



Pre-marital Sex Behavior and Marriage Plans among Papuan and non-Papuan High School Students

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Abstract

Early marriage is a persistent public health issue in Papua, shaped by cultural norms, socio-economic conditions, and adolescent sexual behaviors. This study examines factors influencing marriage plans among Papuan and non-Papuan adolescents. A cross-sectional study using primary data was conducted in five Senior High Schools (SMA) spread across Jayapura City and Regency. The sample consisted of students aged between 15 and 17 years, totaling 237 people, using an accidental sampling technique. The data were analyzed using a logistic regression model of the risk factor in STATA 16. Results: The proportion of students who had a plan to marry at the ideal age in both Papuan and non-Papuan tribes was 78.4% and 76.9%, the behavior of having sex before marriage was a factor that supported Papuan students to plan marriage (AOR:0.35; 95%CI:0.11-1.07) after controlling for gender, while non-Papuan students who did not have sex before marriage had a 2.41 times greater chance of being able to plan to marry at the ideal age (AOR:2.42, 95%CI:1.04-5.56) after controlling for the variable of residence. Conclusion: Not having sex before marriage is one of the steps for adolescents to be able to plan their future, including marriage.

INTRODUCTION

Planning a marriage at a mature age for high school students can shape their understanding of healthy long-term plans that impact success and mental well-being. Planning a marriage will reduce the risk of early marriage and improve communication skills, conflict management, and understanding of roles in marriage (Malhotra & Elnakib, 2021). In other words, planning a marriage is a preventive measure that helps adolescents avoid the risks associated with marriage (Siddiqi et al., 2024).

Child marriage is a complex problem rooted in interrelated factors such as gender inequality, poverty, lack of education, harmful so-

cial practices, and cultural traditions (Rich, 2022; Shonazarova & Eshchanov, 2021). For instance, in Egypt, 66.4% of adolescents aged 20–24 were married under 18, with most having only a high school education (Elnakib et al., 2022). In Papua New Guinea, 15.4% of young married girls were from low-income families (Elnakib et al., 2022), while in India, 14.56% of marriages occurred in impoverished households (Dixit et al., 2021). Similar patterns also appear in Indonesia. In Bone, Sulawesi, for example, an unmarried girl after menarche is considered a family disgrace (Wibowo et al., 2021). Moreover, 72.2% of adolescents in Indonesia participate in decision-making about marriage, which may encourage early marriage (Tambing et al., 2024). If not addressed

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immediately, child marriage contributes to long-term impacts on maternal and neonatal health. The risk of giving birth to a low-birth-weight (LBW) baby is two times higher for adolescents who marry under the age of 18 (Elnakib et al., 2022). Other consequences include increased under-five mortality, early neonatal death, and a higher risk of divorce among young couples (Dardas et al., 2023; Hossain et al., 2022; Noori et al., 2022; Sumner, 2020).

Globally, child marriage has decreased from 23% in 2013 to 19% in 2023, yet the figure remains far from the SDG 5.3 target of reducing harmful marriage practices to 16% by 2030 (UNICEF, 2023; WHO, 2024). In East Asia and the Pacific, the prevalence is around 15%, with Indonesia showing a stagnant prevalence of 9.8% (UNICEF, 2023). Nationally, the proportion of adolescents aged 20–24 who were married or cohabiting before age 15 has fluctuated, from 0.58% in 2021 to 0.46% in 2022, then rising again to 0.53% in 2023 (BPS, 2024a).

The issue is particularly concerning in Papua Province, which has one of the highest proportions of child marriage in Indonesia. Around 11.19% of adolescents in Papua were married or cohabiting before 18, ranking it the fifth-highest province nationally (BPS, 2024b). In Papua, Jayapura City and Jayapura Regency rank first and second in the number of adolescent marriages (Statistics Center of Papua Province, 2024). Despite some decline, public health concerns remain, particularly due to behaviors such as premarital cohabitation and premarital sex, which significantly influence marriage planning.

