# ADOLESCENTS' AND YOUNG ADULTS' TRANSITION INTO SEXUAL ACTIVITY AND MARRIAGE IN THE GILGEL GIBE REGION OF ETHIOPIA

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## Introduction

In recent years, youth in sub-Saharan Africa have experienced various social, political, and economic changes that have influenced trends related to educational attainment, employment opportunities, and sexual and marital relationship formation. Traditionally, decisions on timing of marriage and choice of marital partner were made by parents and family. In recent years, however, there has been a noted decline in arranged and ceremonial marriages in sub-Saharan Africa, which has been attributed largely to young people's higher educational attainment, increased financial independence, and residence in urban areas (Blum 2007; Meekers 1992). This decline in prevalence of arranged marriage suggests development of new pathways to marriage, particularly entry into marriage through premarital romantic or sexual relationships.

Studies on trends in age at sexual activity and marriage among young adults in sub-Saharan Africa have indicated a clear shift in the context of sexual initiation i.e. first sexual activity occurring before marriage instead of within marriage (Gage and Meekers 1994; Gueye, Castle, and Konate 2001; Gupta and Mahy 2003; Meekers 1992; Meekers 1994; Mensch, Singh, and Casterline 2005; Zaba et al. 2004). However, few studies have examined the role of premarital sexual activity in the formation of marital unions among young people (Chloe et al. 2001). Since some studies have also shown that sex before marriage usually occurs within a premarital romantic relationship for most adolescents, it has become important to understand the relationship between marriage, and premarital romantic and sexual relationship among youths in sub-Saharan Africa (Tadele 2006; Taffa et al. 2002). This study attempts to explore the role of premarital romantic relationship in young adults' transition into sexual activity and marital union in sub-Saharan Africa utilizing the

*Gilgel Gibe Social and Sexual Relationship History Survey* that collected information on the demographic characteristics, formation of romantic and marital relationships, and sexual behaviors, of adolescents and young adults from the Gilgel Gibe region of Ethiopia in 2006. I use social dislocation and human capital theory to examine the effects of socio-demographic variables such as education, urban residence, and religion on young adults' transition into premarital romantic and sexual activity, and marriage. I pay particular attention to the gender differences in the factors associated with entry into these premarital relationships and subsequent entry into marriage.

## Literature review

### Introducing Premarital Romantic Relationships to understand the context of Sexual initiation and Marriage

Research on marriage among adolescents and young adults in the developing world has largely focused on the causes and effects of timing of marriage These studies have reported a delay in the timing of marriage for both men and women and have outlined factors such as opportunities for educational achievement, growth in urbanization, increasing cost of dowry and bride wealth, and changing laws on minimum marital age as possible causes (Ezra and Gurmu 2002; Ikamari 2005; Meekers 1992; Mensch, Singh, and Casterline 2005). However, these factors have not only affected the timing of marriage but also the context of marriage and sexual initiation among adolescents and youths. Youths are gaining financial independence through employment in urban areas and are exposed to new ideas of romantic and marital relationships in schools and the workplace. As a result, youth are more likely to enter into premarital romantic and sexual relationships before marriage, which changes the context of sexual initiation and the pathway to marriage among

adolescents and youths in developing countries (Blum 2007; Meekers 1992; Molla, Berhane, and Lindtjorn 2008).

An analysis of DHS data from 27 sub-Saharan African countries indicates a clear shift in the context of sexual initiation from within marriage to before marriage for women in 13 countries (Mensch, Grant, and Blanc 2006). Other multi-country studies have also shown a common tendency among adolescent boys and girls to engage in sexual activity at an early age thus increasing their probability of initiating sexual activity before marriage (Brown et al. 2001). For instance, in a study done in Uganda, 50% of young men and nearly 40% of young women reported having had sex by the age of fifteen (Konde-Lule et al 1997). Even in India where premarital sex is thought to be uncommon, approximately one in four unmarried adolescent boys reported that they were sexually experienced (Jejeebhoy 1998). These studies also show a remarkable gender difference in the context of sexual initiation. Among sexually experienced girls, 21 percent were married, while among sexually experienced boys, only 2 percent were married (Singh et al. 2000). Another study conducted in Thailand, Philippines, and Taiwan showed that while 87 to 92 percent of young men's first sexual experience was premarital, only 30% of young women's sexual experience occurred before marriage (Choe et al. 2001). Given the shift in sexual initiation to before marriage in developing countries, it has become necessary to understand the factors and contexts associated with premarital sexual activity.

Young people's engagement in premarital romantic relationships is emerging as an important context for sexual initiation in developing countries and requires examination (Tadele 2006; Taffa et al. 2002). Several studies have examined the association between premarital romantic relationship, and entry into sexual activity and marriage in the context of U.S. where dating is an acceptable pathway to sexual

initiation and marriage (Dorius, Heaton, and Steffen 1993; Halpern et al. 2000; Marín et al. 2006; Raley et al. 2007), but there is very little research on this topic in developing countries.

It is important to answer these research questions in the context of developing countries in sub-Saharan Africa where modern ideas of romantic relationship and marriage are emerging in urban as well as rural areas. Important questions are: What role does premarital romantic relationship plays in the life of adolescents in a different socio-cultural context where romantic premarital relationship between adolescent boys and girls is not the normative pathway to marriage? Also, how would engagement in premarital relationship influence adolescents' propensity to engage in premarital sex if premarital virginity is valued in the society? Also, do premarital sexual relationships transition into marital unions in a society with restrictions on premarital sexual activity?

These research questions will be examined in the context of Ethiopia where occurrence of early marriage has declined but the prevalence of premarital sex has increased (Mensch, Grant, and Blanc 2006 ; Molla, Berhane and Lindtjorn 2008). In addition, sexual activity is occurring within premarital romantic relationships although premarital sex is condemned, especially for girls (Kibret 2003; Tadele 2006). In this socio-cultural context, it will be quite relevant to investigate the factors influencing the association between premarital romantic relationship, either involving or not involving sexual intimacy, and subsequent marital union among young boys and girls.

To place the proposed study in context, more information on the socio-cultural context of the study site (the country and the study site within the country) is provided

before discussing the social determinants of transition into and relationship between marriage, and premarital romantic and sexual relationship.

Ethiopia and Gilgel Gibe study site in Context

Ethiopia, an agrarian country situated in the Horn of Africa, has recently shown strong positive economic growth of around 10 percent in the last two years (CSA [Central Statistical Authority-Ethiopia] and ORC Macro 2006). In terms of social developmental indicators, there has been a significant increase in household educational attainment between 2000 and 2005. Compared to 38 percent of males and 23 percent of females, the proportion of males and females who had attended school at some time in their lifetime increased to 47 percent and 33 percent from 2000 to 20005 respectively. Similarly, the ratio of girls to boys in the primary and secondary school has increased from 65 percent in 2000 to 85 percent in 2005 (The World Bank 2007). Although Ethiopia is one of the least urbanized countries in the world with less than 14 percent of the country urbanized, the proportion of people living in urban area has increased steadily from 1991 to 2001 from 13 percent to 16 percent (Macro International Inc. 2007; UNHabitat 2008).

In terms of cultural diversity, Ethiopia is one of the most ethnically and linguistically diverse countries with over 80 ethnic groups with the two largest ethnic groups – Oromo and Amhara constituting 32 and 30 percent of the population respectively. The main religions are Christianity and Islam, with 51 percent Orthodox Christians, 10 percent Protestants, and 33 percent Muslims (CSA 1998).

Ethiopia is one of the sub-Saharan countries where marriage is a major institution and almost universal among the population. According to the 2005 Demographic Health Survey (DHS), only 0.4% of women aged 45-49 and 40% of men aged 15-59 had never been married indicating universality of marriage in the

country. Although National Population Policy has set the minimum age at first marriage to be 18 years, women enter into marriage at quite an early age with median age of first marriage being 16.5 for women aged 20-49 years (Ezra and Gurmu 2002; CSA [Central Statistical Authority-Ethiopia] 2006). However, the median age of first marriage for urban women has increased from 2000 to 2005 from 16.9 to 18.2 years (Macro International Inc. 2007). In terms of marital arrangement, marriages are arranged traditionally by parents and family members with little or no involvement of the bride and groom (Ezra and Gurumu 2002; Tilson 2000).

Sexual initiation occurs early for women, almost 21.9 percent of women aged 20-24 had experienced sexual intercourse by age 15. Only 1.7 percent of men aged 20-24 had experienced sexual intercourse by age 15 (Macro International Inc. 2007). The context of sexual initiation is different among men and women: most women experience first sexual intercourse at first marriage while men initiate sexual activity before marriage (CSA [Central Statistical Authority-Ethiopia] and ORC Macro 2006).

The context for sexual initiation may be changing in Ethiopia, specifically in the urban areas (Kibret 2003; Taffa et al. 2002). In the Kibert (2003) study, 17 to 21 percent of youth in Bahir Dar, a city located northeast of Addis Ababa, had engaged in a premarital sexual relationship. Furthermore, 70 percent of those engaging in premarital sex reported that the activity occurred with a boyfriend or girlfriend (Kibert 2003). Similarly, Taffa et al.'s (2002) study on the contexts of sexuality among youths 15-24 years old in Addis Ababa found that adolescents did not see premarital romantic relationship to be separate from sexual relationship. For these youths, "going out" was synonymous with engaging in a sexual relationship. Similarly, in an ethnographic study done by Tadele in Dessie, a fast growing town in the Wello providence, the author reported that most adolescent boys and girls initiated

premarital romantic relationship in school, which eventually led to a sexual relationship (2006). With youths' involvement in premarital romantic and sexual relationships and their changing perception of marital union, premarital romantic relationships may be emerging as new pathways to marriage in addition to direct entry into arranged marriage in Ethiopia.

