate/Higher (3.0 vs. 2.7), (5) Having Less than Three Siblings (2.8 vs. 2.5), and (6) With Internet Exposure (2.8 vs. 2.4). In all

subgroups showing significant differences, Cordillera youth exhibited higher fertility preferences than Non-Cordillerans.

No significant differences are observed in any category of the variables Religion, Socioeconomic Status, and Main Activity.

Economic and Cultural Determinants of Cordilleran Fertility Preferences

The study uncovered statistically significant differences in fertility preferences between Cordilleran and Non-Cordilleran youth, with the former expressing a slightly higher average desired number of children than the latter. This difference is most pronounced among specific sociodemographic subgroups: younger youth, females, individuals who were never married, those with higher education, those with fewer than three siblings, and youth with internet exposure.

The disparity can be attributed to two factors which provide plausible explanations for why communities such as IPs of the Cordillera, who reside in the predominantly agricultural mountainous region of northern Philippines, prefer larger families. First, these findings align with Easterlin's Supply and Demand Theory of Fertility (1975), suggesting that agricultural settings like the Cordillera, where labor demands are higher, tend to favor larger families. While this theory was developed decades ago, its core principles remain relevant for understanding fertility preferences in agricultural communities such as those predominant in CAR. The economic value of children as agricultural labor continues to influence family size preferences in these contexts.

However, Easterlin's framework differs from other economic approaches like Becker's (1960) theory by incorporating cultural factors as determinants of fertility preferences. Unlike Becker's approach, which treats children as goods chosen under stable preferences, Easterlin allows preferences to vary with cultural values, religious beliefs, and the social context of each generation (Doepke 2015). Since a great majority of both Cordilleran and Non-Cordilleran youth reside in largely rural and agricultural areas, economic demands alone do not account for the difference.

Besides economic demands, cultural traditions play a more pivotal role in shaping Cordillerans' preference for larger families as part of their heritage. Bulatao's (1975) seminal work on the value of children in Philippine society highlighted the cultural importance of family size, and the persistence of these values appears particularly evident in the Cordillera region. The continuing relevance of Bulatao's findings is supported by more recent work on fertility preferences in the Philippines, such as studies by Natividad and Marquez (2016) and Cruz, Salas, and Cruz (2018), which document the enduring importance of

cultural factors in shaping family formation decisions among Filipinos. This cultural explanation is particularly important for understanding why highly educated Cordilleran youth with internet exposure maintain preferences for larger families. Prior scholarship points out that specific cultural practices are important factors influencing fertility preferences. These practices include early assignment of familial responsibilities (Peterson 1990), beliefs that children strengthen marriages (Eggan and Scott 1963, 1965), and integration of reproductive practices with cultural rituals (Maskay 2020; Del Castillo et al. 2023). In these studies, it is described that cultural practices continue to influence fertility preferences regardless of educational attainment or media exposure. The researchers show that core values related to family formation often remain stable despite transformations in contemporary societies (Inglehart and Baker 2000). This cultural stability accounts for the coexistence of cultural practices with current influences.

The statistically significant difference in the desired number of children between Cordilleran and Non-Cordilleran youth supports the main argument of this study—fertility preferences are influenced not only by social and economic factors but also by cultural factors. Early ethnographic work by Eggan and Scott (1963, 1965) and Prill-Brett (2004) documented that female Cordillerans are traditionally tasked with child-rearing responsibilities and that children are believed to make marriages permanent. This cultural persistence is particularly evident in matters related to family formation and gender roles. While these studies were conducted decades ago, they remain foundational in understanding Cordilleran culture due to the limited contemporary ethnographic research focusing specifically on family formation among these indigenous groups.