Importantly, Papuan and non-Papuan adolescents in Papua demonstrate contrasting perspectives on marriage. Papuan adolescents are strongly influenced by traditions and cultural norms that encourage early marriage and large families (Fitriani et al., 2022; Petruzzi, 2023). In contrast, non-Papuan adolescents, often from migrant families, tend to consider education and economic readiness before deciding to marry (Ahmad et al., 2023). A study even found that 25.1% of Papuan adolescents who had premarital sex did not have an ideal marriage age in mind (Li et al., 2023). This contrast underscores the need for a comparative analysis of Papuan and non-Papuan adolescents. Papua continues to record a high number of child marriage cases and related public health consequences, making it crucial to understand whether cultural and behavioral differences contribute to these outcomes. However, studies exploring marriage plans and the role of premarital sexual behavior among Papuan and

non-Papuan adolescents are still limited. In addition, regional policies remain insufficient to address the persistence of child marriage in Papua, despite the existence of national regulations on minimum marriage age. Therefore, this study aims to analyze the relationship between premarital sexual behavior and marriage plans among Papuan and non-Papuan high school students in Jayapura City and Jayapura Regency.

METHOD

This study used a quantitative, cross-sectional design. The research was carried out in Jayapura City and Jayapura Regency, Papua Province, involving five senior high schools, namely SMA Negeri 1 Sentani, SMA YPPK Santu Paulus, SMA Muhammadiyah Abepura, SMA Pembangunan V Waena, and SMA Alfatah YPKP Sentani. The population consisted of adolescents aged 15 to 17 years, and the sample was drawn from the I-Student survey database, which was conducted in collaboration with the selected schools. In total, 237 students participated in this study, with respondents recruited using an accidental sampling technique: students who met the inclusion criteria and were present during data collection were included as study participants.

The outcome of interest in this study was the ideal age for a marriage plan. An age plan was ideal if male respondents reported an intended marriage age of 25 years or older, and female respondents 22 years or older (by code 1). Marriage plans below these thresholds were classified as not ideal (by code 2). The key explanatory factor examined was premarital sexual behavior, which distinguished between students who reported ever having premarital sexual intercourse (by code 1) and those who did not (by code 0). To strengthen the analysis, several potential confounding factors were also considered, including age group (1 = ≥ 17 years; 2 = < 16 years), gender by codes male (1) or female (2), type of residence by codes rural (1) or urban (2), dating experience by codes no (0) or yes (1), exposure to health information by codes yes (1) or no (0), history of drug use by code no (0) or yes (1), age at first drug use by codes ≥ 15 years (1) or ≤ 14 years, alcohol consumption by codes no (0) or yes (1), and age at first alcohol consumption by codes ≥ 16 years (1) or ≤ 15 years (1). Data analysis was conducted in several stages. Univariate analysis was first performed to describe the distribution of each variable using frequencies and percentages. Next, bivariate analysis was conducted using chi-square tests to explore associations between independent variables, confounders, and the dependent vari-

able. Variables with a significance value of $p \leq 0.25$ in the bivariate stage were then entered into a multivariate logistic regression model to identify the most influential risk factors associated with the ideal age of marriage plan. All statistical analyses were conducted using STATA version 16. This research obtained prior ethical clearance from the Faculty of Public Health Ethics Commission, Cenderawasih University, under approval number 145/KEPK-FKM UC/2024.

RESULT AND DISCUSSION

Papuan high school students who plan to marry at the ideal age are more than those who plan to marry under 25 and under 22, namely 78.4%. The same is also found in non-Papuan high school students who plan to marry at the ideal age for both men and women, more than those who plan to marry under the age of 25 for men and under 22 for women, namely 76.9%, as seen in Table 1

Table 1. Age Distribution of Marriage Plans among Male and Female Students at High Schools in Jayapura City and District.

Variables	Papuan (n=94)		Non-Papuan (n=143)	
	n	%	n	%
Age of Marriage Plan (years)				
Ideal, if ≥ 25 (Male) & ≥ 22 (female)	80	78.4	110	76.9
Not ideal, if < 25 (male) & < 22 (female)	22	21.6	33	23.1

