# Post-Millennial Filipinos: Renewed Hope vs Risks

Further Studies of the 2013 Young Adult Fertility and Sexuality (YAFS) Study

Timing of Sexual Debut and Marriage in **Bicol: Does** Pregnancy Matter?



WORKING PAPER SERIES 2016-08 Nimfa B. Ogena and Angelique F. Ogena

# **Timing of Sexual Debut and Marriage in Bicol: Does Pregnancy Matter?**

Nimfa B. Ogena and Angelique F. Ogena

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# Message from the Executive Director

Since the turn of the century over fifteen years ago, the Philippines has seen the rise of the millennial generation of young Filipinos who are currently shaping the political landscape in late 2016 as they take a committed stand on the issues of the day.

It is appropriate for those concerned with Philippine development work to now start looking at the next generation of Filipinos and the Commission on Population has had a tradition of producing studies concerning young people.

"Post-Millennial Filipinos: Renewed Hope vs Risks" compiles 17 regional papers based on the dataset of the 2013 Young Adult Fertility and Sexuality (YAFS) Study. These studies explore and discuss the emerging issues and concerns of the youth that need appropriate policy and program responses.



The latest YAFS comes more than a decade after the 2002 YAFS. The 2002 YAFS showed the concerns of the millennial Filipino much like the latest YAFS of 2013 marks the rise of the Filipinos born around the turn of the century and could foretell the shape of things to come for the 21<sup>st</sup> century young Filipino.

The post-millennial Filipino is focused on screens (smart phone, tablet and monitor) and the media is full of "hashtag-worthy" statements of 140 words.

The studies we are presenting continue to note and update matters such as sexual risk behaviors, early sexual involvement, teen pregnancy, reproductive health problems including sexually-transmitted infections as well as non-sexual risk behaviors such as smoking, alcohol abuse and drug use as well as suicide ideation and lifestyle.

We invite you to tune in to the latest findings about the post-millennial Filipino. It can only result in a more informed thread of interaction with the shapers of our country's future.

**Juan Antonio A. Perez III, MD, MPH** Executive Director Commission on Population

# Background

The 2013 Young Adult Fertility and Sexuality (YAFS) Study is the fourth installment of a series of nationally representative cross-sectional surveys on Filipino youth aged 15-24 (for YAFS 1 and 2 and 15-27 for YAFS 3). The YAFS has yielded valuable information about young people's sexual and non-sexual behavior, education, labor force participation, family relationships, attitudes and values regarding certain issues concerning them, personal characteristics like self-esteem, and adverse conditions like suicidal ideation and depression symptoms, all of which are of pertinence to one's understanding of this significant sector of society. The 2013 YAFS or YAFS 4 in particular was a response to the need of updating information on the situation of today's young people. From YAFS 3 in 2002, there have been many important new developments in the environment where young people are situated that need to be studied as these affect not just their sexual and non-sexual risk taking behaviors but also their total well-being. For instance, the changes in communication and information technology such as the prevalent use of cellular phones and the internet and the new forms of communication that these have produced like social networking were not explored in the previous YAFS. The foregoing expansion in technology is presumed to have resulted to notable changes in the patterns and topographies of courtship, dating and relationships among young people. The upsurge in the incidence of HIV infection primarily among men who have sex with other men (MSMs) requires more recent reliable data on male sexual and non-sexual risk behaviors which is currently not available because regular survey rounds like the National Demographic and Health Surveys conducted every five years does not routinely include men. Moreover, with YAFS 4, core behaviors that have been monitored over time in YAFS 1, 2 and 3 were also updated. Among these are the sexual risky behaviors, such as the prevalence of early sexual involvement, teen pregnancy and reproductive health problems including sexually transmitted infections (STIs) as well as non-sexual risk behavior like smoking, drinking and drug use.

With the wealth of information yielded by the YAFS 4, the Commission on Population (POPCOM) in partnership with the Demographic Research and Development Foundation, Inc. (DRDF) came up with seventeen (17) regional papers (Regions 1-13, 4B, CAR, NCR and ARMM) that explore and discuss the emerging issues and concerns of the young people that need appropriate policy and program responses.

# Timing of Sexual Debut and Marriage in Bicol: Does Pregnancy Matter?

Nimfa B. Ogena<sup>1</sup> and Angelique F. Ogena<sup>2</sup>

# Abstract

This paper examined whether early marriage (i.e., before age 18) is associated with early sexual initiation (i.e., before age 18) among male and female Bicol youth using data from the 2013 Young Adult Fertility and Sexuality Study. It also assessed the influence of first pregnancy on this association among the female youth in Bicol Region net of the effect of selected socio-demographic and economic factors. Survival analyses were conducted to examine how sexual debut is associated with the timing of marriage among the youth in Bicol. This study considered the youth to be in a marital union if they have been formally married or were in a cohabiting or living-in arrangement.