All of the above studies were conducted in major urban centers but the changing perception of premarital romantic and sexual relationships could be as prevalent in small towns, semi-urban areas, and rural areas in the country. The study site for this study, Gilgel Gibe region located in Southwest Ethiopia, provides an opportunity to examine the research questions in semi-urban and rural areas. In addition, the population in the study site is predominantly from the Oromo ethnic group and follows Islam religion (CSA-Ethiopia 2005). Therefore, the site will provide a different socio-cultural context for examining the social determinants and association between premarital romantic and sexual relationship, and marriage in Ethiopia which would be different than past studies, which were conducted in urban areas populated by Amhara, Oromos, and various other ethnic groups following Christian and Islamic religions.

## Social Determinants of Transition into Premarital Romantic Relationship, Sexual Activity, and Marriage

Studies have proposed socio-demographic variables associated with modernization such as education, urban residence, economic change, and media exposure as possible explanations for the changing context of sexual initiation and marriage in developing countries. The social dislocation hypothesis has been used to understand the influence of education, urban residence, and media on the rise in premarital romantic relationships, sexual activity, and changing pathways to marriage.

The hypothesis posits that adolescents' prolonged exposure to non-familial institutions such as school and workplace, residence in urban areas, and financial independence weaken the social control of the family over adolescents' sexual behavior and opposite-gender relationships. This exposure also changes adolescents' perception of sexual autonomy and marriage because of Western values prevalent in schools and cities. As a result, adolescents can make autonomous decisions about the timing of their marriage and the selection of a partner via the formation of premarital romantic or sexual relationships (Blum 2007; Ezra and Gurmu 2002; Meekers 1992; Mensch, Singh, and Casterline 2005; Taffa et al. 2002).

Taffa et al.'s results clearly support this hypothesis. In their study, young men and women emphasized the connection between involvement in premarital sexual behavior and modernity (Taffa et al. 2002). Youths who considered themselves "modern" are encouraged to engage in sexual behavior as described by a respondent in the study "they start (sexual intercourse) to show-off their experience.. if one fails to catch-up with the modern group, she/he is insulted and mocked at…" (Taffa et al. 2002). Therefore, adolescents' access to education and residence in urban and even semi-urban area may influence their entry into premarital romantic and sexual relationship, and entry into marital union in various ways.

*Influence of Education and Residence on Marriage*

The influence of education and urban residence on the likelihood of entry into marriage has been studied and confirmed by various studies (Gaughan 2002; Ghimire et al. 2006; Ikamari 2005; Lindstrom, Kiros, and Hogan 2006.; Mensch, Singh, and Casterline 2005). This literature on education and family formation outlines three hypotheses that link education to delay in marriage:

(1) Role incompatibility between the role of a student and wife and mother decreases the likelihood that women would want to take the role of a wife while still a student and thus are more likely to delay marriage while enrolled in school (Ikamari 2005; Jejeebhoy 1995). For example, the study by Ikamari (2005) showed a strong delaying effect of education on marriage which increased with the level of education.

(2) For young women, education is an investment in human capital, and therefore the opportunity cost of getting married is high for women who are already investing in education. As a result, young women enrolled in school and/or with high education are likely to delay marriage because of the incentive provided by improved earning power provided by education. In the case of men, they may delay their marriage to accumulate human capital to generate enough resources to pay bride-wealth or establish a separate household (Lindstrom and Brambila-Paz 2001; Mensch, Singh, and Casterline 2005).

(3) Non-familial institutions like school and the workplace provide a new experience for young men and women and can alter their perception of marriage. In both developed and developing society, youths' enrollment in school alone regardless of their level of education significantly decreases their likelihood of entering into a marital union (Gaughan 2002; Ghimire et al. 2006; Ikamari, Lawrence D. E. 2005).For instance, in their study of young adults mate selection in Nepal, Dhirga Ghimire et al. found that enrollment in school significantly decreased the risk of marriage and specifically of arranged marriage (2005).

In addition to education, place of residence also affects the timing and context of marriage. Residence in urban or semi-urban areas expands the marriage market, provides more employment opportunities, and also weakens the moral and social control on children by parents (Lindstrom, Kiros, and Hogan n.d.).

**Hypothesis I**: Based on the literature outlined above, we can expect that school enrollment, higher educational attainment, and urban residence will significantly reduce the likelihood of entering into a marital relationship for both boys and girls, but the effect will be stronger for girls.

*Influence of Education and Residence on Sexual Initiation and Premarital Romantic Relationship formation*

The effect of education and urban residence on sexual initiation is not as clear as the effect on marriage. Some studies have found that education increases the risk of engaging in premarital sex while others have found the contrary. Furthermore, the association has been found to be different for boys and girls.

A study carried out in eight sub-Saharan countries on the trends and contexts of adolescent sexual initiation found different impacts of education, urbanization, and media exposure on boys and girls. In most countries, girls were less likely to engage in sexual activity before age 18 if they were educated, urbanized, and exposed to media. In contrast, higher education, urban residence, and exposure to media increased the likelihood of adolescent boys' sexual initiation before age 20 (Gupta and Mahy 2003)

In the study by Molla, Berhane, and Lindtjorn (2008) urban and educated (until primary level) youths were more likely to engage in premarital sex than rural and illiterate youth, thus indicating that residence in urban areas and acquisition of education can increase the likelihood of youths' sexual initiation before marriage. In addition, the results of this study reflect the weakening of traditional norms regarding virginity in urban areas among educated youths because urban youths were three times less likely to believe in the traditional norm of remaining virgin until marriage than their rural counterparts (Molla, Berhane, and Lindtjorn 2008).

In another study done on three countries in Asia, school drop-out at an early age and urban residence significantly increased the risk of entering into a premarital sexual relationship for women. However, having college education or aspirations for college education significantly reduced the probability of entering into premarital sex for both men and women. Even the possibility of initiating sex only at marriage was significantly decreased among young men and women with higher education. However, these effects of education were greater for women than for men. Thus, this study showed that education may serve as a protective factor against risk of sexual initiation both before and at marriage for women (Choe et al. 2001).

**Hypothesis II**: Although literature has found mixed results on the effect of education on premarital sexual initiation, considering the individualistic model of adolescent sexual behavior inherent in the social dislocation thesis, we can expect that both boys and girls enrolled in school, having higher education, and living in urban area will be more likely to be engaged in premarital romantic and sexual relationship.

*Influence of Religion and Ethnicity on Premarital Romantic and Sexual Relationship, and Marriage*

In a study conducted in Cote d'Ivoire, ethnic groups largely Islamic in nature showed high prevalence of ceremonial or arranged marriage (Meekers 1992). Therefore, a society which is predominantly Muslim may be disapproving of premarital sexual relations and thus may demonstrate societal trend of early and arranged marriage, especially for girls. In this study, we use adolescents' religious affiliation as control variable because adolescents following Islamic faith may be less likely to engage in premarital romantic and sexual relationship and at higher likelihood of entering into marriage in comparison to adolescents adhering to other religions.

A study done by Ezra et al. (2002) in the Southern Region of Ethiopia has shown that there are distinctive ethnic differences in the timing of and patterns of marriage. Marriage among the Oromos who are predominantly Muslims is usually polygamous where Oromo men can marry as many wives as wealth permits thus putting younger women at high risk of marriage. Among the Oromos, virginity is valued highly and thus premarital sex may be very unlikely behavior among girls in this community. Therefore, adolescents' ethnicity and religion is used as a control in the study because there may be ethnic and religion-based differences in adolescents' likelihood of engaging in premarital romantic and sexual relationship, and marriage.

Relationship between Premarital Romantic and Sexual relationship, and Entry into Marriage.

As discussed in the literature before, very few studies have attempted to understand how premarital romantic and sexual relationships transition into marriage among adolescents in traditional societies. The only study that has attempted to examine this association was conducted in Asia (Choe et al. 2001). The results of the study showed that males and females differ significantly in their age of entry into first sexual activity and subsequent union in all three countries. For men, there seems to be a lag of a few years between premarital sexual activity and marriage. By age 24, although 50 percent of men had engaged in premarital sex, only nine percent of them had entered into marital union in Thailand. In contrast, around 90 percent of Thai women had entered into a marriage after experiencing premarital sex by the time they were 24 years old (Choe et al. 2001).

There is however no information on the linkage between premarital romantic relationship and sexual initiation, and between these two premarital relationships and marital union in traditional societies. In this study, I examine whether premarital

romantic relationships are associated with higher likelihood of premarital sexual activity. Further, I will examine whether premarital romantic and sexual relationships are emerging as additional pathways to marriage in Ethiopia. If premarital romantic relationships are emerging as salient contexts for sexual initiation and entry into marriage, we would expect that:

**Hypothesis III:**

Adolescents involved in premarital romantic relationships are at higher likelihood of engaging in premarital sexual activity.