Cordillerans also hold tightly to traditional systems, beliefs, and knowledge, with rituals surrounding the passing of knowledge from pregnancy to the child's marriage (Eggan and Scott 1963). It is important to acknowledge that substantial social changes have occurred in the Cordillera region since these studies were conducted, including increased access to education, greater mobility, and technological adoption. However, contemporary research on cultural persistence suggests that core values related to family formation often remain remarkably stable even amid rapid modernization (Inglehart and Baker 2000). This is consistent with findings from more recent studies of indigenous communities in the Philippines. Del Castillo et al. (2023) found that Cordilleran youth integrate traditional beliefs with modern religious practices, demonstrating cultural resilience amid social change. Molintas (2004) demonstrated how indigenous communities maintain distinct land concepts and resource management practices rooted in their belief systems, showing cultural continuity despite external pressures. While Cariño (2012) notes that some traditional

knowledge systems face varying degrees of persistence and erosion, but core cultural values related to family formation and resource management continue to be transmitted across generations.

Sociodemographic Variations in Fertility Preferences Between Cordilleran and Non-Cordilleran Youth

Younger Cordillerans exhibited higher fertility preferences compared to younger Non-Cordillerans, potentially reflecting the former's early exposure to familial responsibilities, traditions, and indigenous beliefs. From a young age, Cordillerans are taught about these aspects, including rituals and indigenous knowledge that are passed down through generations. This early upbringing instills in them a distinct perspective on family systems and emphasizes the importance of family within their community. Moreover, Peterson (1990) observed that younger Cordillerans, particularly those in Benguet, often take on responsibilities such as caring for younger siblings when their parents are absent. This early involvement with siblings underscores the significance of children in Cordilleran culture. These cultural practices and traditions, alongside the larger family sizes of Cordilleran youth compared to Non-Cordilleran youth, may contribute to why even those with fewer siblings prefer larger families compared to Non-Cordillerans.

Cordilleran females' higher desired family size can be attributed to the pervasive gender roles where females are traditionally tasked with child-rearing (Prill-Brett 2004). These roles are ingrained from a young age, and females may prefer larger families as a cultural norm. Additionally, Cordilleran females see a "support system" in their community and husbands during pregnancy (Eggan and Scott 1963; Prill-Brett 2004). More children are believed to bring luck to the couple and make marriages permanent. Childlessness after marriage is seen as bad luck (Eggan and Scott 1965). These cultural beliefs may have contributed to higher fertility preferences among females compared to Non-Cordillerans. In contrast, the study found no significant disparity in fertility preferences between male Cordillerans and their Non-Cordilleran counterparts, possibly due to uniformly high fertility preferences among both groups.

Marital status revealed a perplexing pattern, with a statistically significant difference in the mean preferred number of children between Cordilleran and Non-Cordilleran youth among the never-married youth, but not among the ever-married group. The significant difference among never-married individuals suggests that cultural factors have a strong influence on fertility preferences before marriage. However, once individuals are married, these preferences may become more homogenized across cultural groups, possibly due to shared

experiences and challenges of married life (e.g., financial instability) that override initial cultural predispositions. In addition, the absence of statistical significance among ever-married youth could also be due to a smaller sample size or greater variability in this group, requiring further investigation to draw definitive conclusions.

The significant disparity in fertility preferences between Cordilleran and Non-Cordilleran youth, particularly regarding the role of education and the internet, also merits closer examination. Particularly intriguing are the higher fertility preferences among Cordillerans with internet exposure and higher education, which run counter to the expected pattern based on previous studies that noted the influence of these factors in promoting smaller family norms (e.g., Conteh-Khali 2014; Mahanta 2016). The results of this study suggest that cultural factors may exert a stronger influence on fertility preferences, outweighing the fertility-reducing effects typically associated with increased education and media exposure. For instance, the persistence of traditional values among educated Cordilleran youth (i.e., larger preferred family size) might indicate the strength of cultural transmission within indigenous communities, even in the face of modernizing influences. This could explain why Cordillerans maintain a preference for larger families despite factors that typically reduce fertility preferences in other groups. The apparent resilience of Cordilleran cultural beliefs underscores the need for a more nuanced examination of how cultural factors interact with education and media exposure in shaping fertility preferences among indigenous populations.