Young males were found to stay single longer than young females in Bicol. About half of young women and men remained single by age 21.4 and 25, respectively. Life table analysis revealed that transitioning from being single to married occurred more quickly from age 15 onward for young females than for young males, as the cumulative survival function for females drops down much faster than for the males.

The Kaplan-Meier analyses revealed that the timing of sexual initiation is positively associated with the transition to first marriage or marital union but with an evident gender differential. Among females who had an early sexual debut, about four in five transitioned from single to married status by age 20, while less than half of the males who had early sex initiation were able to make the same transition by age 20, which supports the proposition that early sex facilitates early marriage.

For female youth, Cox proportional hazards models were estimated to examine the influence of pregnancy on marital union formation. The positive association between early sex and first marriage remained significant net of the effect of experience and timing of first pregnancy. However, age at first pregnancy was found to be a better predictor of the risk of first marriage than pregnancy experience only. Moreover, young women who have attained the age of majority

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or have at least a high school education were found to be less likely to enter their first marital union compared with their counterparts. Having at least one child, living away from home, exposure to pornographic materials, socio-economic status, and type of place of residence were not found to significantly influence the hazard or risk of transitioning from being single to a first marital union.

Keywords: timing of first marriage, sexual debut, first pregnancy, Bicol youth

#### **Background and context**

Ideally, marriage occurs before sexual initiation and pregnancy. However, deviations from this norm are becoming prevalent. Globally, the general trends are declining for age at sexual initiation and increasing for age at first marriage (Demeny & McNicoll, 2006; Harwood-Lejeune, 2001; Kirk & Pillet, 1998; Marston et al., 2009; Mensch, Singh, & Casterline, 2005; Morgan, 2003; Wilson, 2001). The literature has identified several factors contributing to increasing premarital sexual initiation and the delay in marriage. Access to health care and education, urbanization, and improved infant and child survival were found to be contributors to such trends (Livi-Bacci, 2012; Mahy & Gupta, 2001). In sub-Saharan Africa, adolescent transition patterns are aggravated by a range of factors such as political instability, poverty, and the growing HIV/AIDS pandemic (Magadi & Agwanda, 2009).

Despite having provinces with the most number (Camarines Sur) and with a high proportion (Masbate) of poor households (Balisacan, 2014), the Bicol Region was the fastestgrowing regional economy in 2015 among the 17 regions in the Philippines. The gross regional domestic product of Bicol grew by 8.4 percent in 2015 according to preliminary data from the Philippine Statistics Authority. The region's economy, which is highly agricultural with half of the workforce dependent on agriculture (Lim, Lleno, Villaseñor, & Asisten, 2008), registered a growth faster than the national average of 5.9 percent (Pilar & Soliman, 2016).

Region V is traditionally one of the regions with the highest fertility in the Philippines. Although it has been registering a downtrend in its total fertility rate (TFR) from 5.9 in 1993 to 4.8 in 2002 and 4.3 in 2003, the region's TFR has been consistently higher than the national levels (Cabrera, n.d.). In 2013, Bicol Region's TFR was recorded at 4.1 births per woman, which is one child higher than the national TFR of 3.0 based on the 2013 National Demographic and Health Survey (NDHS). The high fertility rates may be attributed to the low contraceptive prevalence (36.3% in 2003 and 26.4% in 2004) in the region (Philippine Statistics Authority & ICF International, 2014). Withdrawal and pills are the most

popular contraceptive methods used by Bicolanos (Cabrera, n.d.; PSA & ICF International, 2014).

With a total wanted fertility of 2.6 births per woman, it is not surprising that the 2013 NDHS recorded that the actual fertility of women in the region is about one child more than their wanted fertility. As in other regions of the country, the youth contribute to the region's fertility level. There were 1 million youths in Bicol Region aged 15–24 years in 2010 based on the Census of Population and Housing.

The 2013 Young Adult Fertility and Sexuality Study (YAFS4) revealed that about one in every four youth (25.4%) in Bicol Region had premarital sex experience, showing a consistent increasing trend from the 1994 (17.1%) and 2002 (24.1%) rounds of the survey (Lim et al., 2008). The same source reported a median age at first sex of 18.2 years, and 19.7 percent of the youth already had sex before age 18. About 21.3 percent of the youth in Bicol reported having ever been in a marital union (i.e., formally married or in a consensual union/living in). Teenage pregnancy experience among females aged 15–19 was at 8.8 percent, while 2.1 percent of males aged 15–19 have gotten someone pregnant. Given these recent findings, there is a need to further examine the interrelationship of sexual initiation and marriage among the youth in Bicol.

