

Determinants of Female Fertility Based on Social and Cultural Perspective in South Sulawesi Province

Muh Chalik Marwadi

Statistics Gowa Regency, Mesjid Raya Street Number 57 H, Sungguminasa, 90224, South Sulawesi, Indonesia

Corresponding Author: Muhammad Chalik Marwadi (email: chalik.marwadi@gmail.com)

Abstract

The phenomenon of the population continuing to grow rapidly means that the government needs to focus its efforts on controlling fertility. This is because fertility is more complex than mortality, in which a woman can only die once but can give birth many times. This research aims to find out the determinants of fertility from a social and cultural perspective. This research used data from 3,108 women aged 15 to 49 years old from the 2017 Indonesia Demographic and Health Survey (IDHS). Apart from that, in-depth interviews were also conducted with female respondents aged 15 to 49 years old as the main research subjects. On the quantitative data, binary logistic regression analysis was carried out to test the determinants of fertility and the results showed that education, work status, media exposure to family planning, use of contraceptives, and area of residence had affected fertility. Apart from that, there are also cultural phenomena, such as *panaik* money, which influence women's fertility.

Keywords: fertility; population; binary logistic regression; women aged 15 to - 49 years old

Introduction

The population aspect is the most fundamental thing in development. This is because the population is both the subject and object of development. A large population should be accompanied by an even composition and distribution (Jalaluddin & Irwan Suriadi, 2019). Apart from that, if this condition is accompanied by good and adequate population quality, it can be a driving force for development progress (Mahendra, 2017).

A large and high-quality population should be a very useful asset for a country's development (Wicaksono & Mahendra, 2016). The phenomenon of Indonesia's

large population is also characterized by a still high population growth rate. Indonesia's population growth rate in 2020 was 1.25 percent and this figure is still above the average world population growth rate (Statistics Indonesia, 2021). With this average growth rate, Indonesia will add approximately 9,000 babies every day.

Indonesia's large population is not accompanied by the high quality of the population (Jalaluddin & Irwan Suriadi, 2019). This can be seen in 2020, Indonesia's Human Development Index (HDI) is ranked 107th out of 189 countries. Indonesia has not been able to pass into the top 100 countries in the world with an HDI figure of 71.94 (Statistics

Indonesia, 2021). A population which has low quality will be an inhibiting factor in achieving existing opportunities (Jalaluddin & Irwan Suriadi, 2019).

This population problem must be immediately sought for a solution because if it is not resolved immediately, the existence of Indonesia's large population will become a burden on the development. One way to overcome this is by controlling population growth so that the government can focus on improving and developing quality so that a prosperous society can be created in Indonesia (Wicaksono & Mahendra, 2016).

Population growth is influenced by birth (fertility) and death (mortality) rates. If the fertility rate is high and balanced with a low mortality rate, this will cause the population to increase (Wicaksono & Mahendra, 2016). One effort which really needs attention at this point is efforts to reduce fertility. This is because fertility is more complex than mortality, in which a woman only dies once, but she can give birth to more than one baby. Besides if someone dies on a certain day and time, it means that from that moment on, that person is no longer at risk of dying. On the other hand, a woman who has given birth to a child does not mean that the woman's risk of giving birth again decreases (Sukim & Salam, 2019).

There are several fertility measures which are often used, specifically Crude Birth Rate, Total Fertility Rate and Age Specific Fertility Rate. TFR and ASFR are still the most widely used numbers. This is because the CBR only calculates the ratio of the number of births to the population, both men and women, while the TFR and ASFR have taken into account the comparison, that is the female population aged 15-49 years (Arialdi Rendi, 2016). The TFR figure shows the average number of children born until the end of their reproductive period (15-49 years).

In the 2010-2014 National Medium Term Development Plan as stated in Presidential

Regulation No. 5/2010, the TFR target was set at 2.1 children. This means that it is expected that Indonesian women will be able to give birth to 2.1 children until the end of their reproductive period. However, until 2017, the TFR for Indonesian women was still at 2.4. In fact, the TFR figure had stagnated at 2.6 children for more than 10 years. The TFR figure decreased by 0.2 in 2017 according to the Indonesian Demographic and Health Survey (IDHS). This phenomenon shows that there is fertility stagnation in Indonesia (Statistics Indonesia, 2018).