**Hypothesis IV:**

Adolescents involved in premarital romantic relationships are entering into marriage via this route in addition to direct entry into marriage.

In terms of the relationship between premarital sexual relationship and marriage, we can expect a difference between young males and females in their transition from premarital sexual relationship to marriage.

**Hypothesis V:**

Young girls will most likely enter into a premarital sexual relationship only if they perceive their relationship as progressing to marriage. Given premarital virginity is highly valued among young women in Ethiopia (Molla et al. 2008; Tadele 2006), if young girls are engaged in a premarital sexual relationship, there should be a high likelihood of girls entering into marital relationship in the same year as their entry into premarital sexual relationship.

In contrast, premarital sexual relationship is not as sanctioned for young men and studies have found a significant lag time between their sexual initiation and entry into marriage (Choe et al. 2001; Taffa et al. 2002). In addition, adolescent boys in the study in Dessie perceived premarital romantic and sexual relationships as

opportunities for acquiring sexual intercourse skills rather than opportunities for finding a future marital partner (Tadele 2006). Therefore, entry into premarital romantic or sexual relationship will not influence boys' entry into marriage.

## Method and Analysis

### Data

The data for the study come from the *Gilgel Gibe Social and Sexual Relationship History Survey* that collected information on the demographic characteristics, formation of romantic and marital relationships, and sexual behaviors, of adolescents and young adults from the Gilgel Gibe region of Ethiopia in 2006. This region is located around Gilgel Gibe Dam on Gilgel Gibe River in the Oromiya region. It is 260 kilometers southwest of Addis Ababa and 55 kilometers northeast of Jimma Town (Map in Appendix A).

The *Gilgel Gibe Social and Sexual Relationship History Survey* was applied to young adults, ages 13 to 24. The youth were randomly selected from household registries that were compiled in a 2005 baseline survey of 8,900 households. These households were drawn from the Asendabo Demographic Surveillance System (DSS), which incorporates rural communities and semi-urban centers in the immediate areas surrounding the Gilgel Gibe dam, Jimma Zone. Jimma University had started the Asendabo DSS in 2005 to monitor the changing health and demographic status of the study population, and to evaluate the impact of health program interventions and economic and social development projects. The sample includes one urban district (N=1300 households) and eight rural districts (N=7600 households).

The adolescent survey includes structured interviews with a total of 1,291 adolescents and young adults aged 13-24 years. The interviews were conducted at home, but in a location within the residence or residential compound where the

respondents could answer questions in private. Female interviewers interviewed female respondents and male interviewers asked questions to the male respondents. The interviews were conducted by trained interviewers familiar with the area and competent in the local languages, Amharic and Oromifa.

This data set is appropriate for the proposed study because it provides retrospective information on respondents' romantic, sexual, and marital history from their first relationship to their current or last relationship up to four partners. In addition, the method of data collection with non-verbal response cards was effective in reducing respondents' reactivity to sensitive questions about premarital romantic and sexual relationships. The non-verbal response cards were pre-tested with 202 randomly selected young adults. The results of the pre-test showed that there was a significant increase in reporting of sexual activity with the non-verbal response card method. In the final data collection, half of the respondents were interviewed using the non-verbal response card and half were verbally interviewed.

For the purpose of this paper, data from 1261 respondents with complete information on demographic characteristics, and romantic, sexual, and marital history were used. Of the respondents, 48.9 percent were female and 51.5 percent were males. Respondents' mean age was 16.8 years. Detailed information on the respondents is provided in Table 1.

Measures and Analysis

The study utilized discrete-time hazard models to estimate the respondents' probability of entering into a premarital romantic relationship, first sexual intercourse, and a marital union given their age, education, place of residence, religion, and ethnicity. Separate models were estimated for the male and female sample. To create

these models, a person-year file was constructed in which each record represented a year the respondent was exposed to the risk of the event.

For all three models the risk period started at the age of 11 and ended the year the event occurred. If the respondents did not experience the event, the risk period extended until the year of the survey. The first model estimated the probability of entry into a first premarital romantic relationship. Never married youth who have not entered into a premarital romantic relationship were right- censored at the year of the survey or in the case of married youth, in the last year before they entered into a marital union. The second sets of models examine entry into first sexual activity either before marriage or at the time of marriage as competing events to understand the context of sexual initiation. Married respondents who did not have premarital sex were considered to have had their first sex at the time of first marriage. The risk period ended the year the respondent initiated first sexual intercourse or entered into marriage. The third set of models examines the probability of entering into first marriage and includes information on premarital romantic relationship and premarital sex as independent variables.

*Outcome Variables*

The outcome variables are binary variables for respondents' entry into three life events: first premarital romantic relationship (this relationship could involve premarital sexual relationship in the same year)[a], first sexual intercourse, and first marital union.

All respondents were asked about their premarital and marital relationship history. Respondents who had ever been in a premarital romantic relationship were asked the age at which they entered into romantic relationship. Respondents who were

[a] In the study, 17.6% of the respondents had premarital sexual intercourse in the same year as the year of entry into non-marital relationship.

ever married were asked about their age of entry into marriage. All respondents were asked whether they had ever experienced sexual intercourse and the age at which they first had sexual intercourse.

*Explanatory Variables*

Demographic characteristics related to residence, education, religion were used as explanatory variables in the analysis. In addition, time-varying covariates indicating respondents' school enrollment status and level of education were included in all models. Additional time-varying covariates included age group which captures duration of exposure to the risk of the event. Ethnicity was not used as a covariate in the models because the majority of the respondents were Oromos. A control variable for the response method used (verbal vs. non-verbal response card) was also included in all models.

Model II included status of involvement in a premarital romantic relationship for that specific person year as a covariate to examine the role of premarital romantic relationship in initiation of sexual activity among boys and girls. Models III and IV investigating pathways to marriage included information on respondents' involvement in a premarital romantic relationship and timing of their first premarital sexual intercourse respectively. The premarital sex covariate indicated whether an individual initiated premarital sex a given year or in subsequent years.

In models I, II, III, and IV, education of the respondents was collapsed from three categories to two categories to create the '0-3 years of education' and '4+ years of education' categories. The distinction was made between completion of a few grades of primary education vs. completion of primary education because of the lack of observations in the secondary education category. This categorization was necessary to examine the impact of level of education on initiation of romantic,

sexual, and marital events. Distinction was not made between the illiterate and literate among those without formal education because the number of observations for the literate in this group was very small.

In the case of age group covariates, the observations for males in the 11-17 age group categories were collapsed to form the reference category instead of the 11-15 age group used for females because the number of observations for males entering into marital sexual intercourse and marital union in the 11-15 age group was very small (around nine percent).

## Results

### Descriptive Analysis

Table 1 provides information on the demographic characteristics and life event characteristics of the male and female respondents.

#### *Demographic Characteristics*

Most of the male and female respondents (around 90%) belong to the Oromo ethnic group and follow Islam religion (86% to 92%) (see Table 1). In terms of their education, about 50 percent of the male and about 40 percent of the female respondents were enrolled in school at the time of the survey. At the time of the survey, around half of the respondents had primary education and around 40 percent did not have any formal education i.e. they were illiterate and could only read and write. A very small proportion of respondents had completed secondary education by the time of the survey, the proportion being smaller for females (5.8%) than males (8.1%). In terms of their residence, around 70 percent of the residents lived in rural areas.

*Life Event Characteristics*

More females had entered into a marital union than male respondents (39 % vs. 9.8%). Similarly, more female respondents had experienced sexual initiation, in general and before marriage, compared to male respondents (42.5 % vs. 14.1% and 11.7% vs. 5.1%). The pattern was similar for the experience of premarital romantic relationship – around 18 percent of young women had ever been in a premarital romantic relationship in comparison to 9.6 percent of young men.

Figure 1 presents the Kaplan–Meier estimates of the survival functions for age at first premarital romantic relationship, first intercourse, first premarital intercourse, and first marriage by sex. Most female respondents enter into first premarital romantic relationship between the ages of 13 and 16. If they don't enter into a premarital romantic relationship until this age, they enter into marriage. Most males enter into premarital romantic relationship when they are older i.e. around 18 years. In this study, the proportion of females and males entering into premarital romantic relationship is small and thus the median age of entry into first romantic relationship cannot be calculated.

In terms of first sexual intercourse, the survival curve for females is steep between the ages of 15 and 19 indicating that the probability of entering into sexual intercourse is greatest between these two ages. As for male respondents, the likelihood of entering into first sexual activity starts around age 18. The log rank test shows that the difference in the survival curves for first sexual intercourse for young men and women is statistically significant. The median age at first sexual intercourse is 17 years for females and 23 years for males. Survival analysis carried out on the 2005 Ethiopian Demographic Health Survey (DHS) in the Oromiya region shows that the median age at first sexual intercourse for males is same as that calculated from the

Gilgel Gibe data. However, for females, the median age at first sexual intercourse is higher in the DHS data (19 years).

As for entry into first marriage, females enter in first marriage much earlier than males. In our study, 50 percent of females had entered into first marriage by age 18 while 50 percent of the males had not yet experienced their first marriage at the time of the survey (Fig 1). This result was somewhat consistent with the DHS survival analysis results where women aged 15-24 entered into first marriage at median age of 20 while 50 percent of men aged 15-24 had not yet entered into first marriage. Similar to age at first sexual intercourse, the median age at marriage is higher for females in the DHS survey.

