Determinants of early marriage among women in South Africa: A multilevel analysis

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ABSTRACT

Background: Early marriage is a social and cultural issue that affects women in many sub-Saharan African countries. In the context of South Africa, early marriages are still valued in terms of cultural aspects and continue with varying degree of practice across the provinces. Additionally, recent information on the determinants of early marriage in rarely available. The study therefore aimed to examine individual-and community-level determinants of early marriage among women in South Africa. It is important to investigate the multilevel determinants of early marriage because of the social and legal issues early marriages have on society. In the context of South Africa, early marriages are valued in terms of cultural aspects and are still in practice in provinces such as KwaZulu-Natal, Eastern Cape, and Limpopo. The main objective of this study was to determine the multilevel determinants of early marriage among women in South Africa. The information available on this topic in the country is a bit dated; as a result, there is a need for more recent studies of this nature in South Africa.

Methods: The study used cross-sectional data involving 7087 women aged 20-49 years extracted from the most recent 2016 South Africa Demographic and Health Survey dataset. In this study, early marriage is defined as women who first got married or had union before 18 years. Data were analysed using descriptive statistics including percentages. Chi-square test was used to examine the association between each of the independent variables and the outcome variable. Multilevel analysis was employed to examine effects of individual- and community-level characteristics on early marriage. Results were presented as odds ratio and their 95% confidence intervals (95% CI). This study used secondary data from the 2016 South Africa Demographic and Health Survey (SADHS). The research design used in this study is a descriptive research design. The analysis was based on women aged 20-49 years at the time of the survey. Three types of analyses were selected for the study. These included univariate, bivariate, and multilevel logistic regression analyses. On the multilevel logistic regression analysis, a two-level model, individual/household and community level model, was fitted.

Results: The bivariate findings showed that population group, level of education, spousal/partner educational differences, age at first sex, parity, household wealth, community poverty, place of residence and province were statistically associated with early marriage. The findings further showed that 6.5% of women reported they were married before age eighteen. Among these women, the majority (58.7%) were aged 16-17 years, followed by those aged 14-15 (24.5%) and the least percentage was among those less than 12 years. The multilevel analysis showed that population group, level of, education, spousal/partner educational difference, parity (number of children ever born), HIV status, household wealth, and province were important determinants of early marriage.

Conclusion: Although the prevalence of early marriage is low in the country, it is still of concern considering that the country has had various strategies of dealing with issues surrounding early marriages. The findings showed that women with primary education, early sexual debut, from poor households and women from Limpopo, Mpumalanga, Gauteng and Free State had higher odds of early marriage. Several strategies have been recommended in order to reduce early marriage (marriage before eighteen) among women in South Africa. These include providing awareness in protection of children towards early marriage especially in the tradition tribal societies. Additionally, it is important to strengthen, monitor and revisit laws and policies that protect

children from harmful, traditional practises such as child marriage regularly and whenever necessary.

Keywords: determinants; early marriage; child marriage; sub-Saharan Africa; multilevel analysis

DECLARATION

I, Shirley Maria Lerato Mathabatha (25514415), declare that this work titled "*Determinants of early marriage among women in South Africa: A multilevel analysis*" is my original research work, and has never been submitted for any degree or examination in any other university or institution. I declare that the information contained in this document is a true copy of my thesis and has been approved for submission by my thesis supervisor. This work was supervised by Dr Mluleki Tsawe from the Department of Population Studies and Demography. This work is submitted in partial fulfilment of the requirements for the degree Master of Social Science in Population Studies and Sustainable Development at the North-West University, Mafikeng Campus, South Africa.

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ABBREVIATIONS/ACRONYMS

AIC	-	Akaike Information Criterion
AOR	-	Adjusted Odds Ratio
BaSSREC	-	Basic and Social Sciences Research Ethics Committee
CI	-	Confidence Interval
HIV	-	Human Immune Virus
ICC	-	Intraclass correlation coefficient
MOR	-	Median Odds Ratio
PCV	-	Proportion Change in Variance
SADHS	-	South Africa Demographic and Health Survey
SEM	-	Social-Ecological Model
VIF	-	Variance Inflation Factor

CHAPTER 1: INTRODUCTION

1.1 Background to the study

Marriage is associated with fertility. In most traditional communities, women who are married are expected to have children. Additionally, early marriage has been associated with higher fertility among women and decreased modern access to contraception, as well as decreased antenatal care and less safe delivery (Efevbera et al., 2019; Kamal et al., 2015; Yaya et al., 2019). Early marriage is a social issue that affects young women in many developing countries. Early marriage is often referred to as child marriage, and this occurs when a young child is married before turning age of eighteen (Bezie & Addisu, 2019, p. 2; Bhanji & Punjani, 2014, p. 1). There are some variations in terms of the extent to which these countries are affected by early marriage. Early marriage affects various aspects of young women's development and health (Čvorović, 2022, p. 1184; Raj et al., 2009, p. 2; Sabbe et al., 2013, p. 2). Measuring early marriage is quite difficult in many settings because those involved do not freely report or come forward to speak about their experiences, which makes it a hidden practice in most societies (Sabbe et al., 2013, p. 2). Marriage has changed as an institution in societies all over the world over the past century; it was the most common way to start a family and was the only union that had legal validity and social respect (Hosegood et al., 2009, p. 281). The need to examine individual- and community- level factors in this study is to give an in-depth investigation on young women's decisions or choice to marry early.

However, in recent times this perspective of marriage has changed. Children are born out of wedlock and cohabitation has increased; same-sex partnerships are legally recognised as marriage unions (Manning, 2015, p. 2). The United Nations data states that the average age at first marriage differs widely throughout the world and that marriage age is strongly connected with wealth (United Nations, 2016, p. 60). People in developing countries, such as Malawi and Laos, marry sooner than people in developed countries, such as Norway and Singapore (United Nations, 2016, p. 60). According to (Qinzi Xu, 2019, p. 205), as a country's economy improves, its population begins to marry later. For example, in China, the average marriage age increased from 22 years for females and 24 years for males in 1990 to 25 years and 27 years in 2016 during a period of strong economic expansion in the country. In Sub-Saharan Africa, 40% of girls marry before they turn 18 years, and African countries are 15 of the top 20 countries with the highest rates of child marriage (Unicef, 2015, p. 5). In Niger, 77% of girls marry before they become 18 years, while in the Central African Republic and Chad, over 60 per cent of females marry before they turn 18 years old (Maswikwa et al., 2015, p. 60).

The findings from the National Department of Health et al. (2019, p. 58), indicate that early marriages very are uncommon in South Africa. For women aged 25 to 49 only 2% were married by the age of 15 years, followed by 7% who were married by the age of 18, 13% by the age of 20, 20% by the age of 22, and 31% were married by the age of 25 (National Department of Health et al., 2019, p. 59). The percentage of women aged 25 to 49 who have never been in a union has increased from 26% to 44% since 1998 (National Department of Health et al., 2019, p. 59). The median age at first marriage for women aged 25-49 was 24.2 years in 2016, the median age at first marriage for women aged 30-49 could not be estimated since it exceeded 30 years (National Department of Health et al., 2019, p. 59). Social, cultural, and economic variables all have a part in a woman's decision to marry at an early age and additionally, the decline of early marriages is influenced by factors such as increased urbanization, women's education and labour force involvement, as well as the welfare condition of the family (Yüksel-Kaptanoğlu & Ergöçmen, 2014, p. 1716). Consequently, early marriage is significantly related to increases in unplanned pregnancy, abortion, and reproductive health (Raj et al., 2009, p. 3). Women who engage in early marriages have lower levels of educational attainment, most of them are subordinated and are dependent on their spouses (Tenkorang, 2019, p. 12).

1.2 Statement of the problem

Early marriage has a long-lasting impact on the women's life (Muzaffar et al., 2018, p. 196; Naveed & Butt, 2020, p. 162). It has the tendency to limit their autonomy, especially in cases where the young woman marries someone who is considerably older than them. Some of the consequences of early marriage include, but not limited to, lower autonomy, disruptions in their schooling, and possible domestic violence and control by the partner (M. Abera et al., 2020, p. 2; Ijeoma et al., 2013, p. 72; Naveed & Butt, 2020)**.** It is important to investigate the multilevel determinants of early marriage because of the social and legal issues early marriages create for societies. In the South African context, early marriages are valued in terms of cultural aspects and are still in practice in provinces such as KwaZulu-Natal, Eastern Cape, and Limpopo (Nkosi & Wassermann, 2014, p. 441; Ramnath, 2015, p. 2). A study on child marriage in KwaZulu-Natal by (Mwambene, 2018, p. 527), states that child marriages are legitimate traditional practises which may lead to valid customary marriages. Moreover, there are socio-economic aspects that make people delay marriages and choose not to get married, such as women empowerment through education and labour force participation which is seen to be also increasing the opportunity cost of marriages (Rampagane, 2016, p. 22).