This paper aims to understand how the timing of sexual initiation is associated with the transition to marriage among the youth in Bicol and how pregnancy experience would be able to modify such association between sexual debut and marriage. Simply stated, this study looks at whether early sex leads to early marriage and how pregnancy, if experienced, could change the association between sexual debut and marriage.

### Timing of family formation events among the youth

Marriage signifies a turning point in a person's life, as it implies changes in status, roles, and behavior. Hence, marriage is one of many markers of the transition to adulthood among young people. Biological factors (e.g., timing of puberty), psychosocial characteristics (e.g., personality), sociocultural factors (e.g., gender-specific norms regarding sexual negotiations and peer pressure), and family influences are among the many determinants and correlates of the timing of transition to adulthood (Rwenge, 2000; Zabin & Kiragu, 1998).

Mensch et al. (2005) examined the trends in the timing of first marriage among men and women in the developing world using the percentage currently married for men and women in the ages 15 to 29 from 73 countries between 1970 and 2000 from the United Nations Population Division and the percentage of women married by specific ages from 52 DHSs conducted between 1990 and 2001. They found that "marriage during teenage years [was] extremely rare among men, but marriage in the early 20s is also much less common among men than among women," with overall declines observed in the proportion married for both sexes (Mensch et al., 2005, p. 134).

Other studies have found that while education tends to remove young people from the supervision of adult relatives (Zabin & Kiragu, 1998) and is associated with increased premarital sex among teenagers (Calvès, 1999, 2002), it is also correlated with positive reproductive health outcomes for adolescents, including delayed marriage and childbearing. In sub-Saharan Africa, an analysis of the Demographic and Health Survey data showed that increased educational attainment contributed to the decline in early marriage (Mensch et al., 2005). Furthermore, enrolling in school among girls tends to lower the likelihood of engaging in premarital sex (Blanc, Magnani, Singh, Jejeebhoy, & Bulatao, 2005). Reda and Lindstrom (2014) studied the timing of first sex and marriage among young women in Ethiopia and found that higher education is associated with delayed entrance into both marriage and sexual activity. Their study found evidence that young women with primary education are approximately half as likely to transition into first sex and first marriage at a given age as young women with no schooling.

According to Becker's theory of marriage (1973), the need to wed is realized in the event that the utility of being married exceeds that of being single and there is a "positive assortative mating of complementary traits" (Boulier & Rosenzweig, 1984, p. 714) between the man and woman in marriage. An analysis of Philippine data from the early 1970s corroborated Becker's theory and found that additional schooling tends to delay marriage for women (Boulier & Rosenzweig, 1984), as the former increases the opportunity cost of marriage for women (Becker, 1973). The study of Mensch et al. (2005) also provided some evidence that longer schooling among young women has had some impact on the decline in early marriage. However, a considerable amount of this decline cannot be explained by changes in the level of education alone (Mensch et al., 2005).

Despite the scarcity of literature on men's timing of marriage, previous works have identified the economic environment as the primary reason for the delay in marriage among men (Mensch et al., 2005). A qualitative study of attitude toward marriage in the Philippines, Thailand, and Vietnam found that "poverty or lack of financial security, especially among men, was seen as a common (and sound) reason to postpone or avoid marriage" (Williams & Guest, 2002, p. 14). Some scholars have also assumed that a reduction in the landholdings in rural Asia might be a factor in delaying marriage. Young men are forced to migrate to urban areas and the Middle East in search of greener pastures due to increasing landlessness, therefore leaving women behind (Choe, Westley, & Retherford, 2002).

Education is found to be an important factor associated with premarital sex, marriage, and childbearing (Calvès, 1999, 2002; Zabin & Kiragu, 1998). A case study conducted by Lobrigo, Imperial, and Rafer (2006) analyzed data from the 2002 Annual Poverty Indicators Survey and revealed that of the Bicol population aged 6 to 24, only a little over two thirds were attending school (70.5%), which closely approximates the national level (69.0%). When disaggregated by age, the study found a slight deviation from the national level (56.8%) for children ages 6 to 12 in Bicol who are attending school (60.3%). The opposite is true for children 17 to 24 years old in Bicol, as the proportion attending school at the regional level (14.2%) is slightly lower than the national level (17.5%). The reasons identified for non-schooling were as follows: 1) the need for employment or work, 2) not being able to afford schooling expenses, and 3) lack of personal interest (Lobrigo et al., 2006).