Survival analysis of first premarital sex showed that 50 percent of males and females had not entered into premarital sexual activity in the study as well as in the DHS data. Similar to the survival curve for premarital romantic relationship for females, the survival curve for first premarital sex shows that if female respondents don't enter into premarital sexual relationship by the age of 14-16, they enter into marriage (Fig 1). The survival analysis carried out on the 2005 DHS Ethiopia data among males and females aged 15-24 is presented in Appendix B.

Multivariate analysis

Discrete-time hazard models were used to estimate the respondents' probability of entering into a premarital romantic relationship, first sexual intercourse, and marital union. Survival curve analysis had shown that the likelihood of entering into all three events varies significantly between males and females. I also suspect that the determinants of entering into the particular life events might also operate differently for males and females and therefore I estimate separate models for each group.

*Entry into Premarital Romantic Relationship*

The first model estimated the hazard of respondents' entry into a premarital romantic relationship (Table 2). Enrollment in school does not place male and female respondents at a higher risk of entering into a premarital relationship. However, level of education increases male respondents' risk of entering into a premarital relationship. Male respondents with secondary education were three times as likely as their counterparts with 0-3 years of education to enter into the relationship. The effect of level of education was in the same direction but was not significant for female respondents. Contrary to expectation, girls and young women in the semi-urban areas were only .45 times as likely as respondents in rural areas to enter into a premarital romantic relationship. This effect was not significant for boys and young men. The probability of entering into a premarital romantic relationship increased with age for both male and female respondents.

*Context of Sexual Initiation*

Models I and II used multinomial logistic regression to understand the context of sexual initiation i.e. the hazard of engaging in sexual intercourse before marriage or at the time of marriage vs. not experiencing any sexual activity (table 3).

Education is an important factor influencing adolescents' and young adults' likelihood of initiating sexual intercourse either before or at marriage. For females, being in school has a protective effect on the risk of sexual initiation before or at marriage in both models. Without controlling for women's involvement in a premarital romantic relationship, females enrolled in school were 0.20 and 0.13 times as likely to initiate sexual activity before marriage or at the time of marriage in comparison to those not enrolled in school. Even when involved in a premarital romantic relationship, girls and young women were less likely (0.12 times as likely as

those not enrolled in school) to initiate sexual activity. However, the level of education had no effect on females' likelihood of initiating sexual activity.

In the case of boys and young men, enrollment in school decreased their risk of initiating first sex at the time of marriage. Men enrolled in school were 0.33 times as likely to engage in first sexual intercourse at the time of marriage in comparison to those not enrolled in school. Beyond enrollment in school, level of education also significantly delays men's likelihood of initiating first sex at marriage. Men with 4+ years of education were .38 times as likely as their counterparts with 0-3 years of education to initiate sexual intercourse at the time of marriage after controlling for their school enrollment status.

Consistent with expectation, females residing in the semi-urban community were 3.28 times as likely as those residing in rural area to engage in sexual activity before marriage. The likelihood of engaging in premarital sex remained significant and increased to 5.25 times even after controlling for female's involvement in a premarital romantic relationship.

In model II, respondents' premarital romantic relationship status was introduced to examine the influence of premarital relationship on sexual initiation among both male and female adolescents and youths. The risk of entering into premarital sexual activity is high for both boys and girls if they are in a premarital romantic relationship in that year. This effect is stronger for boys than girls: girls are 16 times as likely to enter into premarital sex while boys are 22 times as likely to enter into premarital sexual activity in comparison to their counterparts who are not in a relationship. These results show that premarital romantic relationship acts as a route for premarital sexual initiation for both boys and girls.

In terms of engaging in first sexual activity at the time of marriage, being in a premarital romantic relationship is a strong predictor for girls. Girls in a premarital romantic relationship are as 2.83 times as likely as girls not in a premarital relationship to initiate their sexual activity at the time of marriage. For boys, premarital romantic relationship still remains a predictor, albeit a marginally significant one: boys in a premarital relationship are 2.30 times as likely as those not in a premarital relationship to engage in first sexual activity at the time of marriage. These results indicate that for both boys and girls, premarital romantic relationship is a more likely route for engaging in first sexual intercourse before marriage than at the time of marriage.

Both models show that the risk of entering into premarital sexual activity is highest for females in the 16-17 age group and highest for males in the 18-19 age group. In model I, females in the 16-17 age group have an equal likelihood of engaging in first sex before and at the time of marriage i.e. six times as likely as those in the 11-15 age group. If female adolescents have not had sex by age 17, they are more likely to engage in first sexual intercourse at the time of marriage instead of before marriage. This is reflected in the results in Table 3. The girls in the 18-19 age group are 9.6 times as likely to engage in first sexual intercourse at the time of marriage but only 4.5 times as likely to engage in premarital sexual intercourse in comparison to their counterparts in the 11-15 age group. On the other hand, young men's likelihood of engaging in premarital sexual intercourse is highest for the 18-19 age group. Young men in the 18-19 age group are 10 times as likely as boys in the 11-15 to engage in premarital sex. For both boys and girls, even after introducing premarital romantic relationship in the model, the pattern of initiation of sex remains same among the age groups in model II. However in this model the magnitude of risk

attenuates for premarital first sex which indicates a strong influence of involvement in premarital romantic relationship on initiation of sex before marriage.

*Entry into First Marital Union*

Models III and IV estimated the respondents' likelihood of entering into first marriage based on their demographic characteristics, and their involvement in a premarital romantic relationship (model III), and engagement in premarital sexual activity (model IV).

Enrollment in school protects both males and females from entering into marriage even after controlling for their involvement in premarital romantic and sexual relationship. In models III and IV, girls and young women currently enrolled in school in comparison to their counterparts not enrolled in school are 0.08 and 0.09 times as likely to enter into marriage. Similarly, boys and young men are around two-fifth times as likely to enter into marriage compared to their counterparts not enrolled in a school. In addition, level of educational attainment influences male respondents' entry into marriage - those with 4+ years of education are one-third times as likely to enter into marriage compared to those with 0-3 years of education.

Contrary to expectations, semi-urban residence increases the risk of women entering into marital union by around 60 percent. However, this effect loses significance when information on premarital sexual activity enters into the model. Perhaps this result indicates that women in the urban area are entering into marital relationships subsequent to a premarital sexual relationship that occurred in the past in a rural area.

Consistent with the results on sexual initiation at marriage, female respondents involved in a premarital romantic relationship are three times as likely to enter into a marital relationship as their counterparts who are not in a romantic

relationship. The effect of a premarital romantic relationship on likelihood of marriage remains significant and high even when information on premarital sexual activity is introduced into the model (model IV). In model IV, young women in a premarital romantic relationship were twice as likely to enter into marriage as those not in a premarital relationship. These results show that young women's involvement in a premarital romantic relationship has an independent effect on their likelihood of entering into marriage beyond their initiation of sexual activity.

Engagement in premarital sexual activity had similar effects on adolescent and young women's entry into marriage. Young women who have experienced premarital sex are more likely to enter into marriage than their counterparts without premarital sexual experience. This effect is stronger for young women who enter into marriage in the same year as their initiation of sexual activity. Young women are 9.6 times as likely to enter into marriage in the year of premarital sexual initiation and 1.8 times as likely to enter into marriage in subsequent years. This result probably indicates that young girls and women engage in a premarital romantic and sexual relationship only when they anticipate the possibility of marriage with their premarital romantic partner. On the other hand, involvement in a premarital romantic or sexual relationship does not affect male respondents' likelihood of entering into marriage. This result shows that adolescent boys and young men engage in casual premarital romantic and sexual relationship without the intention of immediately entering into marriage subsequent to that relationship.

Similar to the results from the survival analysis and models estimating initiation of first sex at marriage, girls from the age group 18-19 years and boys from the age-group beyond 20 years were the most likely to enter into marriage. This result indicates that girls enter into marriage at an earlier age than boys in the study area.

## Discussion and Conclusion

The results show that socio-demographic variables such as education and urban residence have significant impact on the context of sexual initiation and marriage for adolescent and young adults in Gilgel Gibe region of Ethiopia. In addition, these effects are different for boys and girls.

The effect of education on sexual initiation and marital union formation partially supported hypothesis I: that school enrollment and higher level of education significantly reduce the likelihood of girls entering into marital relationships. Consistent with the role incompatibility theory and with previous literature, enrollment in school decreased the likelihood of girls and young women entering into marriage (Ikamari 2005; Jejeebhoy 1995). However, level of education did not have any effect on women's entry into marriage. In the context of the study area, where only six percent of women are receiving secondary education, accumulation of human capital by attaining higher education probably does not increase the opportunity cost of getting married for women. Contrary to hypothesis II, girls and young women enrolled in school were less likely to initiate sexual activity before marriage. In fact, enrollment in school or level of education decreased young women's risk of entering into premarital sexual relationship. These results indicate that enrollment in school protects young women from the risk of engaging in sexual activity before marriage and delays entry into marriage. These findings are similar to previous literature which showed that women's enrollment in school alone decreases their likelihood of initiating premarital activity and entering into marital union (Choe et al. 2001; Gaughan 2002; Gupta and May 2003).