If divided by province, in 2020 there were 24 provinces in which the TFR was above the national figure (BKKBN, 2021). An interesting phenomenon occurred in South Sulawesi Province. Based on the results of the comparison between the 2017 and 2020 TFR figures, South Sulawesi Province was ranked third with the highest TFR increase of 0.38 points (Statistics Indonesia, 2018). This province is also the fifth largest population in Indonesia and the first largest in the Eastern Indonesia region (Statistics Indonesia, 2021). So, if the population is large accompanied by a high TFR, then population growth in that area will increase drastically. Therefore, this research focuses its discussion on South Sulawesi Province.

The target for achieving fertility levels is also set in the Regional Long Term Development Plan which is stated in South Sulawesi Provincial Regulation No. 1/ 2019. In this regional regulation, the TFR for South Sulawesi is targeted to reach 2.1 children in 2024 (Perda Nomor 1 Tahun 2019 tentang RPJMD Provinsi South Sulawesi Tahun 2018-2023, 2019). This target is considered quite realistic because the TFR for South Sulawesi Province has been far below the national figure since 2012. However, in 2020 the TFR for South Sulawesi Province actually experienced a sharp increase to reach 2.78 children per woman (BKKBN, 2021).

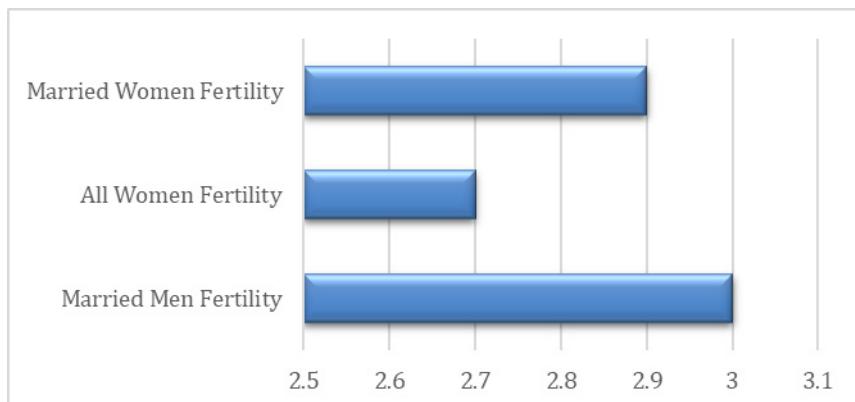


Source: BKKBN, 2021.

Figure 1. Total Fertility Rate (TFR) South Sulawesi, 2003-2020

Apart from that, if we look at fertility preferences, the ideal number of children according to married men, all women, and ever-married women is 2.7 and above. This shows the fact that the slogan of the National Population and Family Disaster

Agency (BKKBN) which reads "two children is enough" has not been successfully implemented comprehensively in South Sulawesi Province. This phenomenon can be seen in the following image.



Source: Statistics Indonesia, 2018.

Note: All Women, and Men from the Indonesian Demographic and Health Survey (IDHS) in South Sulawesi Province in 2017.

Figure 2. Average Ideal Number of Children according to Perceptions of Married Women

To overcome this, it is necessary to study the factors which influence fertility. The relationship between these factors and fertility can be approached with appropriate statistical analysis. By knowing the factors which have an influence on fertility levels, it

is expected that targeted plans and policies can be made in an effort to reduce fertility levels (Sukim & Salam, 2019).

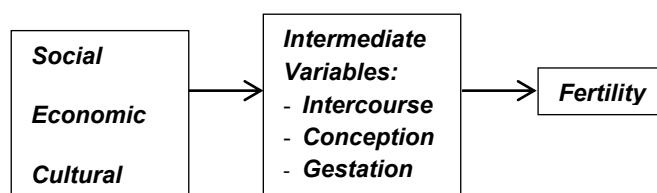
Research on factors influencing fertility in South Sulawesi Province was carried out by Haerana (2022) with a

population of adolescent women aged 15 to 24 years old using sociodemographic variables from the 2017 IDHS. Furthermore, Sopyan (2016) in his dissertation also researched the determinants fertility of women aged 15 to 65 years old in South Sulawesi Province using sociodemographic variables at the individual level. Furthermore, Nur (2023) has examined the determinants of fertility both at the individual and regional levels. However, in these three studies, they still used secondary data which was unable to capture several variables which needed to be studied further through in-depth interviews. So, this research is expected to be able perfecting these three studies. Thus, the problem formulation in this research is

what are the determinants of women's fertility according to social and cultural perspectives in South Sulawesi Province in 2021?