The literature has revealed that sexual activity is associated with several family characteristics that affect the behavior of teenagers. These family characteristics include parental characteristics (e.g., family composition, education level, violence/abuse, economic status), parent-adolescent relationships (connectedness, supervision, communication, autonomy), and attitudes and values of family members (religion, attitude toward sex; Kowaleski-Jones & Mott, 1998; Miller, 1998; Upchurch, Levy-Storms, Sucoff, & Anashensel, 1998). In terms of the sexual behavior of both sons and daughters, the influence of mothers often outweighs that of fathers (Kowaleski-Jones & Mott, 1998; Miller, 1998). Limited economic resources coupled with less stable living arrangements tend to increase the likelihood of youths to engage in sexual risky behaviors (Rwenge, 2000; Upchurch et al., 1998).

In the Philippines, marriage signals the commencement of a couple's new chapter in life (Ogena, 2013). Correspondingly, it is viewed as a prerequisite for either economic or psychological security, to have a home and children, or to simply conform to social values, among others (Medina, 2015). The estimated singulate mean age at marriage (SMAM) or number of years spent in single blessedness increased between the 1980s and 1995, from 24.8 years to 26.6 years among males, which is similar to the trend for females over the same period (22.4 to 24.1; Ogena, 1999). Using data from the 1990 and 2000 census as well as the 1991 and 2000 Family Income and Expenditure Survey, the study of Ogena, Kabamalan, and Sasota (2008) examined the changing patterns and correlates of marriage in the Philippines. It found that from 1990 to 2000, females married about 2.5 years earlier than males on the average. While they did not find a change in the average marital timing for men and women for the same period, the variation and changes were found to be more pronounced at the provincial level based on the estimated SMAM by sex.

Another study of Ogena (2008) examined marital timing in the Philippines using data from the 2003 NDHS. The transition from first birth to first marriage was examined using life table analysis and complementary log-log models for discrete time survival analysis. The study found that rural-born women marry earlier than urban-born women, college-educated women marry much later than less educated women, and women with lower socio-economic status marry earliest while women with high socio-economic status marry the latest. In terms of age, the younger cohorts marry later than the older cohorts of Filipino women net of the effects of other variables in the model (Ogena, 2008).

The marriage scholarship in the Philippines reveals that the concept of marriage is in flux as cohabitation among the youth and age at marriage are increasing. At the national level, data from the 2000 Philippine census revealed that 18 percent of the 2.4 million Filipinos who are cohabiting are in the ages of 20–24 years. Conversely, higher and increasing levels of cohabitation among the youth (Williams, Kabamalan, & Ogena, 2001) manifested in the estimates that used data from the YAFS between 1994 (7.8%) and 2002 (10.6%). Both males (from 6.3% in 1994 to 7.8% in 2002) and females (from 9.2% in 1994 to 13.0% in 2002) showed an increase in the levels of cohabitation for the specified period, but the increase was higher for the latter (Kabamalan, 2004).

In another study by Williams, Kabamalan, and Ogena (2007) that used data from the 2002 YAFS, the attitude of youth toward marriage was examined. The authors found that older respondents were more likely to have ever been formally married compared with the younger ones, which is expected. Interestingly, results revealed that women were more likely than men to have been married or to have engaged in cohabitation. Additionally, a larger proportion of women than men had been married by ages 20–24. Various views on marriage also emerged in the study. Women more than men were expected to marry before the age of 20 (11.4% for women vs. 2.2% for men). A little over two in five respondents said that women should marry in their early 20s, while only one in three said that men should marry at that age.

The study also examined the relationship of the youth's family background characteristics and marriage views. Those who were raised by two biological parents were less likely to have ever cohabited compared with those who were raised in other ways. Furthermore, those with liberal views on marriage, cohabitation, and divorce were more likely to have cohabited than their traditional counterparts. Net of all other factors, it is interesting that the sample respondents were less likely to view married people as generally happier than others (Williams et al., 2007).

# Data and methods

This paper used data from the YAFS4, a nationwide survey of 19,178 male and female Filipino youth in the ages of 15–24 years, conducted in 2013 by the University of the Philippines Population Institute and the Demographic Research and Development Foundation. The YAFS was first conducted in 1982 with a nationally representative sample of women aged 15–24 years, with succeeding rounds in 1994 and 2002. The YAFS collected extensive information on the youth's background characteristics, family relationships, media consumption, lifestyle, sexual and non-sexual risk behaviors, fertility, family planning, and reproductive health.

# Variables

The main variable used in this study was *evermarried*, which was dummy coded (1 = ever been in a marital union, 0 = never been in a marital union) and used in the Cox proportional hazards models. Marital union was used interchangeably with marriage. For the purpose of this study,*married*is defined as those who have entered formal marriage, including those who were in cohabiting or living-in arrangements. To account for the timing of the first marriage, the variable*age1marunion*was used as the variable for survival time in the life table analysis and in the Kaplan-Meier procedure. This variable was measured in completed years.