In the case of boys, enrollment in school reduced their risk of engaging in premarital sexual activity but this effect was neither significant nor as strong as it was

for girls. However, educational attainment influenced their entry into marriage. Boys and young men enrolled in school in comparison to their counterparts not enrolled in school were less likely to initiate sexual activity at the time of marriage. The pattern was similar for young men with higher level of education. It seems like boys and young men with some education have to forego better opportunities obtained via education if they marry at an earlier age and therefore they are more likely to delay their marriage. This result is consistent with the human capital theory and with earlier literature (Choe et al., 2001; Gaughan 2002; Ghimire et al. 2006).

Consistent with hypothesis II and the social dislocation theory, residence in the semi-urban community increased the likelihood of women entering into premarital relationships (Molla, Berhane, and Lindtjorn 2008). However contrary to expectations, semi-urban residence also increased the likelihood of women's entry into marital relationship and decreased the likelihood of entering into premarital romantic relationship. The fact that the residence variable did not capture the respondents' residence at the time of the life event could be driving these unexpected results. For instance, women from the semi-urban area with higher likelihood of marrying could have moved from the rural area and married their premarital romantic partners in the new location. These results could also be indicative of the fact that the semi-urban areas in the study area were not as urbanized as a city like Addis Ababa. As for the boys, residence in the semi-urban community increased their likelihood of entering into premarital sexual activity and marriage but these effects were not significant .

The study found notable results regarding the association between premarital romantic and sexual activity. The results showed that both boys and girls were highly likely to initiate sexual activity within premarital romantic relationships. This

indicates that premarital romantic relationships are emerging as new context for sexual liaisons for both boys and girls, thus supporting hypothesis III.

As for the linkage between marriage, and premarital romantic and sexual relationships, the results were different for boys and girls. As shown by the multivariate analysis, girls and young women were at a higher risk of entering into marriage if they were in a premarital romantic or sexual relationship. In addition, women had a higher likelihood of entering into marriage in the same year as their initiation of sexual activity than in subsequent years after sexual initiation. These results show that young women are considering premarital romantic and sexual relationships as additional pathways to marriage and are probably engaging in premarital sexual activity in anticipation of marital union with their premarital romantic partner. Figure 2(a) shows that although 25 percent of female respondents were entering into marriage directly, five percent of the respondents were entering into marriage via premarital relationships. Although premarital sexual relationships are not acceptable in the society for girls, seven percent of the female respondents were engaging in premarital sex directly, and five percent are doing so in the context of premarital romantic relationships. In addition, eight percent of the female respondents were entering into marriage subsequent to premarital sexual relationship with their partner. Although the analysis does not allow for the determination of causal progression from premarital romantic and sexual relationships to marriage, the results at least show that there are some important linkages between premarital romantic and sexual relationships, and marriage among female adolescents.

For the boys and young men, premarital romantic relationship was significantly associated with an increased likelihood of sexual initiation before marriage but was not related to entry into marriage. Therefore, premarital romantic

relationship seems to be a likely route for initiating sexual activity but not for forming marital unions. As seen in Fig 2(b), although seven percent of young men are entering into premarital romantic relationship and three percent are entering into premarital sexual relationship, only one percent of males are entering into marriage via these routes. On the other hand, three percent of males are initiating sexual activity within a premarital romantic relationship. These results show that for men, premarital romantic relationship serve more as a casual sexual relationship rather than a serious relationship that progresses into marriage.

It was difficult to get a nuanced understanding of the association between marriage, and premarital romantic and sexual relationships for young men because a very small percentage of young men in the sample are entering into marriage. This is because men in this region of Ethiopia (Oromiya) enter into marriage late in life. As shown by DHS data survival anlaysis less than 50 percent of men in the age group of 15-24 enter into marriage by age 24 (CSA [Central Statistical Authority-Ethiopia] and ORC Macro 2006).

Consistent with earlier literature, this study also found gender differences in the age of timing of life events (Choe et al. 2001; Gupta and Mahy 2003; Mensch, Grant, and Blanc 2006). For most female adolescents and youths, sexual initiation started at an early age and occurred within the context of marriage. Also, if adolescent and young women had not entered into a premarital romantic or sexual relationship by the age of 17, they were more likely to enter into marriage. However, boys entered into both of these relationships at a later age in their life and their first sexual intercourse occurred before marriage. One of the surprising results of the study was that more female respondents reported as being in premarital romantic and sexual relationships than male respondents. Gendered differences in the perception of

romantic relationship and partners could be driving this result. Adolescent boys and young men may not perceive the same relationship as a romantic relationship but rather see it as a casual sexual relationship but girls may think of the same relationship as a romantic relationship. It could also be the case that women are engaging in premarital and sexual relationships with older men who are not captured in the sample.

Overall, this study has contributed to the literature on the context of sexual initiation and marital union formation among adolescents and young adults by introducing the role of premarital romantic relationship in the timing of these events. In addition, the study has examined the role of social determinants such as education and residence in the formation of varying pathways to marriage in a different socio-cultural context within Ethiopia. Also, the paper has succeeding in supplementing the current macro-level investigation of formation of adolescent and early adult life events by examining the processes of these events at an individual level by linking individuals' sexual, romantic, and martial history.

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Table 1. Descriptive Statistics of Respondents by Gender, Gilgel Gibe Social and Sexual Relationship History Survey, Males and Females ages 13-24

| | Female (%) | Male (%) |
|---|---|---|
| Muslim | 86.5 | 91.8 |
| Orthodox | 12.3 | 7.8 |
| Other religious groups | 1.2 | 0.5 |
| Oromo | 90.6 | 90.9 |
| Amhara | 2.8 | 2.5 |
| Yem | 3.4 | 2.8 |
| Gurage | 1.8 | 2.8 |
| Other ethnic groups | 1.5 | 1.1 |
| Enrolled in School | 40.7 | 51.2 |
| No formal education | 46.9 | 33.6 |
| Primary education | 47.2 | 58.3 |
| Secondary education | 5.8 | 8.1 |
| Urban | 20.9 | 19.2 |
| Semi-Urban | 11.2 | 9.8 |
| Rural | 67.9 | 71.0 |
| Ever had premarital romantic relationship | 17.9 | 9.6 |
| Ever had sexual intercourse | 42.5 | 14.1 |
| Ever had premarital sexual intercourse | 11.7 | 5.1 |
| Ever got married | 39.1 | 9.8 |
| Mean age | 17.2 | 16.9 |
| Median age of: | | |
| First sexual intercourse | 17.0 | 23.0 |
| First marriage | 18.0 | -- -- |
| **Total** | **616** | **645** |

Table 2. Odds Ratios from Discrete-time Logistic Regression Predicting Entry into Premarital Romantic Relationship, Gilgel Gibe Social and Sexual Relationship History Survey, Males and Females ages 13-24.

| | Females | Males |
|---|---|---|
| Muslim | 0.69 | 0.63 |
| Enrolled in School | 1.53 | 0.91 |
| 0-3 years of education (ref) | -- -- | -- -- |
| 4-6 years of education | 0.95 | 0.67 |
| 7+ years of education | 1.53 | 3.00* |
| Semi-urban community | 0.45** | 0.71 |
| 11-13 Age group (ref) | -- -- | -- -- |
| 14- 15 Age group | 3.95** | 6.14** |
| 16-17 Age group | 4.24** | 5.72** |
| 18-19 Age group | 5.13** | 11.11** |
| 20+ Age group | 10.11** | 7.75** |
| Card interview method [b] | 1.16 | 1.18 |
| Likelihood Ratio (chi2) | 65.17 | 58.87 |
| Respondents | 612 | 644 |
| Person years | 3252 | 4108 |

significant at 5%; ** significant at 1%

[b] Reference category is Verbal Interview Mode

Table 3. Odds Ratios from Discrete-time Multinomial Logistic Regression Predicting Risk of Entry into First Sexual Relationship. Gilgel Gibe Social and Sexual Relationship History Survey, Males and Females ages 13-24.

| | Model I | | | | Model II | | | |
|---|---|---|---|---|---|---|---|---|
| | Females | | Males | | Females | | Males | |
| | Premarital first sex vs. No sexual activity | Marital first Sex vs. No sexual activity | Premarital first sex vs. No sexual activity | Marital first Sex vs. No sexual activity | Premarital first sex vs. No sexual activity | Marital first Sex vs. No sexual activity | Premarital first sex vs. No sexual activity | Marital first Sex vs. No sexual activity |
| Muslim | 1.63 | 2.50* | 0.31* | 1.85 | 2.00 | 2.64* | 0.27* | 1.82 |
| Enrolled in School | 0.20** | 0.13** | 0.68 | 0.33* | 0.12** | 0.12** | 0.62 | 0.35* |
| 0-3 years of education (ref) | -- -- | -- -- | -- -- | -- -- | -- -- | -- -- | -- -- | -- -- |
| 4+ years of education | 1.41 | 0.58 | 1.29 | 0.38* | 1.45 | 0.60 | 1.57 | 0.39* |
| Semi-urban community | 3.28** | 1.13 | 1.72 | 1.58 | 5.25** | 1.23 | 1.82 | 1.58 |
| 11-15 Age group (ref) | -- -- | -- -- | -- -- | -- -- | -- -- | -- -- | -- -- | -- -- |
| 16-17 Age group [a] | 6.17** | 6.13** | 4.40** | -- -- | 4.41** | 5.63** | 2.81* | -- -- |
| 18-19 Age group | 4.95** | 9.60** | 10.11** | 8.18** | 3.94** | 9.17** | 4.62** | 7.56** |
| 20+ Age group | 4.54* | 3.13* | 5.21** | 20.45** | 1.91 | 2.53 | 2.41 | 19.20** |
| In premarital romantic relationship | | | | | 16.06** | 2.83** | 21.85** | 2.30* |
| Card interview method [b] | 1.61 | 0.87 | 1.80 | 1.14 | 1.64 | 0.87 | 1.84 | 1.16 |
| Likelihood Ratio (chi2) | 350.0 | | 170.6 | | 439.5 | | 223.2 | |
| Respondents | 614 | 614 | 644 | 644 | 614 | 614 | 644 | 644 |
| Person years | 3353 | 3353 | 4187 | 4187 | 3353 | 3353 | 4187 | 4187 |

* significant at 5%; ** significant at 1%

[a] For Males, reference age group is 11-17 years.