Literature Review

This research begins with the fertility theory of Davis and Blake (1956) which states that the factors influencing fertility are through what are called intermediate variables. According to him, social, economic and cultural factors which influence fertility will be through intermediate variables. The fertility concept framework proposed by Davis and Blake (1956) can be seen in the figure below.

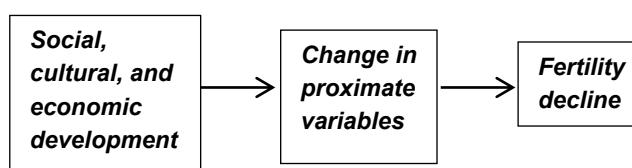


Source: Davis and Blake (1956)

Figure 3. Davis and Blake's Fertility Conceptual Framework

Bongaarts (1978) built another simple but comprehensive model of the relationship between variables between socioeconomic development and a decline in fertility levels.

According to Bongaarts, social, cultural and economic variables influence fertility through an approach (proximate determinant).



Source: Bongaarts (1978)

Figure 4. Bongaarts Fertility Conceptual Framework

Freedman (1979) in Trisnaningsih (2016) continued Davis and Blake's theory into a model which explains the relationship between socio-economic conditions, environmental factors, and applicable norms

in influencing intermediate variables which ultimately influence fertility. The analysis model provides analysis possibilities, such as listed below.

- a. Socio-economic influence on one of the intermediate variables, or
- b. The influence of one or several environmental factors on fertility, or can be
- c. The influence of several environmental and socio-economic factors on fertility.

According to Freedman (1979) in Trisnaningsih (2016), intermediate variables which directly influence fertility are basically also influenced by the norms applied in society. In the end, a person's fertility behavior is influenced by existing norms, that is norms about family size and norms about the intermediate variables themselves. Furthermore, norms regarding family size and intermediate variables are influenced by the level of mortality and the socio-economic structure which exists in society.

According to fertility research on women in South Sulawesi Province conducted by Nur (2023), social factors which influence women's fertility consist of education, women's working status, use of contraceptives, and area of residence. Then, research conducted by Wicaksono & Mahendra (2016) stated that women's fertility is also influenced by social factors, such as the partner's working status, exposure to media information on contraception, and child mortality.

The higher the level of education, the fertility will tend to decrease. This is because the time someone spends on completing their studies will cause marriage to be delayed. Thus, the number of children born will be fewer (Sinaga & Hardiani (2017). Apart from a shorter reproductive period, women who have a higher level of education are more open to new values, such as the view that having a small number of children will lead to happiness and prosperity. Apart from that, highly educated women are also more open to using modern contraceptives (Wicaksono & Mahendra, 2016).

Research conducted by Wicaksono & Mahendra (2016) states that there is

a negative relationship between working status and fertility. In addition, the higher a woman's working hours, the less likely she is to have large numbers of children (Syam, 2016). Then, the husband's working status influences women's fertility as stated by Kenneth and Steclov in research conducted by (Refrihardi & Putri, 2019).

Research conducted by (Sitorus et al., 2020) states that exposure to contraceptive information influences the number of children. This is because the more frequent media exposure will have an impact on knowledge which can influence a person's behavior and views on child ownership.

The next variable is the use of a contraceptive device/method. This variable influences a woman's fertility because it is believed to be effective in preventing pregnancy. By becoming family planning acceptors, couples of childbearing age can space out pregnancies and limit the number of children according to their wishes (Sabina, 2020). According to Ekawati (2008) in her research conducted in West Java, the influence of socio-economic factors influences fertility through variables including the use of contraception.