The other variables used in the study were early sex (sex before age 18), ever been pregnant, age of mother at first pregnancy, have at least one child, completed age, and education. Risk factors used in the Cox regression models were measured before age 18. The risk factors included the duration of dormitory residence and/or ever lived away from home, person who raised R until age 18, and style of parenting of the person who raised R. The control variables for this study were age, sex, education, and poverty status at the time of the survey. The variable names and their description are shown in Table 1.

Characteristics	Variable name	Description/categories
Sex	male	Male or female
Age	agegrp3	Completed age (3 categories)
Education	educ1	Highest level of schooling of
		respondents
Type of place of residence	urban	Urban or rural
Socio-economic status	povstat	Poor or non-poor

Table 1. Variables used in the study

Characteristics	Variable name	Description/categories
Ever lived away from home or	dorm2	Yes or no
lived in a dorm before age 18		
Raised by both father and	raised	Yes or no
mother		
Ever read or watched	porno2	Yes or no
pornographic material before		
age 18		
Early sex: sex before age 18	sexb418	Yes or no
Marital status	evermarried	Ever married or never married
Age at first marriage	age1marunion	Completed age at first marital union
Ever been pregnant	everpreg	Yes or no
Age of mother at first	age1pregr	Completed age of mother at
pregnancy		beginning of first pregnancy (4
		categories)
Have children	everchild	Have at least one child or no children

# Methods

Univariate and bivariate analyses were initially done before survival analysis was conducted to examine how sexual debut is associated with the timing of marriage among the youth in Bicol. Life table, Kaplan-Meier, and Cox proportional hazards models were estimated.

Life table analysis is a descriptive procedure for examining the distribution of timeto-event variables. The event of interest in this paper is being in a marital union. Life table analysis depends only on time, and cases that enter the study at different times are assumed to behave similarly. Hence, censored and uncensored cases are handled similarly.

The Kaplan-Meier procedure is also a method of estimating time-to-event models, but it distinguishes censored and uncensored cases. Censored cases (right-censored cases) are those for which the event of interest has not yet happened. Kaplan-Meier assumes that probabilities for the event of interest should depend only on time after the initial event but without covariate effects. The log rank test is used for testing the equality of survival functions in Kaplan-Meier analysis.

In addition to time, the Cox proportional hazards model allows for covariate effects. It assumes that the ratio of time-specific outcome (event) risks (hazard) of two groups remains about the same over time. This ratio is called the hazards ratio or the relative risk. All Cox regression requires is an assumption that the ratio of hazards is constant over time across groups. Although there is no need to know anything about the overall shape of risk/hazard over time, its proportionality assumption can be restrictive.

# Results

# Profile

A little over half of the youth of Bicol are females (53.1%). Around two in five are minors or less than 18 years old (38.5%). Another two in five are between the ages of 18 and 21 years old (39.8%), while the remaining one in five are 22 years old or higher (21.7%). Nearly all youth in Bicol are residing in rural areas (92.5%; Table 2).

About 21.6 percent of the Bicol youth have ever been married. In terms of the highest level of schooling, a substantial proportion of the Bicol youth have completed a high school/ vocational education (25.6%) or college education (17.2%), while a larger proportion have a high school education (40.5%). Less than one in five youth have no education or have at most an elementary education. With regard to the socio-economic condition of the youth in Bicol, about three in ten are in the poor category.

In terms of living arrangement and family background, the majority of Bicol youth have never lived away from home or lived in a dorm before the age of 18 (84.5%) and have been raised by both parents (87.3%).

A little over two in five Bicol youths have ever read or watched pornographic material before the age of 18 (42.0%). Only 12.2 percent first had sex when they were minors or below the age of 18. About 17.5 percent of the Bicol youth were already parents.

Among the female youth in Bicol, nearly three in ten have ever been pregnant. About 8.4 percent of them had their first pregnancy when they were still minors, while a larger proportion (11%) had their first pregnancy between the ages of 18 and 19. Another 8.4 percent of these females were 20 years old and over when they first got pregnant.

Socioeconomic factors		Percent	N of cases	
Marital status	Never married	78.4	792	
Marital status	Ever married	21.6	218	
Corr	Male	46.9	474	
Sex	Female	53.1	536	
	Less than 18 years old	38.5	389	
Age	18–21 years old	39.8	402	
	22 years old or higher	21.7	219	
Tumo of place of regidence	Urban	7.5	76	
Type of place of residence	Rural	92.5	934	
	No schooling/pre-	167	169	
	school/elementary	10.7	108	
Education	High school undergraduate	40.5	409	
	High school graduate/vocational	25.6	258	
	College	17.2	174	
Socio-economic status	Non-poor	69.1	698	
	Poor	30.9	312	
Ever lived away from	Yes	15.5	157	
home or lived in a dorm	No	015	052	
before age 18	110	04.3	033	
Raised by both father and	Yes	87.3	882	
mother	No	12.7	128	
Ever read or watched	Yes	42.0	424	
pornographic material	No	58.0	596	
before age 18	140	38.0	380	
Early gov	Yes	12.2	123	
Early Sex	No	87.8	887	
Have children	No children	82.5	833	
	Have at least one child	17.5	177	
Ever been pregnant	Yes	27.8	149	
	No	72.2	387	
Age at first pregnancy	Never been pregnant	72.2	387	
	Before age 18	8.4	45	
	18–19 years old	11.0	59	
	20 years old and over	8.4	45	