There are not too many studies specifically documenting the extent of early marriage in South Africa. Most studies focus on women of reproductive age (i.e., age 15-49) and various statistics on age at first marriage. The statistics on child marriage in South Africa states that, 6% of girls enter marriages before they turn the age of 18 and 1% before they reach the age of 15 (Palamuleni & Palamuleni, 2011, p. 11; Unicef, 2015, p. 4), states that South Africa's average age at first marriage has been growing rapidly over the past years, due to a great portion of the country's growing urbanisation and educational growth. Singulate Mean Age at Marriage has increased for both sexes in South Africa during the previous three decades (Statistics South Africa, 2016, p. 44). Male's Singulate Mean Age at Marriage increased from 30 to at least 33 years between the year 1996 and 2016, while female's Singulate Mean Age at Marriage has also slightly increased from roughly 28 to 30 years during the same time frame (Statistics South Africa, 2016, p. 44). KwaZulu-Natal accounted for roughly 1 495 (47 %) of the recorded customary marriages, followed by Limpopo with 676 (21 percent) and the other remaining seven provinces each had less than ten percent (Statistics South Africa, 2019, p. 4).

1.3 Main objective of the study

The main objective of the study is to explore the individual and community/contextual level determinants of early marriage among women aged 20-24 in South Africa using a multilevel approach. The main objective of this study is to determine the multilevel determinants of early marriage among women in South Africa.

1.3.1. Specific objectives of the study

The study aims to answer the following specific objectives:

- To assess the prevalence of early marriage among women aged 20-49 in South Africa.
- To investigate the individual and contextual factors associated with early marriage among women in South Africa.
- To examine the variability of early marriage across communities in South Africa.

1.4 Research questions

The study aims to answer the following research questions:

- What is the prevalence of early marriage among women in South Africa?
- What are the individual and contextual factors associated with early marriage among women in South Africa?
- Is there any variability on early marriage across communities in South Africa?

1.5 Significance of the study

The majority of research publications in South Africa as well as many other countries have focused on trends and differences in women's age at first marriage, they mostly emphasised early marriage practices and other studies also provided gender equality by focusing on both males and females age at first marriage (Bongaarts, 2007, p. 7; Palamuleni, 2010, p. 17). This study will shed light on the multilevel determinants of early marriage among women in South Africa and also contribute to the existing body of knowledge which is very limited in South Africa. This study aims at providing solutions to the consequences of early marriages observed in rural provinces of the country and late marriages which are mostly observed in urban provinces in South Africa. The practice of marriage in South Africa has significantly changed (Hosegood et al., 2009, p. 280). Observably from the practice of early marriages such as *ukuthwala* which were socially oriented in a form of Ubuntu and have no bad intentions to becoming adductive, violently kidnapping, and abusive to young children (Diala, 2019, p. 53). Additionally, the trends of marriages have changed from decreasing marriage rates to increasing cohabitation among Black South Africans as compared to the White population group (Posel et al., 2011, p. 109). The focus on early marriage has been on the possible consequences of marrying too early for young women. Since marriage has drastically changed over time, less research has been done looking at both the advantages and disadvantages of late marriages and socio-demographic factors (Kuperberg, 2014, p. 25). Amongst others, the study aims to provide a multilevel analysis on the determinants of early marriage so that the prevalence of early marriage among women in South Africa by background individual and contextual factors are well examined and investigated.

The information available on this topic is a bit old; as a result, there is a need for more recent studies of this nature in South Africa. This study aims to fill the gap in the literature and give recent information and understanding the multilevel determinants of early marriage in the country. The statistics on marriage in South Africa indicated that less than 10% of girls get married before they

reach age 18 (Unicef, 2015, p. 4). Although small, percentage-wise, this is still unacceptable because no girl child should be married at a young age but should be at school to work on their self-development.

The study aims to address Goal 5 of the sustainable development goal which aims to achieve gender equality and empower all Women and Girls. It states that gender equality is not only fundamental human right but a necessary foundation for a peaceful, prosperous and sustainable world. This goal has nine targets; however, this study strengthens on the third target which aims on eradication of dangerous practice such as child marriage, forced marriage, and female genital mutilation.

1.7 Scope of the study

The study sample is made up of 7087 women for the 2016 data. The figures are based on a sample of women aged 20-49 years at the time of the survey. The figures will be weighted to be representative of the population of women in the selected age range.

1.8 Definition of concepts

Marriage

According to (Manning, 2015, p. 51), marriage refers to a union that is legally recognized between two people who are a couple, whereby they are united and economically cooperated sexually. Usually, the union is assumed to be permanent.

Early marriage

In this study, early marriage is operationally defined as women (currently aged 20-49 years) who first got married before turning 18 years old.

1.9 Organisation of the study

The first chapter of the study presents the study's background, problem statement, objectives of the study (including both main and specific objectives), research questions, rationale of the study, definition of concepts, and structure of the research project. The second chapter of the study provides a review of socio-demographic factors related to age at first marriage, as well as theoretical and conceptual frameworks. Furthermore, chapter three of the study discusses the

study's data sources, study population, study variables, and analysis methods. The findings of the study are presented in Chapter four. Chapter five contains the conclusion and recommendations.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter presents literature on a few selected factors that influence early marriage. The chapter discusses the determinants of early marriages in a way of understanding how the study variables are significantly correlated to each other. Variables or factors such age of the respondent, population groups, education, employment status, educational differences between spouses, age at first sex, parity, HIV status, household wealth, community poverty, place of residence and province are further discussed. The purpose of this chapter is to give content of how early marriage has been observed or viewed on a global and national context.

2.2 Current debates on child marriage in sub-Saharan Africa: A brief review

The worldwide movement, arranged by the collaboration Girls Not Brides and the African Union Campaign to End Child Marriage, has focused attention on early marriage in Africa. According to Girls Not Brides, 15 of the world's 20 nations with the higher rates of child marriage in the world are in Africa (Brides, 2018, p. 2). In Sub-Saharan Africa, it has been estimated that 39% of women marry before their 18th birthday, and 13% marry before they turn age 15 (Mwambene, 2018, p. 527). In most Sub-Saharan Africa countries, child marriage is linked to an increased risk of Intimate Partner Violence, implying that ending child marriage will result in a significant decrease in IPV (Hayes & Protas, 2022, p. 19; Sharma et al., 2020, p. 7). In sub-Saharan Africa (SSA), regulations must be implemented to support and safeguard women not to marry as youngsters and from violent situations (Ahinkorah et al., 2022, p. 1358; Fonseka et al., 2022, p. 3). Researchers argues that some sexual and reproductive health problems, such as intimate partner violence, sexually transmitted infections, teenage pregnancy, early childbirth, unsafe abortions among adolescent girls in Sub-Saharan Africa, and violations of their sexual and reproductive health rights are caused by the age gap between the legal age at first sexual consent and early marriage (Ahinkorah et al., 2021, p. 1762; Ahinkorah et al., 2022, p. 1358). In South Africa, tradition and culture have a significant role in shaping public perceptions of human rights and national issues (Monyane, 2013, p. 68). The South Africa government and courts recognize customary law as legitimate however, it is formally subordinate to the national constitution, and some customary marriage practices (such as ukuthwala) have been declared illegal because they are inconsistent with the constitution(Le Roux, 2020, p. 168). Protecting children from violence, exploitation, and abuse is not only a

fundamental principle but also a duty that is expressly outlined in the South African Constitution's Bill of Rights.

Social workers, who provide social services to families and children on the front lines, have a critical role to play in reducing and preventing girl marriages by upholding the rights of girls and other vulnerable populations and confronting the structural injustices that contribute to the risks of girl marriage (Salim & Lombard, 2020, p. 196).

2.3 Determinants of early marriage

2.3.1 Age

Any marriage between people who are under the age of 18 years is considered as a child marriage and a girl child that enters this marriage is recognised as a child bride (Göz & Ercan, 2018, p. 25; Yüksel-Kaptanoğlu & Ergöçmen, 2014, p. 1708), states that even though early marriage has occurred for many years, where traditional practises are strong, the patriarchal and traditional structure of society legitimizes them, the majority of society considers them to be a problem. However, in Indonesia only 17% of children under the of 18 years are engage to marriages and this is due to the significant and political power that emerged in the country (Grijns & Horii, 2018, p. 453; Rumble et al., 2018, p. 402). In South Africa, the practise of *ukuthwala* is one of the many kinds of child marriage. This is a widespread tradition, particularly among the AmaXhosa communities and culture in the Eastern Cape. The *ukuthwala* practice entails the marriage of young girls under the age of 18 to elder men (Machaka, 2019, p. 13; Rice, 2018, p. 400). The practise of *ukuthwala* entails the adaption and kidnapping of girl children into marriage. Throughout Ethiopia, females in various regional states are more likely to be married earlier; the Amhara region has the highest frequency of early marriage, with 50% of girls marrying at the age of 15, and 80% marrying at the age of 18 (Mikyas Abera et al., 2020, p. 2; McGavock, 2021, p. 1025; Mengistu, 2017, p. 1).

2.3.2 Population group

Black women are more likely to cohabitate and delays marriages (Ayiga & Rampagane, 2013, p. 25; Raley et al., 2015, p. 5). Among Blacks in South Africa, bride price is an important requirement in marriage and is spread over a long period making women whose bride price has not been paid to delay marriage and prefer cohabitation. This is unlike the situation of white women, where the rate of cohabitation is relatively low with high marriage rates. This can be due to reasons that the

white population is financially stable, and their culture does not require them to pay expensive lobola for their spouses (Ayiga & Rampagane, 2013, p. 27). In research conducted in Nigeria by (Mobolaji et al., 2020, p. 406) states that, race and religion were found to have substantial independent impacts on early marriage. Most girl children in the Northern rural and cultural part of Nigeria are most likely to engage in early marriages rather than those in the Southern side because of their different traditional believes and norms. Furthermore, (McLanahan & Sawhill, 2015, p. 4; Raley et al., 2015, p. 22) states that the racial divide in marriage has widened as economic variables have become increasingly important to marriage and marital stability since race is still associated with economic advantage for members of the white racial group and economic disadvantage for black people.