Davis and Blake (1956) stated that the incidence of child death can affect women's fertility. In reality, women who have experienced child mortality tend to want to have more children to replace the children who have died. Apart from that, the alleged psychological effect on parents who have experienced the death of a child resulting in them tending to want to have large numbers of children has been proven in research conducted by Wicaksono & Mahendra (2016).

Furthermore, the area of residence which is divided into rural and urban areas influences women's fertility. People who live in rural areas have the opinion that children are assets that can help the family's economy so that the presence of children is highly expected (Becker, 1954). Apart from that, people who live in rural areas

Determinants of Female Fertility Based on Social and Cultural Perspective in South Sulawesi Province

also tend to have large numbers of children with the expectation that their presence can accompany and ensure them in their old age (Manis, 2015).

Methods

This research is a type of quantitative research with married women aged 15 to 49 years old as the main research subjects.

For quantitative data, this research uses data from the 2017 Indonesian Demographic and Health Survey (IDHS) obtained from the Central Statistics Agency of South Sulawesi Province. The data was then analyzed using a regression model for data with categorical variables on the dependent variable, that is the logistic model. If there are only two categories, it is called a binary logistic model (Madris, 2021).

Table 1. Variables Used in Research

Variable	Catagory	Code	Variable Notation
(1)	(2)	(3)	(4)
Fertility of Reproductive Age Women	2 children or less (≤2 children)	1	In(P/(1-P))
	more than 2 children (>2 children)	0	
	(≥Senior High) Highly Educated <Senior High Poorly Educated	1 0	
Eduction of Reproduction Age Women	(≥Senior High) Highly Educated	1	X1
	<Senior High Poorly Educated	0	
Job Status of Reproductive Age Women	Working	1	X2
	Unemployed	0	
Job Status of Their Husband/Partner	Working	1	X3
	Unemployed	0	
Media Exposure on Information about Family Planning Programme	Exposed	1	X4
	Unexposed	0	
The Use of Contraception	Yes	1	X5
	No	0	
Children Mortality	No	1	X6
	Yes	0	
Rural Urban Status of Living Location	Rural	1	X7
	Urban	0	

The logistic regression model in this study is as presented below.

$$\ln\left(\frac{P}{1 - P}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + e$$

Next, in-depth interviews were conducted with three resource persons (informants), consisting of women aged 15 to 49 years old with certain characteristics who live in South Sulawesi Province. This is done so that more in-depth information can be obtained, especially regarding cultural aspects. The individuals used as informants were selected purposively according to the researcher's considerations. These considerations are based on people who have criteria according to the main research subject and people who are considered to best understand what is being studied in this research, so that the data obtained can be recognized as correct. The informants in the qualitative research were three women aged 15 to 49 years old

who were willing to become informants and could be invited to communicate with both the community, government elements and social institutions who mastered the research topic.

Results and Discussion

From the results of the 2017 IDHS, it was found that the number of married women aged 15 to 49 years was 3,108, of which those with less than or equal to two children were 1,156 women and 1,952 women had more than two children. The distribution of data from ever-married women of childbearing age is as follows.

Table 2. Tabulation of Dependent Variables and Research Independent Variables

Variable	Category	Fertility of Reproductive Age		
		≤ 2 Children	> 2 Children	Total
(1)	(2)	(3)	(4)	(5)
Education of Reproductive Age Women	(≥Senior High) Highly Educated	848	398	1246
	(<Senior High) Poorly Educated	1104	758	1862
Job Status of Reproductive Age Women	Working	1315	761	2076
	Unemployed	637	395	1032
Job Status of Their Husband/Partner	Working	1815	1035	2850
	Unemployed	137	121	258
Media Exposure on Information about Family Planning Programme	Exposed	376	163	539
	Unexposed	1576	993	2569
The Use of Contraception	Yes	1805	1016	2821
	No	147	140	287
Children Mortality	Yes	400	201	601
	No	1552	955	2507
Rural Urban Status of Living Location	Rural	1077	666	1743
	Urban	875	490	1365

Based on Table 2, it is known that women aged 15 to 49 years old who have less than or equal to two children have a high percentage of women from working status (42.31 percent). This is because women spend more time at work, resulting in household matters and children receiving less attention. Thus, working women choose to have fewer children (Wicaksono & Mahendra, 2016).