Table 2. Percentage of youth in Bicol Region by selected socio-economic characteristics

# Life table analysis

Life table analysis reveals that about half of the young women in Bicol Region remained unmarried at age 21.4 years. In comparison, about half of the young men were able to remain single longer at 25 years of age. The four-year sex differential in median survival in singlehood is statistically significant (Wilcoxon statistic = 63.141, df = 1, p < .01). Figure 1 further shows that transitioning from being single to married occurs more quickly from age 15 onward for young females than for young males in Bicol Region, as the cumulative survival function for females drops down much faster than for males (see Figure 1).



Figure 1. Bicol youth's transition from being single to married by sex

# Kaplan-Meier

Given the foregoing results, separate Kaplan-Meier analyses were done for males and females to examine the effect of early sex. Figure 2 shows that the median number of years spent in the never-married status or single status is lower for females who had early sex (17.4 years) compared with their counterparts who had their first sex when they were 18 years old and over (21.6 years). This pattern is also found for young males in Bicol. The median number of years in the never-married status of young males who had their sexual initiation before age 18 was 22.3 years, which is significantly lower than the median of 24.7 years for young males who had their initial sex experience when they were 18 years old and over. The log-rank (Mantel-Cox) test, which tests for equality of survival distributions for the early sex variable (i.e., whether sexual initiation occurred before age 18), reveals that observed early

sex experience differentials among young females (chi-square = 207.5, df = 1, p < .01) and among males (chi square = 24.4, df = 1, p < .01) in Bicol Region are statistically significant.



Figure 2. Median survival time by sex and early sex

In addition, there is an apparent difference in the timing of the transition to marriage between males and females in the region. Figures 3 and 4 show that the cumulative survival function drops much faster before age 20 among females who had early sex experience compared with their male counterparts. Among females who had early sex, about four in five transitioned from single to married status by age 20, while less than half of the males who had early sex were able to make the same transition by age 20. For both males and females, the cumulative survival function of those who did not have early sex dropped less gradually compared with those who had early sex.



Figure 3. Female Bicol youth's transition from being single to married by early sex



Figure 4. Male Bicol youth's transition from being single to married by early sex

# Cox proportional hazards

To account for the influence of pregnancy on the timing of marriage, analysis was limited to data from young females in Bicol. Table 3 shows four models of hazard ratio or relative risk of union formation among female youth in Bicol.

The Cox proportional hazard analysis reveals that the age at first pregnancy is a better predictor of the risk of first union formation than pregnancy experience only. The 133.74 difference in model chi-squares for Model 1 (i.e., with only early sex as the sole predictor in the model) and Model 2 (i.e., Model 1 plus the ever been pregnant variable) [339.33 – 205.59 = 133.74, p < .01, df = 1] is smaller than the 300.93 corresponding difference in model chi-squares for Model 3, which significantly accounts for the variation in the relative risk of union formation among female youth in Bicol. Model 3 was estimated to predict the risk of transitioning to marriage by adding to Model 1 another pregnancy-related variable that depicts the timing of first pregnancy.

Model 3 was therefore used to estimate Model 4 (full model) with four more predictors (i.e., having at least one child, raised by both father and mother, ever lived away from home or lived in a dormitory before age 18, and ever read or watched pornographic materials before age 18) and four control variables (i.e., age, education, socio-economic status, and type of place of residence). The 47.942 difference in model chi-squares for Model 3 and Model 4 is statistically significant (p < .01, df = 11). This suggests that inclusion of the additional predictors and control variables improves the prediction capability of the model.