2.3.3 Education

According to (Kalamar et al., 2016, p. 16; Rutto, 2012, p. 12), education is highly correlated to age at first marriage. Most women who spend most of their time pertaining to educational qualifications are most likely to delay marriages because marriage is no longer beneficial for them since they are more independent. The study further states that age at first marriage was 25 years among females with higher education and roughly 18 years among those who are less educated. Educated women spend longer time at schools and pursuing their careers (Anh, 2018, p. 19; Parsons et al., 2015, p. 12). The study further stated that the influence on late marriages among educated women is the expectations that they have (Anh, 2018, p. 20). For example, educated women have job opportunities expectations after spending a long time in school. Marriage rates have rapidly declined amongst educated individuals because educational attainment promoted women's economic self-sufficiency and is correlated to less dependence to their husbands and has as well as increased women's self-efficacy or ability to do things on their own (Kalamar et al., 2016, p. 20; McCleary-Sills et al., 2015, p. 71; Paul, 2019, p. 16). This is unlike in previous traditional societies where women or girl children were not given the chance to educational attainment and were more forced to rely to their spouses and rather be forced to early marriages.

2.3.4 Employment

Besides the decline in marriage rates, there has been a pattern toward greater female engagement in the labour force, and employment has increased globally, particularly in developing nations (Assaad, Krafft, et al., 2017, p. 30; Parsons et al., 2015, p. 15). More women engaging in labour force participation has decrease marriage rates in a way that women choose to focus on being

empowered and self-reliance and do no longer see men as their provider or relying more on them. Janse van Rensburg et al. (2019, p. 2), states that most females who are married are seen to be participating less in the labour force than those who are not married because of the challenges they face or rather the responsibilities that come with marriages (domestic roles). However, a study in the Middle East and North Africa indicates that in previous decades most women entered early into marriages because they had less or no education, and those who did worked as piece labourers in industries or as domestic employees, positions that were unpleasant and frequently dangerous (Assaad, KrafftSt, et al., 2017, p. 5). For this proportion of women, marriage was the best choice for them so have better lives (Schaffnit & Lawson, 2021, p. 95).

2.3.5 Education difference (between respondent and partner)

Most women without education choose to be with men who are better educated and working these women would want to marry young because they have no other obligations (they do not work or attend school) (Delprato et al., 2015, p. 42). Being unemployed is one of the factors that causes a person to quickly decide to get married and then after marriage, they solely work as housewives (Dalton & Dales, 2016, p. 6; Hennifebriawati et al., 2019, p. 205). The above statement is supported by the study in India that states that, in the household, the husband typically has a higher position than the wife (Lal, 2015, p. 2996). He is obviously supposed to be more capable than his wife. If the status is expressed in terms of education, the husband is expected to be more educated than the wife (Lal, 2015, p. 2996). Finding a bridegroom who matches the bride's educational background is a common practice, and if higher-qualified bridegrooms are found, they typically expect a higher bride price and other considerations. Hence in ancient Indian times, female children's education was given less priority or no priority. Therefore, it was believed that it is less work or burdensome to marry a girl shortly after or even before she reaches puberty, when she is just 13 or 14 years or younger, than to educate her (Lal, 2015, p. 2996; Wibowo et al., 2021, p. 3).

2.3.6 Age at first sex

Marriage symbolizes the beginning of regular and unprotected sex, which frequently results in an early, risky first birth (Beattie et al., 2015, p. 2). Further undermining the woman's standing and negotiating ability in her marital home is the fact that the younger a girl is when she marries, the bigger the age gap between her and her spouse (Psaki, 2016, p. 113; Solanke et al., 2021, p. 2). Furthermore, women initiate sex and marry earlier in the rural Zimbabwean society, but they also spend far less time between first sex and marriage (Sayi & Sibanda, 2018, p. 2368). This results

because most women are afraid to report their truthful age at first sex because they initiate early sex (Ariho & Kabagenyi, 2020, p. 6) Most women in Ethiopia reported to have had early unprotected sex because they have engaged in early and arranged marriage and therefore cannot negotiate the use of condom. Girls are typically expected to marry before or at the time of puberty among the Amhara and other Ethiopian cultures (Erulkar, 2013, p. 6).

2.3.7 Parity

In most population groups, fertility is positively linked with marriage, which results from cultural beliefs that claim that marriage promotes childbearing. According to common perception, married women typically have more children than single women (Psaki, 2016, p. 110). Births to unmarried women were culturally and traditionally frowned upon, thus women began having children after being married and kept having children for as long as they were still married (Mothelesi, 2019, p. 9). Early brides tend to be exposed to the possibility of being pregnant for a longer period of time and giving birth to more children overall. Married women have kids more frequently, regardless of their age at the time of their first child (Psaki, 2016, p. 111; Solanke et al., 2021, p. 3). Contrary to many other regions of the world, South Asia still views marriage as the primary setting for sexual activity. As a result, getting married marks the beginning of exposure to the possibility of getting pregnant, and the earlier a woman marries, the longer she will be exposed while in her fertile years (Marphatia et al., 2017, p. 190). Most women in South Asia who married early have more children as compared to those who delayed marriage.

2.3.8 HIV status

Early marriage and HIV infection are linked in teenage girls this is probably or most importantly due to negative gender norms and a variety of gender inequities that contribute to girl's vulnerability to this and several other unfavourable consequences such as early sexual engagement and unsafe sex (Mahato, 2016, p. 700; Petroni et al., 2019, p. 694). Most women who engage in early marriages are vulnerable and submissive to their partner who happen to be older than them (Tenkorang, 2019, p. 49). They end up being exposed to unsafe sex because of not being able to discuss sexual health with their partners or spouses. Due to their immaturity and lower socioeconomic level, child brides are more vulnerable to domestic abuse and are less likely to take part in family decision-making. These includes the decision of sexual health and reproductive health (Irani & Latifnejad Roudsari, 2019, p. 1585; Yaya et al., 2019, p. 3). Additionally, Angelucci and Bennett (2017, p. 2), states that once two people are in union, they are less likely to practise

safe sex, in results there are increase in sexual transmitted diseases because one cannot determine how the other person may remain loyal and faithful.

2.3.9 Household wealth and community poverty

Since early marriage is more prevalent in poorer households, poverty itself strengthens the practice of early female marriage (Hoq, 2013, p. 6; Hossain & Islam, 2013, p. 149). For example, in Bangladesh, poverty is correlated with a household head's gender, level of education, number of family members, monthly household income, source of income, ownership of land, and the level of debt that the head of the household have (Islam et al., 2016, p. 694; Parsons et al., 2015, p. 23). This explains that if the head of the household is unable to provide a stable income to the family, then, the chances of him or her to marry off their girl child becomes high. Parents can reduce household spending by marrying off their young daughters as a coping mechanism (Parsons et al., 2015, p. 24). Early marriage shifts the financial burden of a daughter's maintenance and education on another family (Hossain & Islam, 2013, p. 195).

2.3.10 Place of residence

It can be argued that urbanization, as a result of the growth of the rural economy, causes a social transformation in a society that influences the time of individual marriages in a country (Anukriti & Dasgupta, 2017, p. 99; Shahzad, 2017, p. 78). According to Rampagane (2016, p. 26), women in rural areas have fewer opportunities to participate in labour force activities to provide for themselves and their children. This results in many teenagers who live in rural areas with limited access to public information and preventive programs are more likely to marry early (Suhariyati et al., 2019, p. 281). Studies in Indian states that women living in large urban areas had a greater age at first marriage than females living in other urban regions or towns (Lal, 2015, p. 2995; Shahzad, 2017, p. 78). These type of trends in place of residence are mostly influenced by the attitudes, beliefs, and behavioural patterns that people in rural areas and urban areas have towards marriage.

2.3.11 Province/region

Early marriage is still in practise and linked to African cultural practises in the Limpopo province (Ramnath, 2015, p. 2). Child marriage is allowed to be arranged by female friends and family friends for financial gain or on the basis of socioeconomic class (Arthur et al., 2018, p. 71; Corno et al., 2020, p. 879). Marriages may also be arranged for a variety of other purposes, such as in the

case of the Vhalemba village, through livestock for ploughing. The Vhavenda community can also mala tshikunwe, which means (marry an unborn child) (Raphalalani & Musehane, 2013, p. 20). The royal households arrange weddings for a bride who would bear a king (khosi/thovhele), whilst commoners and Lembas marry among themselves (Raphalalani & Musehane, 2013, p. 22). Furthermore, in most Iranian provinces, early marriage avoids the possibility of a girl child reaching an age where she is no longer desirable as a wife by a man or his family. Most families in Iran's villages and small towns believe that if their daughters do not marry at a young age, their marriage will be much more difficult later in life (Asna-ashary et al., 2020, p. 4; Mirzaee et al., 2021, p. 12).