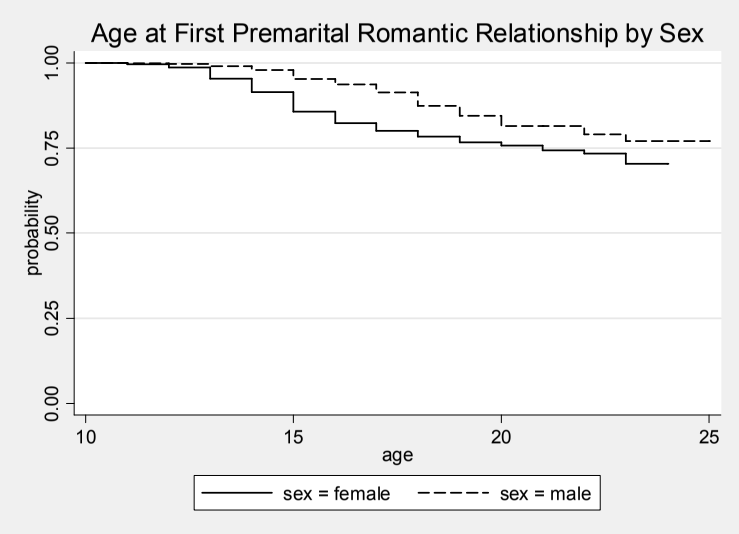
[b] Reference category is Verbal Interview Mode

Table 4. Odds Ratios from Discrete-time Logistic Regression Predicting Risk of Entry into First Marriage, Gilgel Gibe Social and Sexual Relationship History Survey, Males and Females ages 13-24.

| | Model III | | Model IV | |
|---|---|---|---|---|
| | Female | Male | Female | Male |
| Muslim | 2.92* | 0.87 | 2.83* | 0.97 |
| Enrolled in School | 0.08** | 0.39* | 0.09** | 0.38* |
| 0-3 years of education (ref) | -- -- | -- -- | -- -- | -- -- |
| 4+ years of education | 0.72 | 0.30** | 0.67 | 0.29** |
| Semi-urban community | 1.63** | 1.34 | 1.32 | 1.34 |
| 11-15 Age group (ref) | -- -- | -- -- | -- -- | -- -- |
| 16-17 Age group [a] | 4.89** | -- -- | 4.46** | -- -- |
| 18-19 Age group | 8.78** | 8.14** | 8.43** | 8.01** |
| 20+ Age group | 2.54* | 18.24** | 2.15 | 17.94** |
| In premarital romantic relationship | 3.06** | 1.84 | 2.12** | 1.70 |
| 1st year of Premarital sex | | | 9.61** | 1.64 |
| Subsequent year after Premarital sex | | | 1.84 | 1.30 |
| Card interview method [b] | 0.90 | 1.20 | 0.85 | 1.19 |
| Likelihood Ratio (chi2) | 363.3 | 140.7 | 418.6 | 141.0 |
| Respondents | 616 | 645 | 616 | 645 |
| Person years | 3428 | 4275 | 3428 | 4275 |

* significant at 5%; ** significant at 1%
[a] For Males, reference age group is 11-17 years.
[b] Reference category is Verbal Interview Mode

Figure 1. Survival Curves for First Premarital Romantic Relationship, First Sexual Intercourse, First Premarital Sexual Intercourse, and First Marital Union by Sex, Gilgel Gibe Social and Sexual Relationship History Survey, Males and Females ages 13-24.



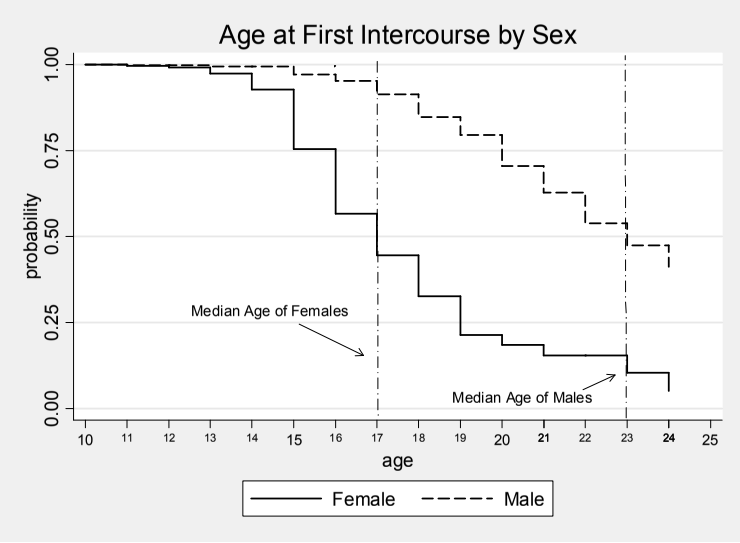
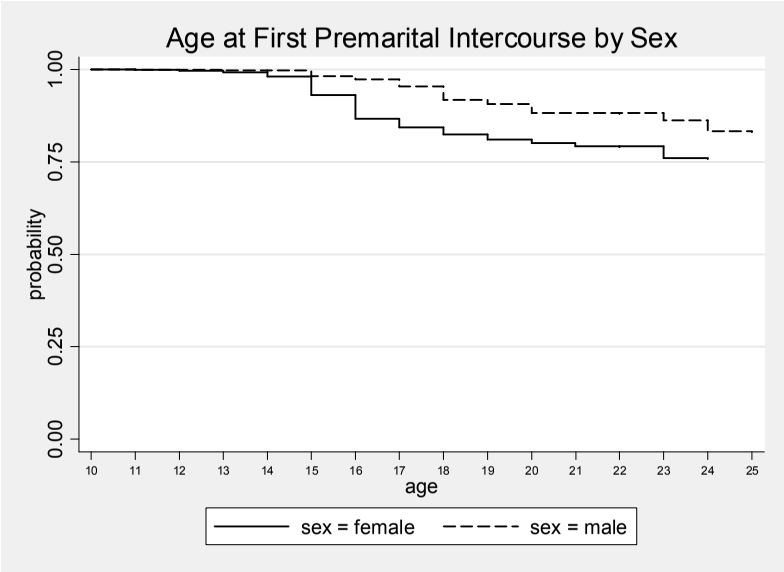



Figure 1. Survival Curves for First Premarital Romantic Relationship, First Sexual Intercourse, First Premarital Sexual Intercourse, and First Marital Union by Sex, Gilgel Gibe Social and Sexual Relationship History Survey, Males and Females ages 13-24.