Apart from that, women who have working partners also have a high percentage (58.40 percent). This is in line with research conducted by Kenneth and Stecklov in Refrihardi & Putri (2019) which states that working husbands can change women's views to focus on the quality of their children and set aside the income they earn to prepare

for a better life for their children in the future.

On the other hand, women who live in urban areas also have a high percentage of having less than two children (34.65 percent). De la Croix & Gobbi (2017) in their research stated that there is a tendency in which families who migrate to densely populated areas decide to have fewer children. On the other hand, a family decides to move to an area with a fairly lower density level and wants to have more children because the costs required to care for and raise children tend to be low too.

In the initial stage of the binary logistic regression analysis, the Hosmer and Lemeshow Tests were carried out to see the suitability of the model.

Initial hypothesis : There is no difference between the model and the observed values (model fit)

Alternative Hypothesis : There is a difference between the model and the observed values (the model is not fit)

Using $\alpha = 0.05$

Table 3. Hosmer and Lemeshow Test Results

Step	Chi-square	df	Sig.
1	14.318	8	.074

Decision : Reject H_0 because $\chi_{\text{count}}^2 (14.318) > \chi_{\text{Table}}^2 (15.51)$ and significance value > 0.05

Conclusion : With a confidence level of 95 percent, it can be concluded that there is no difference between the model and the observed values so it can be said to be a fit model.

After the model is categorized as, it continues with testing the variables together using the Omnibust Test. Simultaneous parameter testing is carried out to determine the factors represented by the independent variables used in the model and the dependent variables simultaneously as follows.

Initial hypothesis : $H_0: \beta_1 = \beta_2 = \dots = \beta_7 = 0$ There are no independent variables which has effect on the dependent variable.

Alternative Hypothesis : $H_1: \text{at least one } \beta_i \neq 0$ There is at least one independent variable that has a significant effect on the dependent variable.

Where $i = 1, 2, \dots, 7$

Using $\alpha = 0.05$

Table 4. Omnibus Test Results

		Omnibus Tests of Model Coefficients		
		Chi-square	df	Sig.
Step 1	Step	76.721	7	.000
	Block	76.721	7	.000
	Model	76.721	7	.000

Decision : Reject H_0 because $\chi^2_{\text{count}} (76.721) > \chi^2_{\text{Table}} (14.07)$ and significance value < 0.05

Conclusion : With a confidence level of 95 percent, it can be concluded that there is at least one independent variable that influences the independent variable. Or in other words, there is at least one independent variable that is able to explain the dependent variable.

After the simultaneous test results stated that there was at least one independent variable which had a significant effect or was able to explain the fertility of married women aged 15-49 years.

The next stage is carried out partially. The partial test is used to determine which

independent variables have a significant influence on the fertility of married women aged 15-49 years. Partial testing is carried out with the Wald test. The results are as follows.

Table 5. Wald Test Result

Variable in the Equation								95% C.I. for Exp(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1 ^a	X1	.306	.057	29.35	1	.000	1.358	1.216	1.52
	X2	-.173	.081	4.517	1	.034	.841	.717	.987
	X3	-.364	.138	6.948	1	.008	.695	.530	.911
	X4	.245	.108	5.120	1	.024	1.277	1.033	1.58
	X5	-.224	.060	13.92	1	.000	.799	.710	.899
	X6	.164	.098	2.780	1	.095	1.178	.972	1.43
	X7	-.236	.790	8.979	1	.003	.790	.677	.922
	Constant	-.211	.209	1.019	1	.313	.810		

Based on the estimated coefficient values of the model parameters, the logistic regression model produced in this study is:

$$\ln\left(\frac{P}{1-P}\right) = -0,211 + 0,306X1 - 0,173X2 - 0,364X3 + 0,245X4 - 0,224X5 \\ + 0,164X6^* - 0,236X7 + e$$

Notes: * Non-significant Variable

The model above shows the relationship between the characteristics of the independent variables in the logit function of the chances of a woman having less than or equal to 2 children. In this model, variables with positive coefficients mean the risk of married women aged 15-49 years having less than or equal to two children. with this category will be greater than the reference category. The complete inference results are interpreted through exp (B) or referred to as the odds ratio. The results of the interpretation of each variable are as follows.