2.4 Theoretical framework

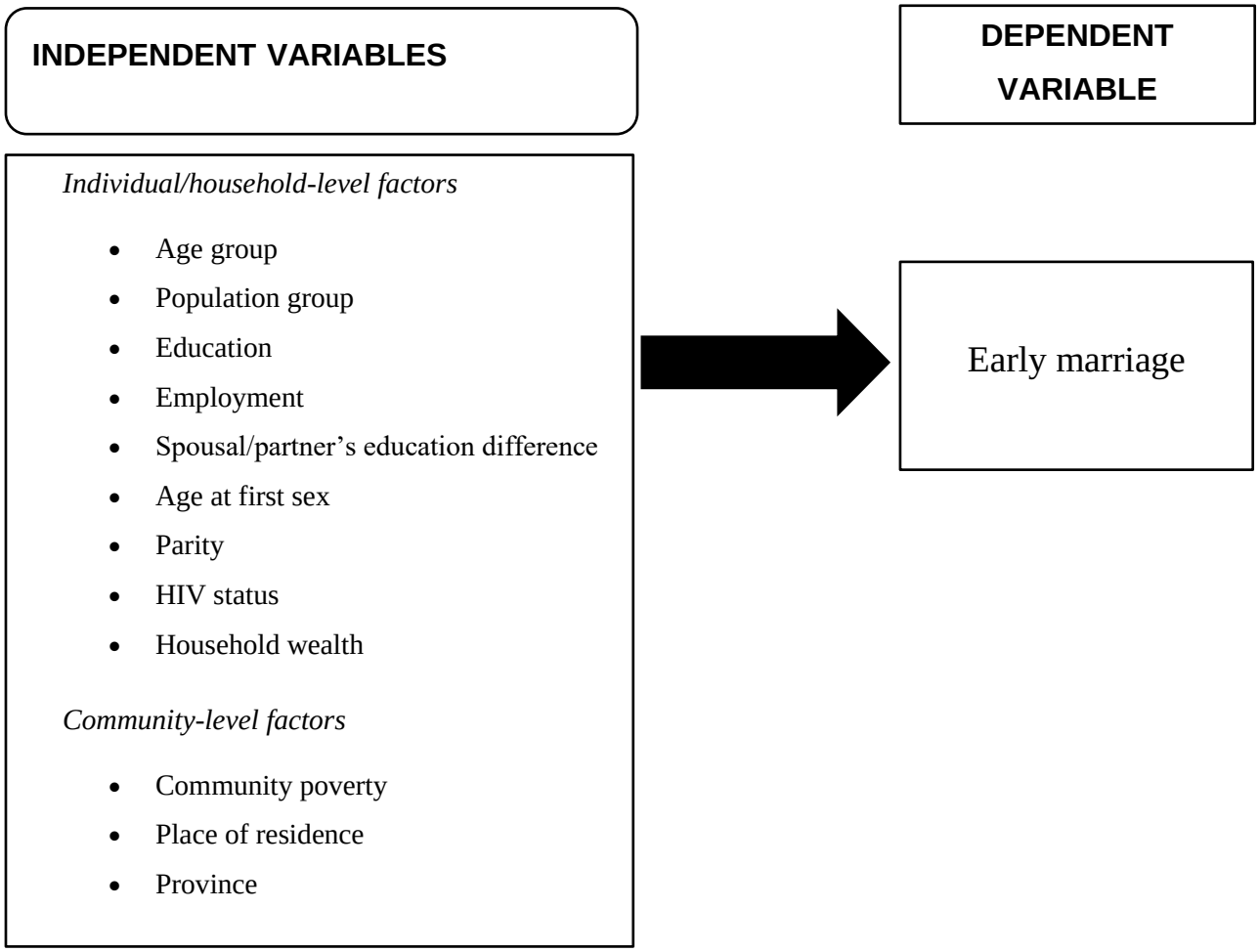
2.4.1 Social-Ecological Model (SEM)

This study is guided by the Social-Ecological Model. This model was developed by Bronfenbrenner in the 1970s (Mahmudiono et al., 2019, p. 37). This model is widely used in research related to violence or abuse. In many settings, early marriage is a form of abuse towards the child. Moreover, the child may be abused by their spouse, once married, because she may not have the power to make decisions in the marriage due to her young age (Rakovec-Felser, 2014, p. 1821). The model, therefore, is a multilevel model that looks into how social issues are shaped by individual-, interpersonal-, community- and society-level factors (Baral et al., 2013, p. 55). The individual-level factors include factors such as household wealth, education, and employment; additionally, some of these factors can be age, income, substance use, or history of abuse (Wekesah et al., 2018, p. 24). The interpersonal/relationship-level factors examine how family or social networks reinforce early marriage (Wekesah et al., 2018, p. 24). The community-level factors include factors such as the place of residence and community poverty that may influence one to be married at an early age (Kohno et al., 2019, p. 15). In the case of violence and abuse, the society-level factors focus on the society as a whole and include factors such as the cultural and social norms that may support violence and abuse as acceptable ways of resolving conflicts in society (Kohno et al., 2019, p. 15). However, this study only focuses on the individual-level factors (combined with household factors) as well as the community-level factors. This theory has been applied as the basis for the multilevel analysis in this study.

2.5 Conceptual framework

The Social-Ecological Model (SEM) is used to derive this study's conceptual framework. The theory has four levels, however, this study only adopted two levels namely: the individual level, with factors such as the age of the respondent, population group, education, employment, education difference (between respondent and partner), age at first sex, parity, HIV status, household wealth. Community-level factors include the place of residence, community poverty and province.

Figure 2.1: Conceptual framework depicting the multilevel determinants of early marriage



CHAPTER 3: METHODOLOGY

3.1 Study setting

The study is conducted among women in the Republic of South Africa (RSA), which has nine provinces with three sections namely: urban areas, rural areas and farming areas. In 2019, the midyear population was estimated to be 58.78 million people of which approximately 30 million (51.2%) are females (Statistics South Africa, 2019, p. 15).

3.2 Research design

This study used a descriptive research design as its methodology. It is used to identify and gather information on a specific issue, such as a community, group, or individual (Akhtar, 2016, p. 75). This study's descriptive research methodology is cross-sectional in nature. A cross-sectional research method is a type of observational study design. In cross-sectional research, the researcher evaluates in the study participants, both the result and the exposure at the same time, for example the cross-sectional research may investigate the association between two related or unrelated parameters (Setia, 2016, p. 261). This research design is suitable because it has been used in similar studies and because of the quantitative nature of this research (Aychiluhm et al., 2021, p. 25; Zegeye et al., 2021, p. 13).

3.3 Data source

This study relies on secondary data from the 2016 South Africa Demographic and Health Survey (SADHS). The Republic of South Africa is divided into nine provinces. The Central Statistical Services, which is currently known as Statistics South Africa (SSA), developed a list of roughly 86,000 enumeration areas (EAs) for the SADHS (National Department of Health et al., 2019, p. 4). The SADHS is a nationally representative household survey aimed at updating basic demographic and health information. It used five questionnaires (the household survey, the individual female's questionnaire, the individual male's questionnaire, the caregiver's questionnaire, and the individual male's questionnaire, caregiver's questionnaire, and biomarker questionnaire) to gather information on socio-demographic characteristics from women and men (National Department of Health et al., 2019, p. 4). These surveys have been updated to reflect population and health challenges that have arisen in recent years in South Africa (National Department of Health et al., 2019, p. 4). The SADHS 2016 used a stratified two-stage sample design, with probability proportional to size sampling of Primary Sampling Units at the first stage and systematic sampling of Dwelling Units

at the second stage (National Department of Health et al., 2019). The study is made up of a weighted sample size of 7087 women aged 20-49.

3.4 Description of study variables

3.4.1 Dependent variable

Early marriage was used as the dependent variable in the study. The variable is based on V511 from the DHS data set and includes both formal marriages and informal unions (cohabitation). This variable is coded 1 if the woman got married before age 18 and 0 otherwise. In this study, those who got married before age 18 are considered as being married early. The analysis was based on women currently aged 20-49 years at the time of the survey.

3.4.2 Independent variables

In this study, eleven independent variables are selected based on the literature review on the topic. These independent variables include the age of the respondent, population group, education, employment, education difference (between respondent and partner), age at first sex, parity, HIV status, household wealth, place of residence and province.

Table 3.1: Description of the study variables

Independent variable	**Description**	**Coding**
Individual/household-level factors		
Age group	Age of respondent	1=20-24 2=25-29 3=30-39 4= 40-49
Population group	Race	1=Black African 2=Coloured 3= Other
Level of education	Highest level of education attained by the respondent	0=No education 1=Primary 2=Secondary+
Employment status	Current employment status of the respondent	0=Unemployed 1=Employed
Spousal/partner's educational difference	Educational difference between woman and spouse/partner	1=Partner better educated 2=Wife better educated 3=Equally educated

Independent variable	Description	Coding
		4= Neither educated 5=Cannot be determined
Age at first sex (below age 18)	First sex by age 18	0=No 1=Yes
Parity	Children ever born	0= 0 1= 1-2 1= 3-4 3= 5+
HIV status	HIV positive test results	0=Negative 1=Positive
Household wealth	Household socioeconomic status	1=Poor 2=Average 3=Rich
Community-level factors		
Community poverty status	Community socioeconomic status (constructed based on a percentage of households in the cluster that are in Low, Moderate and High poverty level)	1=Low 2=Moderate 3=High
Place of residence	Respondent's place of residence	1=Urban 2=Rural
Province	Respondent's Province of residence	1=Western Cape 2=Eastern Cape 3=Northern Cape 4=Free State 5=KwaZulu-Natal 6=Northwest 7=Gauteng 8=Mpumalanga 9=Limpopo

3.5 Method of analysis

The version 14 of Stata software package was used for the analysis. Three types of analyses were selected for this study. These included univariate, bivariate, and multivariate analyses. The bivariate analysis, with a chi-square test (χ^2), was used to estimate the prevalence of early marriage among women in South Africa. Multivariate multilevel logistic regression was used to analyse individual/household-level and community factors determining early marriage among women in

South Africa because of the hierarchical nature of the data set. Parts of this thesis will be published in a peer-reviewed academic journal.