	Model		Model	Model		Model		Model	
	1		2		3		4		
Early sex: sex before age 18									
Yes	8.219	**	5.053	**	2.255	**	4.478	**	
No (ref)	1.000		1.000		1.000		1.000		
Ever been pregnant									
Yes			8.76	**					
No (ref)			1.000						
Age of mother at first pregnancy									
Never been pregnant (ref)					1.000		1.000		
Before age 18					58.034	**	42.797	**	
18–19 years old					23.046	**	27.962	**	
Age 20 or higher					4.62	**	5.658		
Raised by both father and mother									
Yes							1.642	*	
No (ref)							1.000		
Completed age									
Less than 18 years old (ref)							1.000		
18–21 years old							0.073	**	
22 years old or higher							0.046	**	
Highest level of schooling									
No schooling/pre-									
school/elementary (ref)							1.000		
High school undergraduate							1.012		
High school									
graduate/vocational							0.513	**	
College							0.344	**	
Model chi-square	205.589	**	339.327		506.52	**	554.462	**	
Degrees of freedom	1		2		4		15		

Table 3. Relative risk of marrying among the female youth in Bicol (N = 536)

*Note.* Not shown in the table are Model 4 coefficients for one predictor (i.e., have at least one child) and background variables such as place of residence, poverty classification, early residence outside the home, and early exposure to pornographic materials, which were included in the model but were not found to be statistically significant.

\* *p* < .05. \*\* *p* < .01.

Correspondingly, this result implies that Model 4 is more comprehensive in explaining the relative risk of union formation among female youth in Bicol. However, only four predictors and two control variables were found to be statistically significant, the coefficients of which are shown in Table 3. Having at least one child, living away from home, exposure to pornographic materials, socio-economic status, and type of place of residence were not found to significantly influence the hazard or risk of transitioning from being single to a first marital union, so they were no longer shown in Table 3. The next paragraphs interpret the coefficients of statistically significant variables in Model 4, in particular, early sexual initiation, age at first pregnancy, having been raised by both father and mother, completed age, and education.

Female youth in Bicol who engaged in early sex or were sexually initiated before age 18 have a hazard ratio or relative risk of entering a first marital union that is nearly five times [Exp(B) = 4.478] that of their counterparts who did not engage in early sex. This is net of the effects of other predictors and control variables in the model.

The risk of marrying significantly goes down as the age of the mother during her first pregnancy increases. A female who conceived a child for the first time before age 18 has a hazard ratio of entering marriage for the first time that is more than 40 times that of a female who has never been pregnant. A female youth who got pregnant for the first time when she was at least 20 years old still has a risk of entering marriage that is more than five times that of a female of a female youth who has never experienced pregnancy.

Another significant predictor is whether the youth has been raised by both the father and the mother. Holding other variables in the model constant, having been raised by both parents significantly increases by 64 percent [Exp(B) - 1 = 1.642 - 1] the likelihood of a first marriage of a female youth in Bicol relative to her counterpart who was raised by only one parent and/or another person.

The control variable *completed age of the mother* is significantly associated with the hazard of entering a first marriage among female youth in Bicol. The relative risk of entering a first marriage among female youth in the ages of 18-21 at the time of the survey is 92.7 percent [1 - Exp(B) = 1 - 0.073] lower than that of the females who were minors at the time of the survey. The hazard of entering marriage among female youth 22 years old or older is 95.4 percent lower than that of their minor counterparts.

In terms of the education of female youth in Bicol, the risk of marrying for the first time is lower by 48.7 percent and 65.6 percent among those with high school/vocational education and college graduates, respectively, compared with those who had no schooling or those with pre-school/elementary education.

# Discussion

The significant gender differential for median survival in singlehood, which we found using life table analysis, indicates that young men tend to remain single longer (i.e., by about four years) than young women in Bicol Region. This finding is consistent with earlier literature on marital timing in the Philippines (Ogena, 1999, 2008, 2013) and changing patterns and correlates of marriage (Ogena et al., 2008).

Since marriage may indicate readiness for family formation, females were also found to increasingly steer toward this event before reaching age 25 compared with their male counterparts. About seven in ten females and only four in ten males had experienced a first marriage before reaching age 25. Given the uncertainty in employment opportunities in the country and prescribed societal gender role expectations, particularly on breadwinning, which is associated more with the males than the females in couple relationships, young men who are still in school or have insecure and low-paying occupations may understandably tend to remain single longer than women. On the other hand, females who are pursuing higher education may also delay entry into marriage. These findings are consistent with the literature on the patterns of age at first marriage and education in general (Mensch et al., 2005; Ogena, 2008; Reda & Lindstrom, 2014).

Based on the results of our Kaplan-Meier analysis, the answer to the question "Would delaying sexual initiation also delay marriage for the Bicol youth?" is yes, but at different rates for males and females. The median number of years spent in the never-married status among young males and females in Bicol who were initiated early into sex was significantly lower than that of their counterparts who had their first sex at age 18 or older. This follows the popular tenet of "early sex leads to early marriage." In contrast, the transition to marriage was rather slow for young men and women who did not have early sexual initiation.