Source: Primary Data, 2024

The bivariate analysis revealed several factors significantly associated with the age of marriage plan among Papuan and non-Papuan adolescents. Among Papuan adolescents, premarital sexual behavior showed a significant relationship ($p = 0.037$). Those who reported premarital sexual experience were more likely to plan marriage at an older age (88.4%) compared to those without premarital sexual experience (71.2%). Similarly, age was a significant factor ($p = 0.044$), with adolescents aged ≥ 17 years more likely to report an ideal marriage plan (84.6%) than those aged ≤ 16 years (67.6%). Sex was also significant ($p = 0.048$), as females were more likely (85.7%) than males (69.6%) to plan for marriage at the ideal age. In addition, place of residence ($p = 0.037$), dating behavior ($p = 0.042$), and exposure to health information ($p = 0.046$) were significantly

associated with plans for marriage age. Specifically, urban residents, those not involved in dating, and adolescents exposed to health information were more likely to report an ideal marriage age. Conversely, drug use, alcohol use, and the age of first consumption of drugs or alcohol did not show significant associations with marriage age planning among Papuan adolescents, as shown in Table 2.

Similar patterns were observed for non-Papuan adolescents. Premarital sexual behavior was significantly associated with marriage planning ($p = 0.026$), with those without premarital sexual experience more likely to plan marriage at an ideal age (81.7%) compared to those with premarital sexual experience (64.1%). Age was also significant ($p = 0.041$), as respondents aged ≥ 17 years had a higher proportion of ideal marriage planning (84.3%) compared to younger adolescents (69.9%). Sex differences were also evident ($p = 0.044$), with males (83.8%) more likely than females (69.6%) to plan marriage at the ideal age. Residence was significant ($p = 0.046$), where urban adolescents (83.4%) were more likely than rural adolescents (69.3%) to have an ideal marriage plan. Likewise, dating behavior ($p = 0.044$) and exposure to health information ($p = 0.037$) were associated with marriage age planning, with those not dating and those exposed to health information more likely to have ideal plans. Conversely, drugs, alcohol consumption, and the age of first substance use were not significantly associated with marriage age plans among non-Papuan adolescents. Overall, the findings suggest that both sociodemographic factors (age, sex, residence), behavioral factors (premarital sex, dating), and informational factors (health exposure) play a more prominent role in shaping marriage age plans compared to substance-related behaviors in both Papuan and non-Papuan groups, as shown in Table 2.

In the adjusted multivariate models, premarital sexual behavior showed contrasting associations with marriage plans between groups. Among Papuan adolescents, premarital sex was associated with lower odds of marriage planning (AOR = 0.35; 95% CI: 0.11–1.07), whereas among non-Papuan adolescents, it was significantly associated with higher odds (AOR = 2.41; 95% CI: 1.05–5.56). Younger age (15–16 years) remained a significant predictor in both groups, with Papuans showing an AOR of 3.18 (95% CI: 1.04–1.33) and non-Papuans an AOR of 3.06 (95% CI: 1.17–8.04). Gender differences were observed only among non-Papuans, with females having higher odds of marriage planning (AOR

Table 2. Result of Bivariate Analysis

Variables	Papuan				p-value	Non-Papuan				p-value
	Age of Marriage Plan					Age of Marriage Plan				
	≥25 years		<25 years			≥25 years		<25 years		
	n	%	n	%		n	%	n	%	
Pre-marital sex behavior										
No	42	71.2	17	28.2	0.037	85	81.7	19	18.3	0.026
Yes	38	88.4	5	11.6		25	64.1	14	35.9	
Age										
≥17 year	55	84.6	10	15.4	0.044	59	84.3	11	15.7	0.041
≤16 year	25	67.6	2	32.4		51	69.9	22	30.1	
Sex										
Male	32	69.6	14	30.4	0.048	62	83.8	12	16.2	0.044
Female	48	85.7	8	14.3		48	69.6	21	30.4	
Residence										
Rural	31	68.9	14	31.1	0.037	45	69.3	20	30.7	0.046
Urban	49	86.0	8	14.0		65	83.4	13	16.7	
Dating Behavior										
No	45	86.5	7	13.5	0.042	62	83.8	12	16.2	0.044
Yes	35	70.0	15	30.0		48	69.6	21	30.4	
Health Information Expouse										
Yes	41	87.3	6	12.7	0.046	66	83.5	13	16.5	0.037
No	39	70.9	16	29.1		44	68.7	20	31.3	
Drug Consumption										
No	63	78.8	17	21.2	0.881	85	80.2	21	19.8	0.117
Yes	17	77.3	5	22.7		25	67.7	12	32.3	
Age at first drug consumption (years)										
≥16	9	81.8	2	18.2	0.611	16	64.0	9	36.0	0.503
≤14	9	72.7	3	27.3		9	75.0	3	25.0	
Alcohol consumption										
No	52	77.6	15	22.4	0.781	85	77.3	25	22.7	0.856
Yes	28	80.0	7	20.0		25	75.8	8	24.2	
First Age of Alcohol Consumption (years)										
≥16	19	76.0	6	24.0	0.350	19	79.2	5	20.8	0.456
≤14	9	90.0	1	10.0		6	66.7	3	33.3	