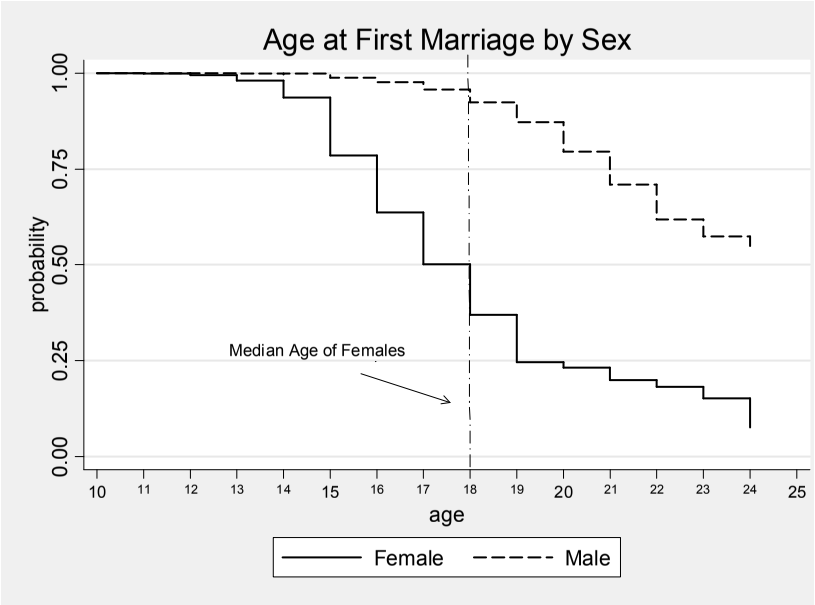
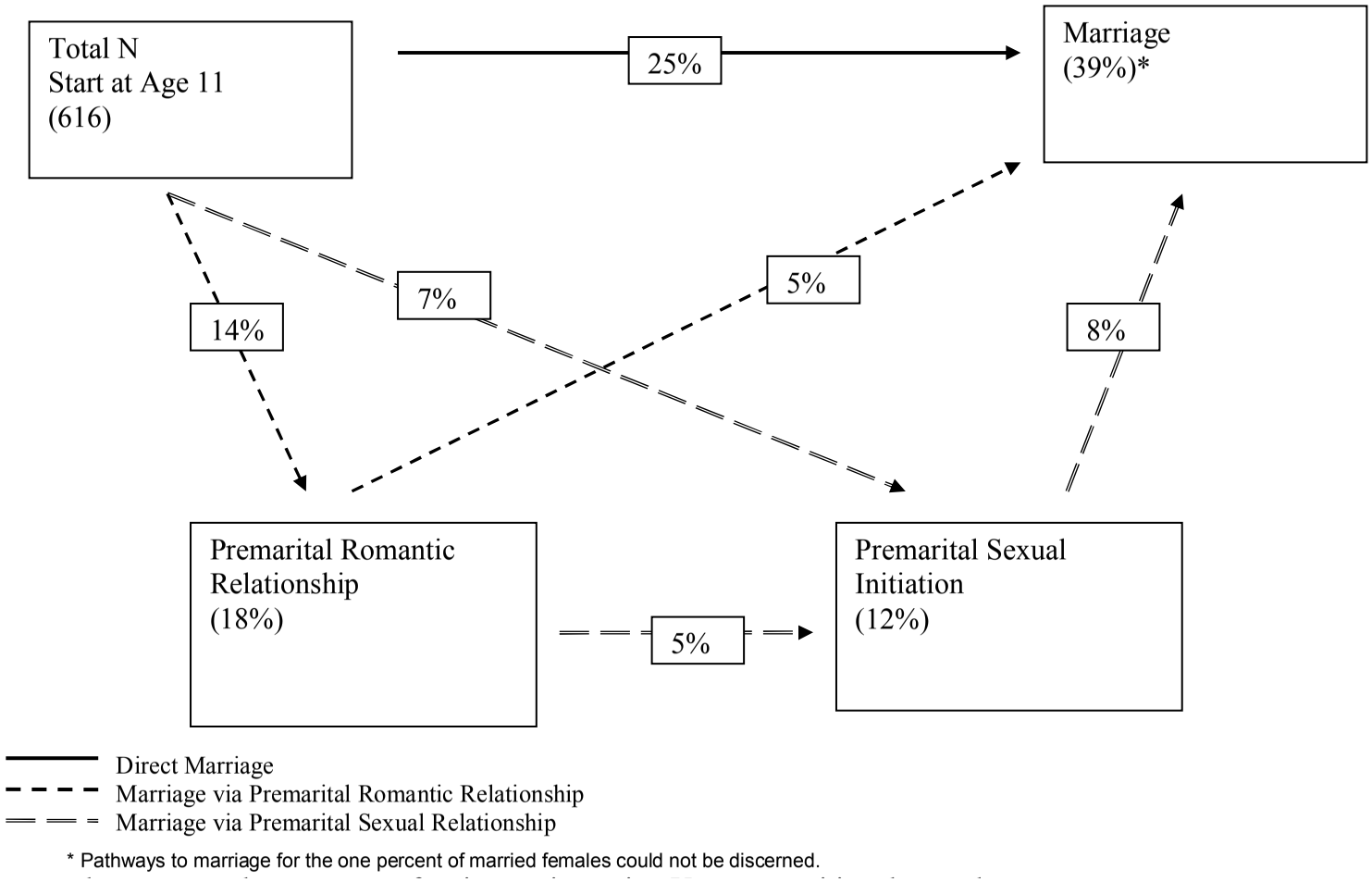
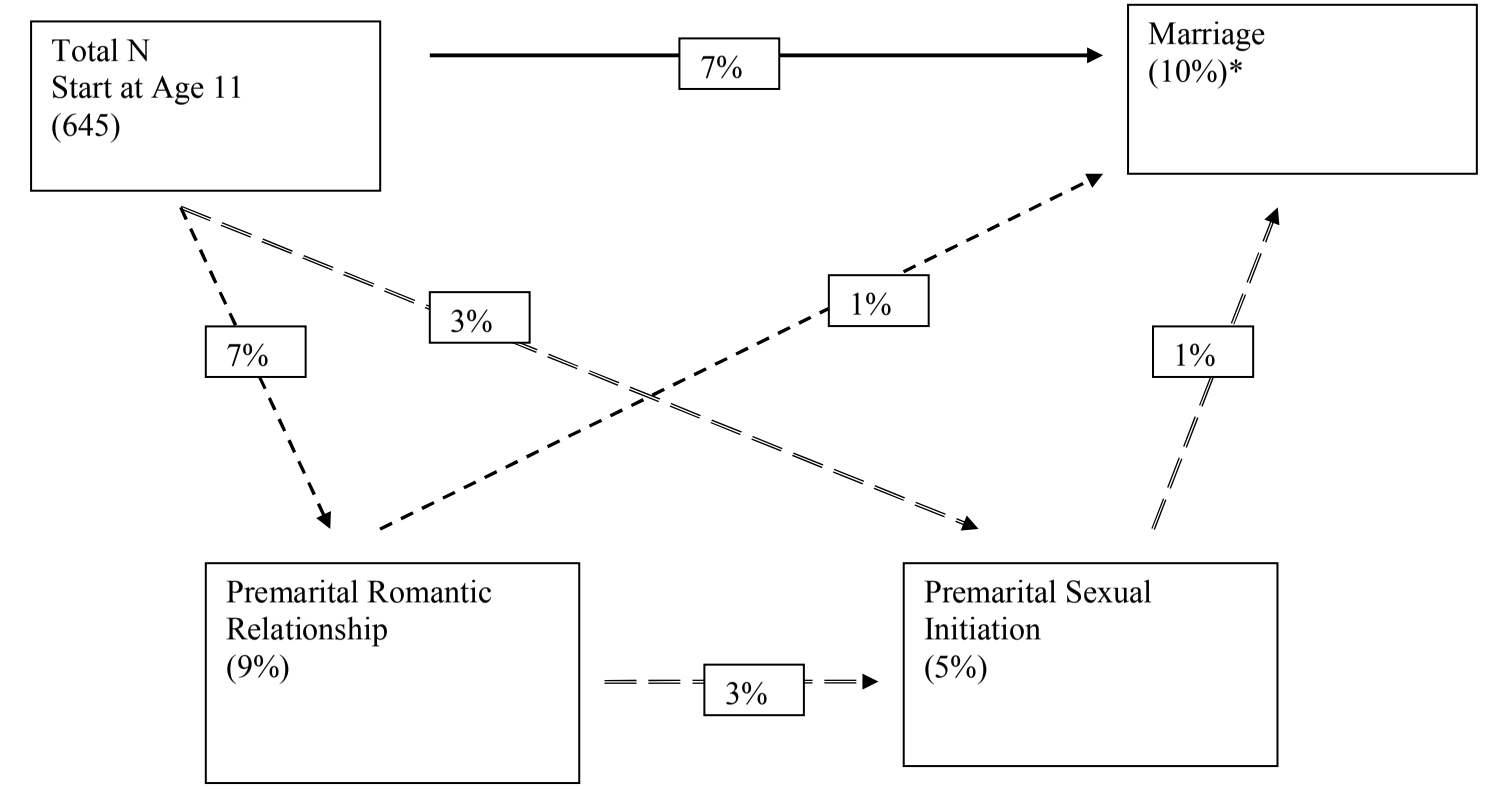



Figure 2(a). Pathways to Marriage among the Female Respondents, Gilgel Gibe Social and Sexual Relationship History Survey, Females ages 13-24.




* Pathways to marriage for the one percent of married females could not be discerned.