3.5.1 Model specification

Model specification (multivariate multilevel logistic regression)

The study used multilevel analysis techniques to take into account the dichotomous nature of the dependent variable and the hierarchical structure of the data from the Demographic and Health Survey (DHS). In this study, a two-level model was used, with individuals/households (level 1) nesting within communities (level 2). While the level 2 model investigates the impact of community-level factors on early marriage, the level 1 model examines the relationships between individual/household-level variables and early marriage.

The two-level model is denoted as:

$$log\left[\frac{\pi_{ij}}{1-\pi_{ij}}\right] = \beta_0 + \beta_1 x_{ij} + \beta_2 x_{ij} \ldots + u_{0j} + e_{0ij}$$

Where πij is the probability that an i^{th} woman in the j^{th} community got married before turning 18, β_0 is the intercept, β_n is the regression coefficient, x_{ij} stands for the independent variables, u_{0j} is the community level errors and e_{0ij} denotes the individual-level errors. Four models were fitted. Model 0 is the null model, which was used to check the variability among the communities without inserting a study variable. Model 1 was adjusted for the individual/household-level factors. Model 2 was adjusted for community-level factors. Model 3 was adjusted for both individual/household-level and community-level factors. The study used the between (in)-cluster variation (ICC), proportional change in variance (PCV), and median odds ratio (MOR). The ICC, PCV and MOR are meant to measure variations between individual and community levels. In the multivariable multilevel models, the measures of association (fixed-effects) estimate the associations between the probability of early marriage and independent variables (individual and community-related) expressed as Adjusted Odds Ratio (AOR) with their 95% Confidence Intervals (CIs). The measures of variation (random-effects) were reported as intracluster correlation coefficient (ICC) which is the percentage variance explained by the higher level (community-level variables), and proportional change in variance (PCV) shows the change in the community-level variance between the empty model and the successive models. Moreover, the deviance (-2LL) and Akaike

information criterion (AIC) were also used for model fit selection. The predictor variables were tested for multicollinearity using the Variance Inflation Factor (VIF). The mean VIF value was 1.46, the minimum VIF was 1.03 and the maximum VIF was 2.67, which explained that there was no collinearity among the variables because a VIF value of less than 10 indicates that there is no collinearity between the variables.

3.6 Limitations

SADHS data are cross-sectional; this limits the drawing of causal inferences (i.e., one cannot tell whether the characteristics occur before or after marriage since most of the characteristics are reported according to their status at the time of the survey). Furthermore, due to the longer recall time, there may be recall bias in the data. Despite these potential limitations, the DHSProgram collects good information on the demographic and health characteristics of populations in many developing countries. The data is also nationally representative, which makes it possible to make inferences about the entire population.

3.7 Ethical considerations

This study used secondary data from the 2016 SADHS to determine the multilevel determinants of early marriage among women in South Africa. The SADHS is produced in collaboration with ICF, and one need to register and be granted the right and permission to download and use the data. The data downloaded is only allowed to be used for the registered project. The study has received the ethical approval from the Basic and Social Sciences Research Ethics Committee (BaSSREC), at the North-West University (ethics number NWU-01009-22-A7).

CHAPTER 4: DATA ANALYSIS AND RESULTS

4.1 Introduction

The study's findings are presented in this chapter. The chapter is divided into three stages: univariate, bivariate and multivariate. The results of the univariate analysis are presented in the first section, followed by those of the bivariate analysis, and the results of the multilevel logistic regression are presented in the third section. The chapter is divided into three sections: the results of the univariate analysis are presented in the first section, followed by those of the bivariate analysis, and the results of the multilevel logistic regression are presented in the third section. The percentage distribution of the dependent variable was determined using the univariate analysis. The association between early marriage and the chosen independent variables was also evaluated using the bivariate method.

4.2 Characteristics of the study population

Table 4.1 presents the distribution study population by background factors. The majority of women were aged 30-39 (33.9%), followed by those aged 40-49 (25.7%) and the lowest percentage was among those aged 20-24 (20.0%). With regards to the population group, the majority of women were from the black African population group (86.5%), followed by the coloured population group (8.5%) and the lowest among the 'other' population group (5.1%). In terms of educational level, the majority of women had secondary education (88.3%) and the lowest percentage was observed among women with no education (2.3%). With regards to employment, there was a higher percentage of women who reported to be unemployed (58.6%) compared to employed women 41.2%. In relation to spousal/partner educational differences, 71.7% of women had a partner who was better educated, 14.8% of women had better educated than their partner and 12.7% of women were equally educated with their partner. About 51.2% of women reported that they did not have first sex by age 18 and 48.8% reported that they had their first sex by age 18.

In terms of parity, the majority of women (54.5%) reported to have 1-2 children, followed by (24.5%) who reported to have 3-4 children, (15.7%) reported to have no children and the lowest was (5.5%) who reported to have 5 or more children. About (90.3%) of women had tested HIV negative and (9.7%) had tested HIV positive. In relation to the household wealth, 39.7% of women were from the rich households, (38.8%) from the poor household and (21.6%) were from the average wealth households. With regard to the community poverty status, the majority was

observed among women that came from the community that had low poverty status (39%), followed by (30.9%) from the community that had high poverty status and the lowest was observed among women who came from the community that had medium poverty status (30%). About (68.5%) of women reported to be living in the urban areas and 31.5% reported to be living in the rural areas. The majority of women were from the Gauteng province (27.8%), followed by KwaZulu-Natal (18.5%), Western Cape (11.8%), Eastern Cape (10.6%), Limpopo (9.3%), Mpumalanga (7.8%), Northwest (6.9%), Free State (5.2%) and the lowest is observed from the Northern Cape province (2.0%).

Table 4.1: Distribution of respondents by background factors

Variable	**Number**	**Percentage**
Individual/household level factors		
Age group		
20-24	1415	20.0
25-29	1444	20.4
30-39	2406	33.9
40-49	1823	25.7
Population group		
Black African	6127	86.5
Coloured	602	8.5
Other	358	5.1
Level of education		
No education	165	2.3
Primary	664	9.4
Secondary+	6258	88.3
Employment status		
Unemployed	4,152	58.6
Employed	2936	41.4
Spousal/partner's educational difference		
Partner better educated	5078	71.7
Wife better educated	1047	14.8
Equally educated	903	12.7
Neither educated	45	0.6
Cannot be determined	13	0.2
Age at first sex (below age 18)		
No	3630	51.2
Yes	3458	48.8
Number of children ever born (parity)		

Variable	Number	Percentage
0	1111	15.7
1-2	3863	54.5
3-4	1726	24.4
5+	387	5.5
HIV status		
Negative	6403	90.3
Positive	684	9.7
Household wealth		
Poor	2749	38.8
Average	1528	21.6
Rich	2810	39.7
Community level factors		
Community poverty status		
Low	2767	39.0
Medium	2129	30.0
High	2192	30.9
Place of residence		
Urban	4856	68.5
Rural	2231	31.5
Region		
Western Cape	835	11.8
Eastern Cape	754	10.6
Northern Cape	142	2.0
Free State	371	5.2
KwaZulu-Natal	1313	18.5
North West	489	6.9
Gauteng	1973	27.8
Mpumalanga	553	7.8
Limpopo	657	9.3
Total	**7087**	**100.0**

4.3 Prevalence of early marriage in South Africa

Figure 4.1 presents the percentage distribution of early marriage among women aged 20-49 years. The findings show that 6.5% of women reported they were married before age eighteen (Plot A). Among women who were married before eighteen, the majority (58.7%) were age 16-17 years, followed by those aged 14-15 (24.5%) and the least percentage was among those less than 12 years (7.2%) (Plot B).