Source: Primary Data, 2024

= 2.48; 95% CI: 0.99–6.20). Urban residence was protective for non-Papuan adolescents (AOR = 0.29; 95% CI: 0.11–0.75), but not for Papuans. Dating behavior and limited exposure to health information were associated with increased odds of marriage plans in both groups. However, these associations did not reach statistical significance, as shown in Table 3.

The practice of childcare and having many children is the responsibility of the communi-

ty, which burdens Papuan women to continue to give birth to many children and have to raise children, so it is not surprising that child marriage at a young age often occurs and government's target to increase the age of marriage for adolescent girls in Papua has not been achieved (Fitriani et al., 2022). Marriage plans that adolescents have prepared for since they were in school do not materialize because of the influence of parents and local traditions and culture, which signifi-

Table 3. Final Results of Multivariate Analysis

Variables	Marriage Plans							
	Papuan Adolescents				Non-Papuan Adolescents			
	Intial Model		Final Model		Intial Model		Final Model	
	p	AoR (95% CI)	p	AoR (95% CI)	p	AoR (95% CI)	p	AoR (95% CI)
Premarital Sex Behavior								
No		ref		ref	0.028	Ref		ref
yes	0.037	0.31 (0.09-1.05)	0.045	0.35 (0.11-1.07)		1.86 (0.69-5.04)	0.038	2.41 (1.05-5.56)
Age								
17-18	0.041	ref				ref		
15-16		3.18 (1.04-1.33)			0.023	3.06 (1.17-8.04)		
Sex								
Male	0.416	ref				ref		
Female		0.43 (0.14-1.33)			0.050	2.48 (0.99-6.20)		
Residence								
Rural	0.171	ref			0.011	ref		ref
Urban		0.46 (0.51-0.13)				0.29 (0.11-0.75)	0.065	0.46 (0.21-1.04)
Dating Behavior								
No	0.074	ref			0.115	ref		
Yes		2.76 (0.90-8.44)				2.12 (0.83-5.41)		
Health Information Expouse								
Yes	0.101	ref			0.053	ref		
No		2.74 (0.82-9.12)				2.61 (0.98-6.91)		

Source: Primary Data, 2024

cantly impact these plans. This is different from the findings in this study, where it was found that many of the Papuan Students had plans to marry at the ideal age, which is above 25 years for men and above 22 years; of course, this difference was seen in several previous studies including: if about 49% of women in Papua New Guinea aged 35 - 64 years were married at the age of under 15 years (Sardinha et al., 2024). Research conducted by Kuswanto et al. (2023) also consistently found that adolescent girls living in eastern Indonesia were 1.83 times more likely to experience child marriage than those in central Indonesia (Kuswanto et al., 2024). In 2018, Papua Province had a prevalence of children married before 18 years of age of around 13.36% (BPS & Bappenas, 2020). The results of the analysis of Papua New Guinea DHS data in 2016-2018 reported that the

age of first marriage for women aged 25-29 was 20.2 years (Track, 2022).

The marriage plan that Papuan adolescents have designed is, of course, slightly different from the reality that occurs, where traditional practices in Papua are very thick or known as bridewealth or dowry payments that influence the decision to marry, as we know in indigenous communities in Papua and Papua New Guinea marriage is often considered a formal agreement between families, which emphasizes the role of women in kinship relationships (Wiessner & Pupu, 2021). In addition to traditional issues, socio-economic factors and access to education are suspected of influencing the marriage plans of Papuan adolescents, where poverty and social pressure encourage young marriage as a practical solution to reduce the family's economic burden, making the ideal

plan determined by Papuan adolescents unrealized.