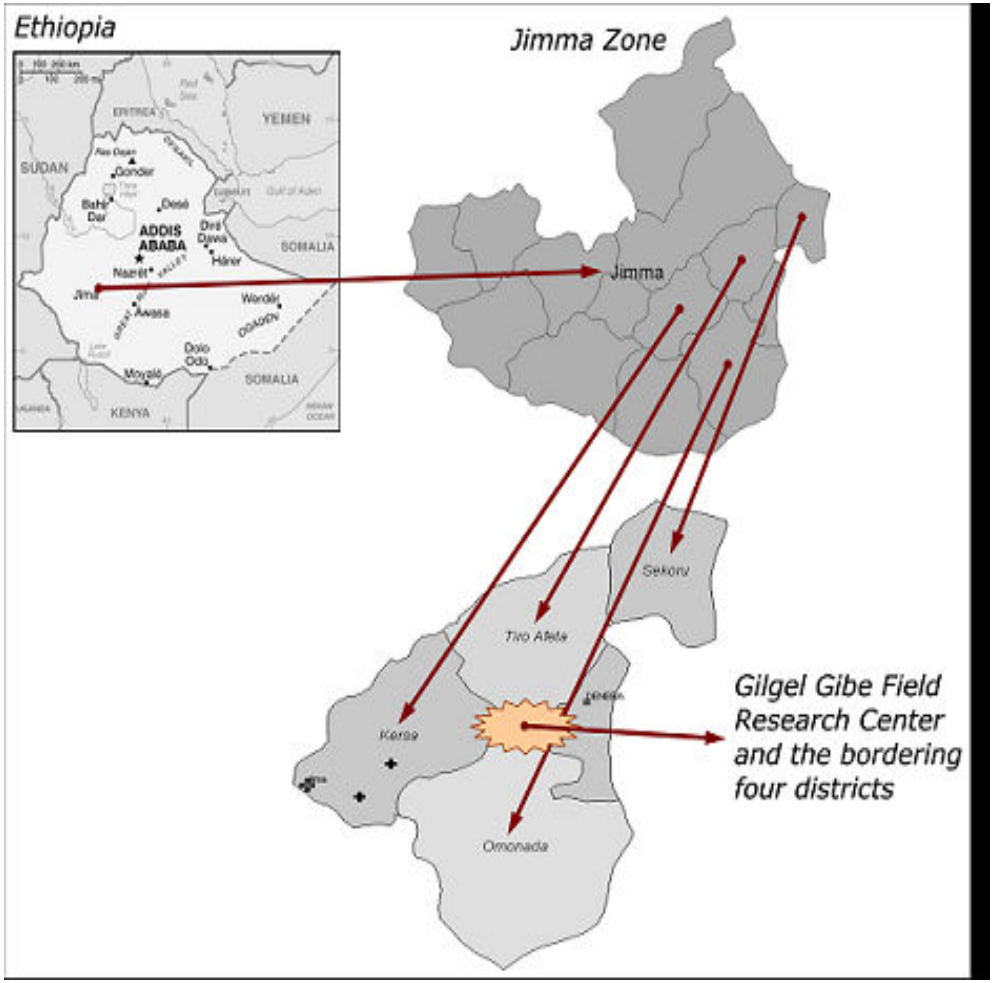
Figure 2(b). Pathways to Marriage among the Male Respondents, Gilgel Gibe Social and Sexual Relationship History Survey, Males ages 13-24.




* Pathways to marriage for the one percent of married males could not be discerned.

## Apendix A

Map of the Gilgel Gibe Region

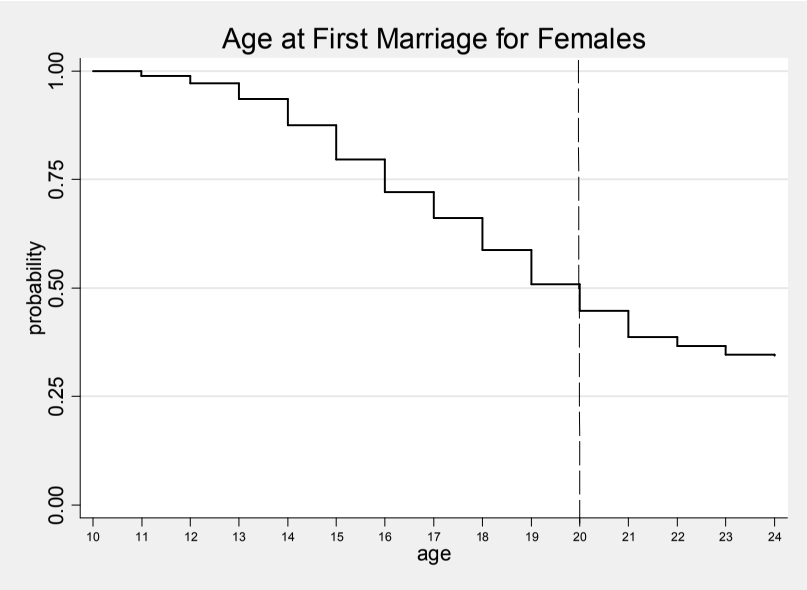


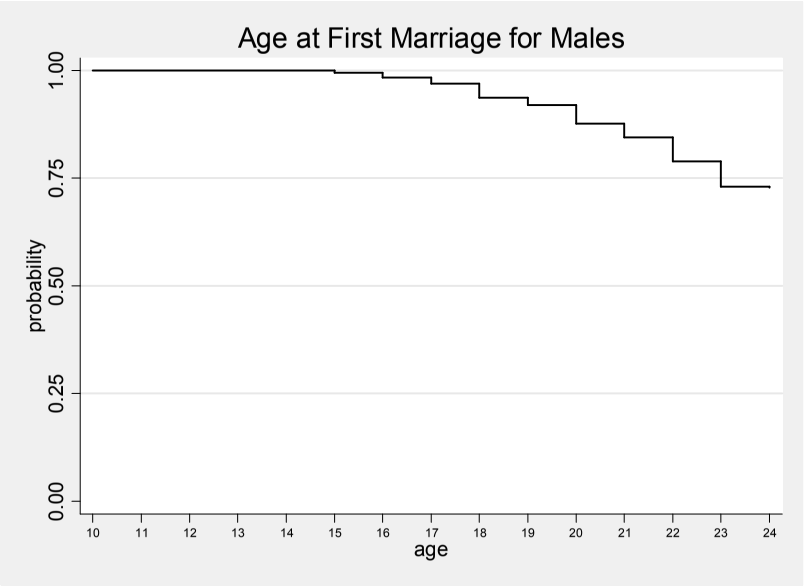
# Appendix B

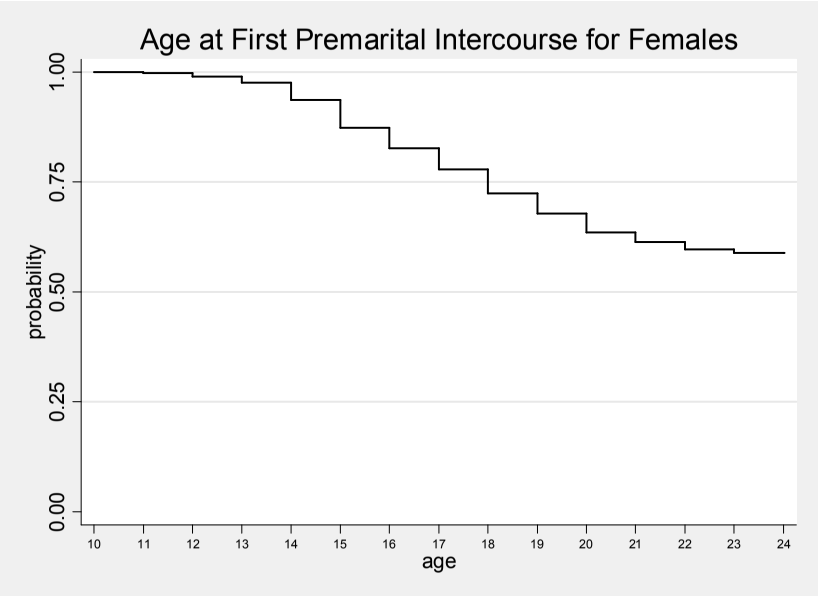
DHS Survival Analysis

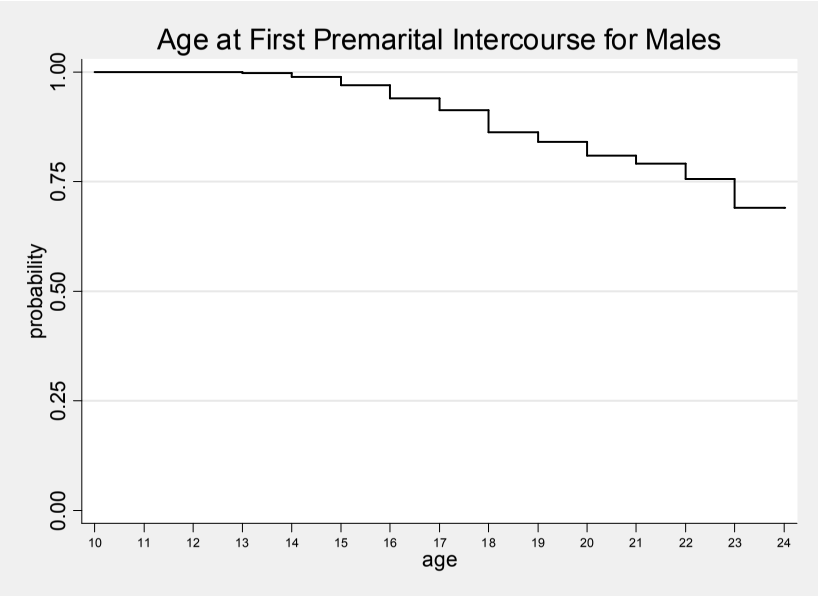
Survival Analysis of First Sexual Intercourse, First Premarital Sexual Intercourse, and First Marriage, DHS 2005 survey, Oromiya region, Males and Females ages 15-24

## Age at First Intercourse



Age at First Marriage for Females
probability
0.00
0.25
0.50
0.75
1.00
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
age


Age at First Marriage for Males
probability
0.00
0.25
0.50
0.75
1.00
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
age


Age at First Premarital Intercourse for Females
probability
0.00
0.25
0.50
0.75
1.00
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
age


Age at First Premarital Intercourse for Males
probability
0.00
0.25
0.50
0.75
1.00
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
age