The variable education of women aged 15 to 49 years has a significant influence on fertility. Based on the odds ratio value, highly educated women have a 1.358 times greater chance than low educated women of having less than or equal to two children. People who have a higher level of education tend to have fewer children than people who have a lower education. This is because people who have a high level of education will more easily accept new things, such as the norm of small, happy, prosperous families, the need to use contraceptives, and the new view that children are not a factor of family production, but rather as an investment for parents in their future later (Wicaksono & Mahendra, 2016).

This is supported by an explanation of the results of in-depth interviews as answers to fertility phenomena that cannot be covered by secondary data. The results of the interview with informant TN, who is a woman with a high level of education (S1), with the following statement.

"I can apply the parenting knowledge that I have gained both from social media and seminars so that I can improve my offspring. I hope that in the future my children can have a better life than me?"

A woman with a high level of education always wants to have children who are of good quality in terms of education, character

and independence. By successfully raising quality children, their parenting satisfaction will increase (Yusuf & Sim, 2016). Highly educated parents raise their children with full emotional support in accordance with parenting sciences which have developed in society so that they can produce children who have high self-confidence, are competent, and have high academic achievement motivation (Moon-seo, et.al., 2021). Highly educated parents do not only focus on numbers, but use all the resources they have to develop strategies so that they are able to raise children who are able to face all challenges and can be successful in the future.

Apart from that, there is a cultural phenomenon which occurs in South Sulawesi in which highly educated women generally marry more quickly due to the obligation to give *panaik* money from men as wedding expenses. The Bugis tribe, South Sulawesi, is predominantly Muslim so to before carrying out a marriage, there are traditional customs, that is *panaik* money. *Panaik* is money given by the prospective groom to the bride which according to local custom is a respect and money needs, traditions and customs in society. For the Bugis tribe, this is mandatory or as a pre-requisite for marriage, if the required *panaik* money is not implemented, then the marriage cannot be carried out (Putri, et.al., 2021). The higher a woman's social status, such as education level, work status, beauty, family economy, and lineage, the more expensive her *panaik* money is (Ikbal, et.al., 2016).

Pronk, et.al., (2019) in their research found that the older a person is at marriage due to attending school first, the more stable their emotional control is and their ability to forgive and accept other people's conditions is higher. This results in people of a more mature age tending to be better prepared to become parents. In addition, starting a family at an older age causes a woman to think more about the various decisions she

makes, including the ideal number of children and the best strategy for raising them. For example, informant TN, who married at the age of 30, gave the following statement.

"I got married when I was 30 years old. Even though I already have a steady income with my husband, I really want to have two children. Because my two children are boys, sometimes I want to have more children and have a girl. However, after thinking about it again, it would be better to just have two children. I'm old, I won't be strong enough to get pregnant and give birth again. I want to focus on getting my children into the best schools plus various tutoring outside of school hours. Apart from that, I can save while I'm saving to prepare the *panaik* money later."

This shows that women who marry at a more mature age have more forward thought about their children's future. By controlling the number and distance of children, parents can provide the best facilities which can lead to improvements in the quality of children. According to Desai (1995), when a family has a small number of children, they are able to provide more facilities to each child such as the level of education.

Women's work status has a significant influence on fertility. Based on the odds ratio value, working women have a 0.841 times smaller chance than non-working women of having less than or equal to two children. In other words, non-working women have a 1.189 times greater chance than working women of having less than two children.

In research conducted by Laat & Sanz (2006) in member countries of the Organization for Economics Co-operation and Development (OCED), it was found that working women in developed countries, such as Italy, Spain and Japan, had children in greater numbers. This is because workplace regulations increasingly support women in

being able to combine career development and taking care of children. These regulations can take the form of more flexible working hours, the development of child care facilities close to the office location, as well as longer maternity and maternity leave rights.