Non-Papuan students will usually bring cultural values from their area of origin, where they hold different views on the ideal age of marriage compared to Papuan culture; these differences will affect students' decisions about when they want to get married (Cameron et al., 2020). The results of this study illustrate the same, where more non-Papuan ethnic Students have an ideal marriage plan of more than 50%, namely 76.9%. Gribble & Blythe's (2021) research and Rahmadani et al's (2022) research results are consistent in finding that migrant students (non-Papuan ethnic) who come from areas with more flexible marriage traditions, cause them to have an average age of marriage above 22 years for women and above 25 years for male adolescents (Fatiah, 2023; Gribble & Blythe, 2022; Rahmadani et al., 2022). This is usually associated with the cultural values of non-Papuan adolescents in their families. Besides, non-Papuan adolescents are more often actively exposed to health information from various sources; this is supported by the results of univariate tests in this study, where around 55.2% of non-Papuan adolescents are exposed to health information. The more a person is exposed to information, the greater their chance of having a positive attitude and good knowledge about planning to marry at an ideal age. Besides that, another factor influencing the decision is the determination of marriage, where marriage decisions in Indonesia are often made by parents (Tambing et al., 2024).

Abstinence behavior is associated with plans to marry at an ideal age in Papuan adolescents; this is related to the culture and social norms that are still strong in the Papua region. This study illustrates the same thing, where the factor of not having sex before marriage can make Papuan adolescents' marriage plans to marry at an ideal age. Research conducted by Diarsvitri et al. (2021) consistently found that Papuan adolescents who do not have sex before marriage can plan for their future, including at what age they will get married, work after graduating from college, and so on (Diarsvitri et al., 2021).

The decision to delay sexual behavior while in school until marriage can help create more stable relationships in the future and can help students plan marriage maturely (Fehring & Manhart, 2021). The results of the analysis of this study found that not having sex before marriage allows students to plan at what age they will get married. Research conducted by Jeynes (2020) and Bhochhibhoya et al. (2024) consistently

found that the behavior of not having sex before marriage in students can reduce premarital sexual behavior and increase awareness of a more mature marriage. Also, they can design their future lives by planning when they will decide to get married (Bhochhibhoya et al., 2024; Jeynes, 2020). According to research by Rizkianti et al. (2024), women who tend to choose abstinence as part of the preparation for the ideal age of marriage are usually influenced by the existence of reproductive health education, which increases adolescents' awareness of the risks of pregnancy at a young age and the benefits of marrying at an adult age (Rizkianti et al., 2024). Research conducted in Bengkulu and West Java found that abstinence can affect marriage plans among adolescents in school, with around 76.6% of adolescents in Bengkulu planning to marry in the age range of 21-25 years (Angraini et al., 2023; Imron et al., 2020). High school students with non-Papuan ethnicity will observe and imitate the behavior of not having sex before marriage or the view of marriage instilled by their family or community, so they are likely to consider various stages to prepare for marriage at an adolescent age.

This study has limitations, including several confounding variables that were not analyzed but could influence marriage plans among students in Papua. These include bridewealth culture among Indigenous Papuans and economic variables that can affect adolescents' age of marriage plans in Papua. Besides cultural factors, other confounding elements like socioeconomic factors might also impact the results, as previous studies suggest they contribute to influencing marriage decisions and plans in adolescents. Another limitation is the cross-sectional design, which does not establish cause-and-effect relationships. However, the strengths of this study are that it uses secondary data from adolescents attending school in several high schools in Jayapura City and Regency, so the data are expected to reflect marriage plans of students who go to school in these areas of Papua.

CONCLUSION

The findings of this study show that adolescents' plans for marriage are influenced by a combination of age, sexual behavior, gender, and place of residence, with noticeable differences between Papuan and non-Papuan groups. Younger adolescents, especially those aged 15-16, are more likely to consider marriage, highlighting their vulnerability to early marital pressure. Among non-Papuan adolescents, females are more likely to plan marriage, and living in urban

areas seems to delay marriage intentions, suggesting that access to education and reproductive health resources can serve as protective factors. These results emphasize the need for culturally sensitive interventions tailored to adolescents' age, gender, and social environment. Programs that improve reproductive health education, challenge cultural norms around early marriage, and empower adolescents, particularly young girls, can help delay marriage and promote informed decision-making—ultimately leading to better health, education, and social outcomes for young people.

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