Figure 4.1: Percentage distribution of early marriage

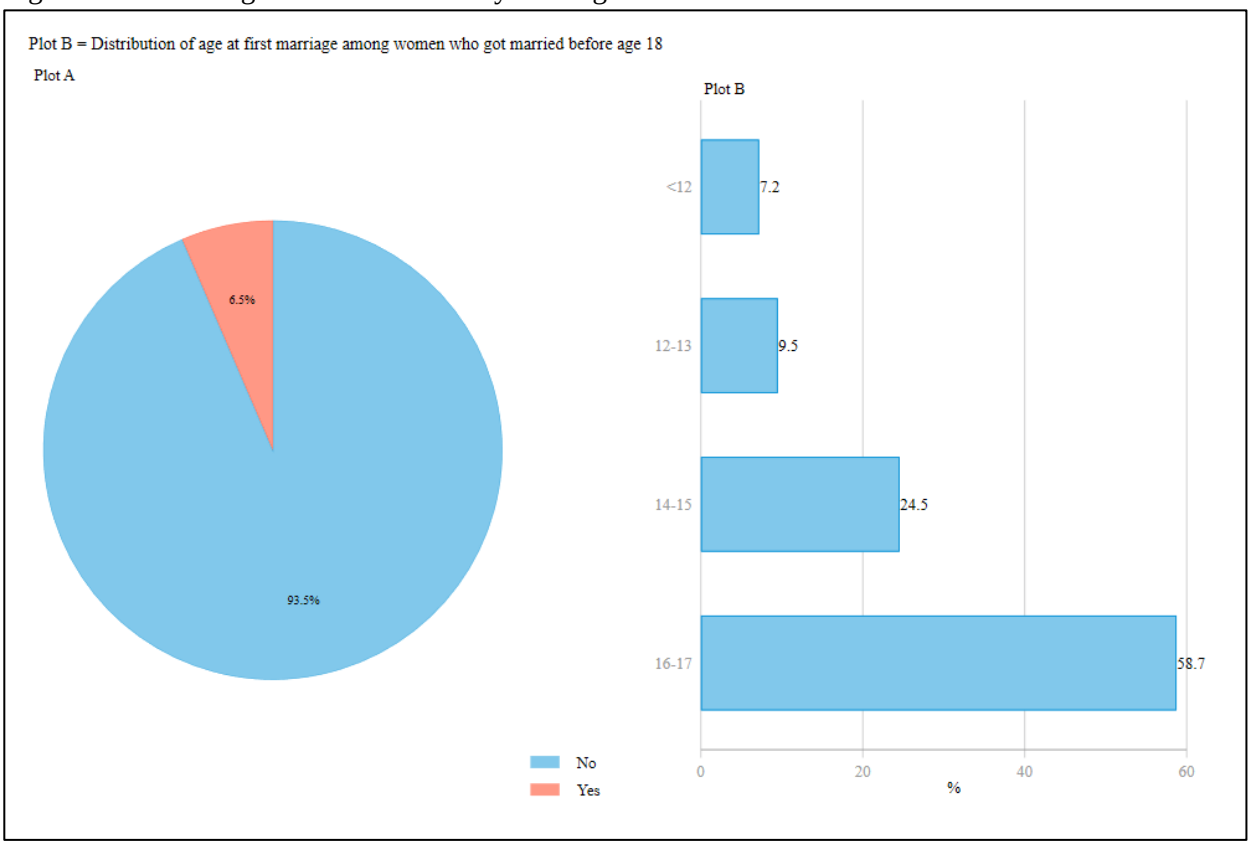


Table 4.2 presents the prevalence of early marriage by explanatory factors. The findings show that age, level of education, spousal/partner educational differences, age at first sex, parity, household wealth, community poverty, place of residence and province were statistically associated with early marriage (*p<0.001*). The prevalence of early marriage increased with age. Women aged 40-49 had a higher prevalence (9.8%) of early marriage, while the prevalence was 3.6% among those aged 20-24 years. Women from the 'other' (Indian or White) population group had a higher prevalence (7.6%) of early marriage, followed by those (6.6%) from the black African population group. The findings show that early marriage decreases with level of education. Women with primary education had a higher prevalence (17.5%) of early marriage, followed by women with no education (11.0%). In terms of spousal/partner educational difference, women whose partner was not educated had a higher prevalence (15.0%) of early marriage, while women whose partner was better educated had the lowest prevalence (5.0%) of early marriage. Moreover, women who had their first sex before age eighteen had a higher prevalence (10.1%) of early marriage.

Furthermore, early marriage increased with parity. Women with five or more children ever born had a higher prevalence (20.9%) of early marriage, while those zero with parity had a low prevalence (1.5%) of early marriage. In terms of household wealth, women who were from poor households had a higher prevalence (8.4%) of early marriage, followed by women who were from the average wealth households (6.4%) and the lowest prevalence was among women from rich households (4.6%). Moreover, women who were from communities with high community poverty had a higher prevalence (7.8%) of early marriage followed by those who were from communities with medium community poverty (6.7%) and the lowest prevalence (5.2%) was among women from communities with low community poverty. Furthermore, the findings indicate that women who were from the rural areas had higher prevalence (7.9%) of early marriage, while women who were from the urban areas had the low prevalence (5.8%) of early marriage. In terms of province, women from Limpopo had a higher prevalence (10.5%) of early marriage, followed by women from Mpumalanga (9.5%), North West (7.8%) and Gauteng (7.4%). The low prevalence of early marriage was observed in Eastern Cape (5.7%), Western Cape (4.1%) and KwaZulu-Natal (3.1%).

Table 4.2: Prevalence of early marriage by explanatory factors

Variable	Early marriage				Total	Chi-square	
	No		Yes			Value	P-value
	%	CI	%	CI			
Individual/household level factors							
Age group						71.6	0.000
20-24	96.4	[94.7-97.6]	3.6	[2.4-5.3]	100.0		
25-29	94.5	[92.9-95.8]	5.5	[4.2-7.1]	100.0		
30-39	93.7	[92.4-94.9]	6.3	[5.1-7.6]	100.0		
40-49	90.2	[88.4-91.8]	9.8	[8.2-11.6]	100.0		
Population group						2.2	0.333
Black African	93.4	[92.4-94.2]	6.6	[5.8-7.6]	100.0		
Coloured	95.7	[93.2-97.3]	4.3	[2.7-6.8]	100.0		
Other	92.4	[88.5-95.1]	7.6	[4.9-11.5]	100.0		
Level of education						170.5	0.000
No education	89.0	[81.4-93.7]	11.0	[6.3-18.6]	100.0		
Primary	82.5	[78.7-85.8]	17.5	[14.2-21.3]	100.0		
Secondary+	94.8	[94.0-95.5]	5.2	[4.5-6.0]	100.0		
Employment status						0.2	0.641
Unemployed	93.4	[92.3-94.3]	6.6	[5.7-7.7]	100.0		
Employed	93.7	[92.4-94.8]	6.3	[5.2-7.6]	100.0		
Spousal/partner's educational difference						116.7	0.000
Partner better educated	95.0	[94.1-95.8]	5.0	[4.2-5.9]	100.0		
Wife better educated	89.6	[87.0-91.7]	10.4	[8.3-13.0]	100.0		
Equally educated	90.2	[87.6-92.3]	9.8	[7.7-12.4]	100.0		
Neither educated	85.0	[70.5-93.0]	15.0	[7.0-29.5]	100.0		
Cannot be determined	94.4	[67.3-99.3]	5.6	[0.7-32.7]	100.0		

Variable	Early marriage				Total	Chi-square	
	No		Yes			Value	P-value
	%	CI	%	CI			
Age at first sex (below age 18)						160.9	0.000
No	97.0	[96.2-97.6]	3.0	[2.4-3.8]	100.0		
Yes	89.9	[88.5-91.2]	10.1	[8.8-11.5]	100.0		
Number of children ever born (parity)						235.1	0.000
0	98.5	[97.1-99.2]	1.5	[0.8-2.9]	100.0		
1-2	94.6	[93.4-95.5]	5.4	[4.5-6.6]	100.0		
3-4	91.2	[89.5-92.8]	8.8	[7.2-10.5]	100.0		
5+	79.1	[73.3-83.9]	20.9	[16.1-26.7]	100.0		
HIV status						3.8	0.051
Negative	93.3	[92.4-94.1]	6.7	[5.9-7.6]	100.0		
Positive	95.6	[93.3-97.1]	4.4	[2.9-6.7]	100.0		
Household wealth						31.6	0.000
Poor	91.6	[90.2-92.8]	8.4	[7.2-9.8]	100.0		
Average	93.6	[91.8-95.0]	6.4	[5.0-8.2]	100.0		
Rich	95.4	[94.1-96.4]	4.6	[3.6-5.9]	100.0		
Community level factors							
Community poverty status						18.2	0.000
Low	94.8	[93.4-96.0]	5.2	[4.0-6.6]	100.0		
Medium	93.3	[91.6-94.6]	6.7	[5.4-8.4]	100.0		
High	92.2	[90.6-93.5]	7.8	[6.5-9.4]	100.0		
Place of residence						13.1	0.000
Urban	94.2	[93.1-95.1]	5.8	[4.9-6.9]	100.0		
Rural	92.1	[90.7-93.3]	7.9	[6.7-9.3]	100.0		
Province						55.1	0.000
Western Cape	95.9	[93.7-97.4]	4.1	[2.6-6.3]	100.0		
Eastern Cape	94.3	[92.5-95.7]	5.7	[4.3-7.5]	100.0		
Northern Cape	92.7	[90.1-94.8]	7.3	[5.2-9.9]	100.0		
Free State	93.2	[90.8-95.1]	6.8	[4.9-9.2]	100.0		
KwaZulu-Natal	96.9	[95.3-97.9]	3.1	[2.1-4.7]	100.0		
North West	92.2	[88.4-94.9]	7.8	[5.1-11.6]	100.0		
Gauteng	92.6	[90.2-94.5]	7.4	[5.5-9.8]	100.0		
Mpumalanga	90.5	[88.3-92.3]	9.5	[7.7-11.7]	100.0		
Limpopo	89.5	[86.7-91.8]	10.5	[8.2-13.3]	100.0		
Total	**93.5**	**[92.7-94.3]**	**6.5**	**[5.7-7.3]**	**100.0**		

Note: CI = confidence interval

4.4 Multilevel modelling of early marriage

Table 4.3 presents the multilevel logistic regression findings by background factors. The finding of the third model, the final (full) model, was the best-fitting model because it had the lowest deviance (-2LL) and AIC. The findings of the third model show that population group was a determinant of early marriage. Women from the black African population group were 0.41 [95% CI: 0.24-0.69] times less likely to be married before the age of eighteen compared to those from the 'other' population group. Moreover, women from the coloured population group were 0.43 [95% CI: 0.22-0.83] times less likely to be married before the age of eighteen compared to those

from the 'other' population group. Women with primary education were 2.96 [95% CI: 2.27-3.85] times more likely to be married before the age of eighteen than women with secondary or more education. Furthermore, women whose partner was better educated were 0.37 [95% CI: 0.28-0.50] times less likely to be married before the age of eighteen compared to those who are equally educated with their partner. In terms of age at first sex, women who initiated sexual activity early (before age eighteen) were 3.32 [95% CI: 2.63-4.20] times more likely to be married before the age of eighteen than women who initiated sex late (from age eighteen or later).