Implications for Culturally Responsive Reproductive Health Policy

The study, therefore, underscores the importance of considering the unique beliefs and attitudes of IPs regarding fertility and the necessity of advocates for tailored interventions to address the specific needs and contexts of these people. The findings have important implications for policy formulation and implementation under the Philippine Reproductive Health Law, particularly in ensuring that reproductive health programs effectively serve indigenous populations like the Cordillerans.

Republic Act No. 10354, also known as the Responsible Parenthood and Reproductive Health Act of 2012, represents a landmark legislation in the Philippines' approach to reproductive health and family planning. The law guarantees universal access to reproductive health services, family planning methods, and maternal care while recognizing Filipinos' right to reproductive self-determination (Republic of the Philippines 2012). At its core, the RH Law aims to enable Filipinos to make informed decisions about family size and birth spacing through

access to comprehensive family planning information and services.

The law's provisions on family planning and responsible parenthood are extensive. It mandates free access to both natural and modern contraceptive methods through public health facilities, with local government units required to ensure the availability of a full range of family planning options including pills, injectables, intrauterine devices, and other medically safe and legal methods (RA 10354, Sec.7). The law also establishes a comprehensive reproductive health education program in schools that includes age-appropriate information about human sexuality, family planning, and responsible parenthood (RA 10354, Sec.14). Community-level information campaigns are mandated to promote awareness of family planning benefits, proper birth spacing, and the health advantages of planned pregnancies. More importantly, the law emphasizes informed choice, stating that couples and individuals have the right to decide freely and responsibly the number, spacing, and timing of their children (RA 10354, Sec.23).

The implementation framework of this law operates through a standardized national program coordinated by the Department of Health (DOH) in partnership with local government units. Health workers in barangay health centers and rural health units receive training on family planning counseling using standardized protocols and educational materials. These materials typically promote the health and economic benefits of family planning and proper child spacing through standardized information campaigns. The program assumes that once provided with adequate information about family planning methods and the benefits of smaller families, most Filipinos will choose to limit family size in accordance with modern demographic patterns observed in more developed countries.

This standardized approach has achieved significant success in many parts of the Philippines, contributing to the decline in the national total fertility rate from 3.7 children per woman in 2003 to 2.7 in 2013 (PSA and ICF International 2014). However, this uniform implementation framework assumes that reproductive health needs, preferences, and decision-making contexts are relatively similar across the Filipino population, and that a single set of guidelines, messaging, and service delivery protocols can effectively serve all communities regardless of their cultural contexts.

Problematizing Generalist Approaches for Indigenous Communities

The results of this study suggest that the RH Law's generalist implementation framework may not adequately serve indigenous populations like the Cordillerans, whose cultural values around family size differ significantly from national patterns and require culturally

informed approaches to reproductive health counseling and service delivery. The generalist approach presents several specific challenges when applied to indigenous communities.

First, the standardized messaging around ideal family size often conflicts with indigenous cultural values. The study found that Cordilleran youth prefer an average of 2.8 children compared to 2.6 among Non-Cordillerans, with this difference remaining significant even among highly educated youth with internet exposure. This suggests that cultural factors exert a stronger influence on fertility preferences than the modernizing influences typically associated with reduced fertility. Current RH Law implementation emphasizes the health and economic advantages of family planning and proper child spacing through standardized information campaigns. However, this framing may not resonate with Cordilleran cultural values that view children as strengthening marriages, providing agricultural labor, and ensuring intergenerational continuity, rather than primarily as economic considerations. When reproductive health programs fail to acknowledge these cultural dimensions, they risk being rejected by communities or creating conflicts between traditional values and modern health messaging.