As expected, initiation to sex before age 18 tends to speed up the timing of first marriage. This pattern is more prominent in the data on females than males in Bicol Region. About four in five young females who had early sexual initiation tended to marry before age 20, while less than half of the young males who had sex before age 18 were married by age 20. This may be partly explained by more sexual behavior restrictions on women than men in the Philippines. In the past, "a kiss or an embrace used to be enough reason for the woman's kin to insist on marriage in order to save face and uphold the family honor" (Medina, 2015, p. 124). In contrast, men are allowed greater sexual freedom, and premarital sexual experience for males is even tolerated or expected (Medina, 2015). It is not clear, however, whether such results support Choe's (2011) argument that uncommitted sex is more common

among young men than young women in the Philippines based on YAFS2 data, since commitment is still a slippery concept.

Attitudes and behavior pertaining to sex and marriage are changing. A "new morality" has arisen, as reflected in the increasing permissiveness toward affection or intimacy, with the couple agreeing to it when they are mature and when there is a prospect for marriage (Medina, 2015, p. 127). This new morality and permissiveness may have led to the increasing premarital sexual behavior of the youth, unwanted pregnancy, and even sexually transmitted diseases as documented in the 1994, 2002, and 2013 rounds of the YAFS (Medina, 2015). Considering these challenges to traditional sex and marriage norms, Marquez and Galban (2004) found that increased direct supervision and monitoring of parents may serve as family protective factors against sexual risk-taking behavior among the youth.

This study also examined the influence of pregnancy and its timing on when a typical young woman in Bicol enters her first marital union. Results from the Cox proportional hazards models revealed that both the experience of a pregnancy, whether wanted or unwanted, and the occurrence of a teen pregnancy (i.e., before celebrating one's 20<sup>th</sup> birthday) positively increase the risk of marrying early by more than 20 times compared with women who have never experienced a pregnancy or those who experienced a pregnancy at age 20 or higher. Interestingly, the full model reveals that being raised by both parents significantly increases a young woman's risk of marrying early by 64 percent. This is in contrast with existing literature arguing that being raised by two biological parents reduces the likelihood of cohabiting (Williams et al., 2007) and that supervision and monitoring by the parents are protective factors against sexual risk-taking behavior among youth (Marquez & Galban, 2004). Medina (2015) argued that family, especially the parents, play an important role in the mate selection of their children. Parents unconsciously influence their children's mate selection through the parental image hypothesis, which is the "psychoanalytic view based on the Oedipus and Electra complexes of Sigmund Freud that one's ideal mate is a parent substitute" (Medina, 2015, p. 105). This may occur especially when parents have harmonious relationships with their children (Medina, 2015), which may further be facilitated if both the children and parents are spending time together and living under one roof.

As anticipated, the positive effect of early sexual initiation remains either when the pregnancy-related variables are entered in the model or when other predictors and control variables are added in the model. This suggests support for the proposition that early sex facilitates the process toward early marriage.

Furthermore, the significant age cohort and education differentials in the survival analysis results suggest that, holding other variables in the full model constant, the risk of first marriage experience decreases as age increases and as education increases. The former is self-explanatory, while the latter supports findings of Mensch et al. (2005) and Reda and

Lindstrom (2014). These results suggest age and education thresholds as they influence the risk of first marriage among young women in Bicol: high school education and the age of majority. Past these thresholds, women are less likely to enter a marital union irrespective of their early sex and first pregnancy experience.

#### **Conclusion and recommendations**

This study examined how early sexual debut influences the risk of marital union formation among the youth in Bicol using data from the YAFS4. It revealed the longer stay in the never-married status of young males compared with young females in the region. It also found that the timing of sexual initiation is positively associated with the transition to first marriage of Bicol youth. For both young males and females in the region, early sexual initiation facilitated the transition from being single to the establishment of the first marital union. Those who were formally married and in cohabiting unions were considered married in this study. As the number of cases of cohabiting unions increases, it would be interesting to differentiate in future research the effect of early sexual initiation on the type of marital union that the youth enter into.

While this study provided support for the proposition that early sex facilitates early marriage, females who had early sexual initiation were more likely to exhibit faster entry into their first marital union compared with their male counterparts. It would be interesting to see the extent to which traditional norms on youth sex and marriage would be maintained by protective factors in the face of the evolving new morality and fast-changing social technologies that are reshaping the mate selection process from acquaintance to friendships, relationships, and marriage.

For young females in Bicol, the positive association between early sex and first marriage remains significant net of the effect of the experience and timing of first pregnancy. The age and education thresholds that were found have specific policy implications. Aside from the effect of early sex and first pregnancy, young women in Bicol who have attained the age of majority or have at least a high school education were less likely to enter their first marital union compared with their counterparts. Therefore, there must be concerted efforts by stakeholders to keep young females in school until they reach age 18 or complete a high school education.

For future youth research, it would be interesting to identify the factors influencing the type of first marital union and its fragility, describe the evolving acquaintance-tomarriage process, and study the value of marriage and children as they transform parent-child relations.

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