The findings further showed that early marriage increased with parity. Women who had no children were 0.17 [95% CI: 0.09-0.31] times less likely to be married before the age of eighteen than those who had five or more children. Women who had one to two children were 0.38 [95% CI: 0.27-0.54] and those who had three to four children were 0.65 [95% CI: 0.47-0.89] times less likely to be married before the age of eighteen than those who had five or more children. Furthermore, HIV positive women were 0.61 [95% CI: 0.42-0.89] times less likely to be married before the age of eighteen than women who were HIV negative. The findings further showed that early marriage decreased with household wealth. Women from poor household were 1.69 [95% CI: 1.16-2.48] times more likely to be married before the age of eighteen compared to those from rich households. Women from Limpopo were 2.27 [95% CI: 1.47-3.49], Mpumalanga were 1.99 [95% CI: 1.30-3.07], Gauteng were 1.85 [95% CI: 1.16-2.95], and Free State were 1.81 [95% CI: 1.11-2.95], more likely to be married before the age of eighteen than women from Eastern Cape.

Table 4.3: Individual/household and community-level predictors of early marriage among women in South Africa

Variable	Model 1		Model 2		Model 3	
	AOR	**95% CI**	**AOR**	**95% CI**	**AOR**	**95% CI**
Individual/household level factors						
Age group						
20-24	0.72	[0.48-1.07]			0.74	[0.50-1.11]
25-29®	1.00				1.00	
30-39	0.79	[0.58-1.07]			0.79	[0.58-1.07]
40-49	1.03	[0.75-1.43]			1.03	[0.75-1.41]
Population group						
Black African	0.44 ***	[0.26-0.76]			0.41 ***	[0.24-0.69]
Coloured	0.41 ***	[0.22-0.75]			0.43 **	[0.22-0.83]
Other®	1.00				1.00	
Level of education						
No education	1.61	[0.84-3.07]			1.72	[0.90-3.28]
Primary	2.81 ***	[2.15-3.66]			2.96 ***	[2.27-3.85]

Variable	Model 1		Model 2		Model 3	
	AOR	95% CI	AOR	95% CI	AOR	95% CI
Secondary+®	1.00				1.00	
Employment status						
Unemployed	0.91	[0.74-1.13]			0.92	[0.74-1.13]
Employed®	1.00				1.00	
Spousal/partner's educational difference						
Partner better educated	0.35 ***	[0.26-0.47]			0.37 ***	[0.28-0.50]
Wife better educated	0.86	[0.62-1.2]			0.90	[0.65-1.25]
Equally educated®	1.00				1.00	
Neither educated	1.26	[0.46-3.44]			1.32	[0.49-3.61]
Cannot be determined	0.80	[0.08-7.71]			0.78	[0.08-7.68]
Age at first sex (below age 18)						
No®	1.00				1.00	
Yes	3.42 ***	[2.70-4.33]			3.32 ***	[2.63-4.20]
Number of children ever born (parity)						
0	0.17 ***	[0.09-0.30]			0.17 ***	[0.09-0.31]
1-2	0.38 ***	[0.27-0.53]			0.38 ***	[0.27-0.54]
3-4	0.64 ***	[0.46-0.88]			0.65 ***	[0.47-0.89]
5+®	1.00				1.00	
HIV status						
Negative®	1.00				1.00	
Positive	0.58 ***	[0.40-0.85]			0.61 **	[0.42-0.89]
Household wealth						
Poor	1.55 ***	[1.16-2.07]			1.69 ***	[1.16-2.48]
Average	1.35	[0.99-1.84]			1.33	[0.96-1.85]
Rich®	1.00				1.00	
Community level factors						
Community poverty status						
Low			0.67 **	[0.48-0.92]	1.26	[0.82-1.93]
Medium			0.77	[0.59-1.01]	1.11	[0.82-1.50]
High®			1.00		1.00	
Place of residence						
Urban®			1.00		1.00	
Rural			1.14	[0.86-1.52]	1.05	[0.78-1.41]
Province						
Western Cape			0.90	[0.52-1.56]	1.08	[0.59-1.98]
Eastern Cape®			1.00		1.00	
Northern Cape			1.29	[0.80-2.08]	1.56	[0.92-2.66]
Free State			1.43	[0.89-2.27]	1.81 **	[1.11-2.95]
KwaZulu-Natal			0.53 ***	[0.33-0.85]	0.72	[0.44-1.19]
North West			1.27	[0.81-1.99]	1.45	[0.91-2.31]
Gauteng			1.59 *	[1.02-2.48]	1.85 **	[1.16-2.95]
Mpumalanga			1.71 **	[1.13-2.57]	1.99 ***	[1.30-3.07]
Limpopo			1.56 *	[1.03-2.36]	2.27 ***	[1.47-3.49]

Note: * = p<0.05; ** = p<0.01; *** = p<0.001; ® = reference category; AOR = adjusted odds ratio; CI = confidence interval

Model fit statistics

Table 4.4 shows in the empty model (model 0) and some variation in the prevalence of early marriage among women aged 20-49 across clusters, (variance = 0.420 [95% CI 0.25 to 0.71]). The

empty model (ICC = 11.32%) was attributed to between-cluster variations. Model 3 reduced the between-cluster variations from 11.32% to 5.8%. The full model explained approximately 52 percent (51.9) of the variability in early marriage. The MOR results confirmed that community factors influenced the likelihood of early marriage. Because it had the lowest deviance (-2LL) and AIC, the final (full) model was the best-fitting model.

Table 4.4: Random effect results for individual/household and community-level predictors of marriage before age eighteen

	Model 0 (*empty model*)	**Model 1**	**Model 2**	**Model 3**
PSU variance (95% CI)	0.420 [0.25-0.71]	0.345 [0.18-0.67]	0.245 [0.11-0.54]	0.202 [0.07-0.56]
ICC %	11.32	9.48	6.92	5.80
MOR	1.86	1.75	1.60	1.54
PCV %	Ref	17.86	41.67	51.90
Model fitness				
-2LL	3462	2977	3405	2937
AIC	3466	3019	3431	3001
PSU	727	727	727	727

Note: ® = reference; ICC = intra-cluster correlation coefficient; MOR = median odds ratio; PCV = proportional change in variance; -2LL = deviance [-2 log-likelihood]; AIC = Akaike Information Criterion; PSU = Primary Sampling Unit

CHAPTER 5: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter focuses on the discussion of the results presented on chapter four. It also includes conclusion and recommendations of the study. These discussions are only based on the major findings of the previous chapter. This chapter discusses the findings from the bivariate (chi-square) and the multivariate analyses.

5.2 Discussions

The findings of the study show that there were several factors that were associated with early marriage (such as age, level of education, spousal/partner educational differences, age at first sex, parity, household wealth, community poverty, place of residence and province) among women in South Africa. Various studies conducted in developing countries have also found similar results (Berliana et al., 2021, p. 82; Kibretb, 2015, p. 4; Mpilambo et al., 2017, p. 2). There were racial differences in terms of experiencing early marriage among women. The bivariate analysis showed that early marriage was low among the black population group compared to the 'other' population group (White or Indian/Asian). Several studies have also found that population group is significantly related to early marriage and there are often racial and ethnic differences in early marriage (Ahonsi et al., 2019, p. 14; Domfe & Oduro, 2018, p. 22; Lowe et al., 2019, p. 15; Mobolaji et al., 2020, p. 19; Raley et al., 2015, p. 82). This finding could be explained by marriage affordability among the black population. Many people, particularly black men, cannot afford the dowry (*ilobola*) associated with marriage. This explains why black population group has a lower rate of early marriage (Lowe et al., 2019, p. 16; Parsons et al., 2015, p. 20). Early marriage is still a social and tradition practise that is acceptable among the black population but may not be practiced as much as it was in the past (Mobolaji et al., 2020, p. 20).