Second, the uniform implementation framework does not account for the specific cultural contexts in which reproductive decision-making occurs among IPs. For Cordillerans, fertility decisions are deeply embedded in cultural practices documented by early ethnographic studies—including beliefs that children strengthen marriages (Eggan and Scott 1963, 1965), traditional assignment of child-rearing responsibilities to women (Prill-Brett 2004), and integration of reproductive practices with agricultural rituals and community ceremonies (Maskay 2020). These cultural factors continue to influence fertility preferences among contemporary Cordilleran youth, as evidenced by the significant differences found across multiple sociodemographic subgroups in this study. A generalist approach that does not recognize or incorporate these cultural nuances may deliver services that are technically available but culturally inaccessible or inappropriate.

Third, the language and framing of reproductive health information often fail to resonate with indigenous worldviews. The biomedical model that underpins much of the RH Law's educational content may not align with indigenous understandings of reproduction, child-rearing, and family formation. For example, framing family planning primarily as a means of economic advancement or poverty reduction may not address the cultural reasons why Cordillerans value children—as sources of familial strength, cultural continuity, and community belonging rather than solely as economic calculations.

Connecting Study Findings to Policy Needs

The findings of this study provide empirical evidence for several specific policy considerations. The significant difference in fertility preferences between Cordilleran and Non-Cordilleran youth persists across age groups, educational levels, and even among those with internet exposure—populations typically expected to adopt smaller family size norms through modernization and media influence. This pattern suggests that cultural factors maintain their influence even in the presence of factors that typically reduce fertility preferences in other populations. The persistence of higher fertility preferences among educated Cordillerans with internet access is particularly noteworthy, as it challenges assumptions that education and media exposure alone will shift fertility preferences toward national norms.

Moreover, the study found significant differences in fertility preferences among never-married Cordilleran and Non-Cordilleran youth, but not among ever-married individuals. This suggests that cultural factors have a strong influence on fertility preferences before marriage, but these preferences may become more homogenized once individuals enter married life and face shared economic and practical challenges. This finding has important implications for the timing and targeting of reproductive health interventions—suggesting that culturally-informed reproductive health education may be most effective when provided to unmarried youth who are still forming their fertility preferences within their cultural contexts.

Recommendations for Culturally Sensitive Implementation

Based on these findings, policymakers should consider developing culturally sensitive interventions that respect indigenous values while promoting reproductive health. Rather than advocating for uniform family size targets, programs should focus on ensuring access to reproductive choices that allow families to achieve their desired fertility within culturally appropriate frameworks. This might involve several specific strategies.

First, collaborate with indigenous leaders and community elders to design family planning programs that incorporate traditional knowledge systems about childbearing. This could include recognizing the role of traditional birth attendants and indigenous health practices alongside modern medical services, as documented by Maskay (2020), and framing reproductive health discussions within the context of traditional beliefs and ceremonies rather than in opposition to them.

Second, develop educational materials in Cordilleran languages that frame family planning and reproductive health discussions within the context of indigenous traditions and economic realities. Rather

than promoting an external ideal of family size, these materials could focus on helping families achieve their desired fertility by providing information about birth spacing, maternal health, and child health within frameworks that acknowledge cultural values around children and family formation.

Third, train healthcare providers to understand the cultural factors influencing reproductive decision-making among indigenous communities. Healthcare workers in indigenous areas should receive cultural competency training that helps them understand why fertility preferences may differ from national norms and how to provide services that respect these differences while ensuring access to comprehensive reproductive health care.

Fourth, programmatic efforts focusing on fulfilling couples' desired fertility through family planning services should explicitly include indigenous peoples. Initiatives such as the collaborative project between the National Commission on Indigenous Peoples (NCIP) and the Commission on Population and Development (CPD) that provides family planning services tailored to Indigenous Cultural Communities/Indigenous Peoples (ICCs/IPs) in the CARAGA region (Sumando 2022) should be replicated nationwide in areas with substantial numbers of IP residents, such as CAR. These programs demonstrate that it is possible to provide culturally appropriate reproductive health services when implementation is specifically designed with indigenous communities in mind.