Furthermore, the study found that women's education was related to early marriage. This finding revealed that women with primary education had higher odds of early marriage than women with secondary education or higher. This finding is similar to several studies which also found that majority of women with primary education were married earlier than those with higher education (Kamal et al., 2015, p. 120; Nguyen & Wodon, 2014, p. 66; Parsons et al., 2015, p. 22; Paul, 2019, p. 18). The studies emphasise that less educated women are vulnerable to early marriage (Anh, 2018, p. 30; Hotchkiss et al., 2016, p. 5). This may be due to the reason that most families believe

that marrying off their children to elderly educated working men would reduce their poverty (Mourtada et al., 2017, p. 25). Marriage increases with educational level, the more the women become educated, they delay marriage to focus on empowering themselves (Parsons et al., 2015, p. 22). Similarly with educational difference, the finding revealed that women that have partner that is better educated were less likely to marry early than those who are equally educated with their partner (Lal, 2015, p. 2995). This results because most men are intimidated by women's education and would prefer to marry partners who are less educated than them.

Women who had their first sex before age eighteen had a higher prevalence of early marriage. This finding is similar to other studies conducted in developing countries (Ahinkorah et al., 2021, p. 8; Ariho & Kabagenyi, 2020, p. 50; Maswikwa et al., 2015, p. 89). This could be explained by the fact that early marriages and virginity testing are common in traditional societies, once a girl child is noticed to have had first sex, marriage is arranged for them (Baysak et al., 2021, p. 243). Furthermore, early marriage increases with parity. Women who have less children are less likely to marry before age eighteen compared to those who have many children (Mothelesi, 2019, p. 40; Psaki, 2016, p. 120). The findings are a bit strange and this could be the results of not being able to measure causality between parity and early marriage (it is difficult to tell whether the children are part of the marriage or came before the marriage). This results because most women who get married at a young age cannot negotiate sexual and reproductive health with their husbands (Irani & Latifnejad Roudsari, 2019, p. 1590; Yaya et al., 2019, p. 33). They are taught and groomed to be obedient and respectful towards their partners.

Moreover, the findings of the study indicate that HIV positive women had lower odds of being married before the age of eighteen than women who were HIV negative. These findings are in contrast with studies by (Angelucci & Bennett, 2017, p. 157; Sayi & Sibanda, 2018, p. 2830), which found that most young women in marriage are more likely to have sexual transmitted diseases, especially HIV because once they are in union, they are less likely to practise safe sex. This contradiction could be as the result of not being able to measure causality (we cannot determine whether or not being HIV positive comes before or after early marriage). Moreover, household wealth was related to early marriage. Women from poor households had higher odds of being married before the age of eighteen compared to those who were from rich households. This finding is consistent with the findings of the study in Ghana that strengthens that women from poor and middle households were more tendency to get married early than women from wealthy households

(Saleheen et al., 2021). This could be explained by poor families preferring early marriage to generate more income from male family members (Belachew et al., 2022). The more the household expenses, the earlier the girl children in that household to marry. Additionally, a study by (Handa et al., 2015, p. 40; Talukder et al., 2020, p. 78) also revealed that the rate of early marriage decreases with an increase in wealth. These findings could be explained by understanding that poor and vulnerable households cannot afford maintaining lots of children hence it is more of a solution for these households to reduce their expenditure by marrying off their girl children.

Furthermore, women from Limpopo, Mpumalanga, Gauteng, and Free State had higher odds of being married before the age of eighteen than women from Eastern Cape. Several studies in developing countries have found regional (or provincial) differences in early marriage (Asna-ashary et al., 2020, p. 12; Koski et al., 2017, p. 29; Raphalalani & Musehane, 2013, p. 66; Rumble et al., 2018, p. 400). This could be explained by acknowledging that in most cases, early marriages occur in the poor and vulnerable rural areas or regions, where they have been linked to harmful cultural and religious practices (Ramnath, 2015, p. 35; Yaya et al., 2019, p. 3). Mpumalanga and Limpopo province still have a strong background of having traditional leaders and chiefs who still value cultural norms. This could be the reason why early and arranged marriages are higher in these regions although some may remain unreported because of cultural values. The Social Ecological Model has given a better understanding of the predictors of this study. The individual-/household-level and community-level factors such as household wealth, educational level, place of residence and province were important determinants of early marriage as highlighted in the SEM theory.

5.3 Conclusion

The study has shown that early marriage persists in South Africa. Even if the prevalence of early marriage is low in the country, it is still a challenge that needs to be eradicated from society. Moreover, these practices are not reported and mostly are protected by law to be traditional practices. The findings of the study revealed that population group, educational level, spousal/partner's educational difference, age at first sex, parity, HIV status, household wealth and province were important factors explaining early marriage. The multivariate findings showed that Free State, Gauteng and Limpopo and Mpumalanga had higher odds of early marriage.

5.4 Recommendations

It is necessary to totally reduce early marriage in South Africa in order for the country to successfully reach the 2030 Sustainable Development Goals, including target 5.3 of the goals which aims to 'eliminate all harmful practices, such as child, early and forced marriage and female genital mutilations' (under Goal 5 'achieve gender equality and empower all women and girls). South Africa has made good progress toward passing laws that shield children from ancient customs like child marriage. More needs to be done to target women from poor households, as well as women from Limpopo and Mpumalanga in order to provide further protection for children from traditional practices like child marriage, it is important for law and policy makers to recognize the negative effects of early marriage among these targeted groups. The revisits of policies will be helpful and will allow policy makers to be able to update old policies based on the new and relevant laws and regulations.

In order to assess the effectiveness of current and new laws and regulations and provide information for adjustments when appropriate, the implementation phase should be more closely monitored. Raising public awareness of the many laws protecting children against child marriages is necessary in Limpopo and Mpumalanga province. Community development professionals employed by the government and civil society should obtain proper training in this area of study in order for this to happen. They ought to be able to teach their communities especially the rural communities and traditional leaders the importance of diminishing the custom of early marriage. More education on child marriages, the harm that it may do to the children's development, and the role of the law and child protection are all things that need to be spread across all rural or traditional beliefs including providing better education and awareness for women who are from poor households to better understand that early marriage does not reduce poverty but instead it is oppresses their human rights.

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APPENDICES

Figure A1: Ethics approval letter

Private Bag X1290, Potchefstroom South Africa 2520

NORTH-WEST UNIVERSITY
NOORDWES-UNIVERSITEIT
YUNIBESITI YA BOKONE-BOPHIRIMA

Senate Committee for Research Ethics

Tel: 016 103 4446

Email: nkosinathi.machine@nwu.ac.za

24 August 2022

ETHICS APPROVAL LETTER OF STUDY

Based on approval by the **Basic and Social Sciences Research Ethics Committee (BaSSREC)** on **24/08/2022**, the Basic and Social Sciences Research Ethics Committee hereby **approves** your study as indicated below. This implies that the North-West University Senate Committee for Research Ethics (NWU-SERC) grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: Determinants of early marriage among women in South Africa: A multilevel analysis

Study Leader/Supervisor (Principal Investigator)/Researcher: Dr Mluleki Tsawe

Student/Research Team: SML Mathabatha-25514415

Ethics number:

Institution Study Number Year Status

Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation

N	W	U	-	0	1	0	0	9	-	2	2	-	A	7

Application Type: Single study

Commencement date: **29/08/2022**

Risk: **No risk**

Expiry date: 29/08/2023

Approval of the study is initially provided for a year, after which continuation of the study is dependent on receipt and review of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation.

Special in process conditions of the research for approval (if applicable):

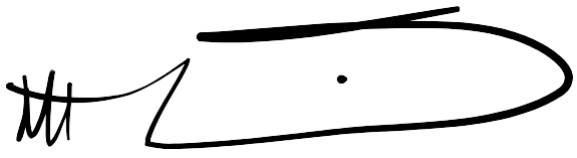
General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:

- *The study leader/supervisor (principal investigator)/researcher must report in the prescribed format to* the BaSSREC:
  - *annually (or as otherwise requested) on the monitoring of the study, whereby a letter of continuation* will be provided, and upon completion of the study; and
  - *without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical* principles) during the course of the study.
- *The approval applies strictly to the proposal as stipulated in the application form. Should any* amendments to the proposal be deemed necessary during the course of the study, the study leader/researcher must apply for approval of these amendments at the BaSSREC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.
- *Annually a number of studies may be randomly selected for an external audit.*
- *The date of approval indicates the first date that the study may be started.*
- *In the interest of ethical responsibility, the NWU-SCRE and BaSSREC reserves the right to:*
  - *request access to any information or data at any time during the course or after completion of the* study;
  - *to ask further questions, seek additional information, require further modification or monitor the* conduct of your research or the informed consent process;
  - *withdraw or postpone approval if:*
    - *any unethical principles or practices of the study are revealed or suspected;*
    - *it becomes apparent that any relevant information was withheld from the BaSSREC or that* information has been false or misrepresented;
    - *submission of the annual (or otherwise stipulated) monitoring report, the required amendments, or* reporting of adverse events or incidents was not done in a timely manner and accurately; and / or
    - *new institutional rules, national legislation or international conventions deem it necessary.*
- *BaSSREC can be contacted for further information or any report templates via* BaSSREC-Admin@nwu.ac.za.

The BaSSREC would like to remain at your service as scientist and researcher, and wishes you well with your study. Please do not hesitate to contact the BaSSREC or the NWU-SCRE for any further enquiries or requests for assistance.

Yours sincerely



Prof E. Idemudia

Chairperson NWU Basic and Social Sciences Research Ethics Committee

Figure A2: Prevalence of early marriage by province (spatial visualisation)