While basic reproductive health information—such as maternal health, child spacing, and disease prevention—remains consistent across populations, the cultural context in which this information is delivered requires careful consideration. The documented preference for slightly larger families among Cordilleran youth suggests that reproductive health programs should acknowledge cultural variations in family size ideals rather than assuming uniform preferences across all Filipino populations. The goal should not be to impose a particular family size norm but to ensure that all Filipinos, including indigenous peoples, have access to the information and services they need to make informed reproductive choices consistent with their own values and circumstances.

Such tailored approaches are crucial, especially considering that Indigenous Peoples globally face racial discrimination and social exclusion that often deprives them of basic healthcare services, including sexual and reproductive health (Maskay 2020). Therefore, there is a pressing need for the continuous promotion of indigenous reproductive health and the development of policies that support indigenous cultural beliefs and practices. The implementation of the RH Law must be flexible enough to accommodate these cultural differences while maintaining its core commitment to reproductive

health and rights for all Filipinos. Further studies are needed to inform these inclusive national policies, ensuring that the RH Law effectively serves all Filipino communities, including indigenous populations whose fertility preferences and cultural contexts may differ from the majority population.

Study Limitations and Recommendations

It is important to note some key limitations of this study and how they can be addressed in future research. Firstly, it is crucial to acknowledge the methodological limitations, particularly in measuring cultural factors. This study used Cordilleran and Non-Cordilleran ethnicities as a proxy variable to address the challenge of directly quantifying these factors. While this approach allowed for comparative analysis, it may have obscured nuances within and between these two groups. This underscores the need for more refined methods to capture and quantify specific cultural elements influencing fertility preferences. Future research should aim to develop more precise measures of cultural factors, possibly through integrating qualitative methods or developing culturally-specific survey instruments. This would enhance our understanding of the impact of cultural factors on fertility preferences and provide a more nuanced picture of diversity within ethnic groups.

Secondly, the limited number of survey respondents prevented more in-depth statistical analyses of the data, such as multivariate analyses of the factors contributing to variations in fertility preferences between the two ethnic groups studied. The sample size constraints made regression modeling unreliable, as preliminary analyses yielded non-significant results likely due to insufficient statistical power rather than the absence of effects. This constraint highlights the broader challenge of studying indigenous populations, where existing datasets often lack adequate sample sizes for complex statistical modeling, yet remain the only available sources with necessary ethnic disaggregation. Additionally, this study faces methodological constraints common to cross-sectional analyses. The bivariate approach is susceptible to omitted variable bias, and using ethnicity as a binary variable limits understanding of specific cultural mechanisms. Future research would benefit from larger samples enabling multivariate analysis and qualitative approaches that can better identify cultural processes underlying fertility preferences. Given the age range of the study sample (15–24), there may be cohort effects at play. Longitudinal studies tracking how fertility preferences evolve as these youth age could provide valuable insights into the stability of these preferences over time and life stages, enriching our understanding of the interplay between culture, age, and fertility preferences.

These limitations underscore the importance of qualitative research to validate quantitative findings and provide deeper insights into the cultural nuances that may not have been fully captured in the current study design. For instance, further qualitative research is essential to understand IPs' acceptance and behavior towards family planning and responsible parenthood, helping them achieve their desired fertility. Replicating Bulatao's work in the early 1970s, which explored various factors influencing the perceived value of children among Filipinos, in a contemporary context could also provide valuable insights into how beliefs, attitudes, and behaviors regarding fertility preferences have evolved over time.

Lastly, the potential long-term demographic implications of these findings warrant consideration. If higher fertility preferences among Cordilleran youth persist, it could lead to significant changes in the demographic composition of the Cordillera region. This could have far-reaching consequences for resource allocation, educational planning, and economic development in the area. Moreover, it raises questions about the future balance between maintaining indigenous cultural practices and addressing broader national population goals. As such, these findings contribute not only to our understanding of fertility preferences among indigenous youth but also highlight the complex interplay between culture, development, and demographic change in the Philippines.

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