In Indonesia, the Draft Law on the Welfare of Mothers and Children (RUU KIA) contains article 4 which stipulates that mothers are entitled to maternity leave for 6 months. In fact, in the previous law, that is Law No. 13/2003 concerning employment, maternity leave was granted for a maximum of three months (Republic Indonesia, 2003). Apart from that, in the MCH Bill, women also have the right to receive health insurance during pregnancy, guaranteed health services, as well as the right to receive special treatment in public facilities and infrastructure.

The husband's work status variable of married women aged 15-49 years has a significant influence on fertility. Based on the odds ratio value, women who have working husbands have a 0.695 times smaller chance than women who have non-working husbands to have less than or equal to two children. In other words, women whose husbands do not work have a 1.438 times greater chance than women whose husbands work to have less than two children.

This is because when the husband does not work, the economic condition of the household tends to be unstable. This is because income is the main element in a woman's fertility process, in which birth cannot take place without adequate financial support (Larasati & Anis, 2018). So, when the husband does not work, the woman will try to control her fertility due to concerns about the future of the child.

On the other hand, in high-income communities, having children costs a lot of money and is considered a burden. So the higher a family's income, the lower its fertility (Syam, 2016). This is in line with informant SN's statement as follows.

"Even though my husband and I both work and thank God we have sufficient income, I feel that I don't want to have any more children, two are enough. I prefer to manage my finances well and focus on providing nutritious food for my children. Apart from that, my husband and I also save money to send them to good schools and add various tutoring to find their interests and talents. I hope that in the future my children can study abroad."

The media exposure variable about contraceptives has a significant influence on fertility. Based on the odds ratio value, women who are exposed to media about contraceptives have a 1.277 times greater chance than women who are not exposed to media about contraceptives to have less than or equal to two children. This is in line with research conducted by Sitorus, et.al. (2020) stating that exposure to contraceptive information affects the number of children. This is because the more frequent media exposure will have an impact on knowledge which can influence a person's behavior and views on child ownership.

Furthermore, the variable use of contraceptives in married women aged 15 to 49 years old has a significant influence on fertility. Based on the odds ratio value, women who use contraception have a 0.799 times smaller chance than women who do not use contraception to have less than or equal to two children. In other words, women who do not use contraception have a 1.252 times greater chance than women who use contraception to have less than two children.

This is in line with research conducted by Saragih (2005) and Iswarati (2009) which states that women who use a contraceptive method/device have greater fertility compared to women who do not use contraceptives. This is because women use contraception after having more than one child. Wicaksono & Mahendra (2016)

also found the same phenomenon in which women tend to use contraception after having the desired number of children. If a woman uses a contraceptive method after having the desired number of children, then the opportunity to have only two children until the end of her reproductive period will be difficult to achieve (Trisnaningsih, 2016).

Apart from that, Saragih (2005) in his research found that women used a method of contraception intermittently. Statistics Indonesia noted that based on the results of the March 2021 Susenas, of all women who were currently using a contraceptive method, 24.14 percent of women had ever stopped (Statistics Indonesia South Sulawesi, 2021). This is because certain contraceptive methods require consistency and discipline in their use, for example contraceptive pills or injections.

Furthermore, the problem of using a contraceptive method also lies in its effectiveness based on the incidence of pregnancy in 100 women per year. According to Hartanto (1991), the highest effectiveness of traditional contraceptive methods is only 90 percent. Even with the calendar method, its effectiveness reaches 15 to 47 pregnancy incidents in 100 women per year. Then, the effectiveness of modern contraceptives, such as injections, implants and spirals, only reaches 97 percent. This causes women who use a contraceptive method to feel safe having sexual relations so that their chances of getting pregnant without planning are greater. This is in line with informant KH as follows.

"Actually, when I was pregnant, I used birth control. But yeah, it turns out it was conceded. I didn't think I was pregnant, I thought I was late for my period because I was tired and stressed from office work. It turns out, thank God, I got pregnant. Moreover, this birth gave me the blessing of a son, so it feels complete."

Apart from that, there is a phenomenon of increasing use of contraceptive methods in women aged 35 years and over. In fact, contraceptive methods can be effective if used in couples aged 15 to 30 years, in which in this age range, a woman's reproductive period is longer, so her chances of having many children are greater (Sumini & Tsalasa, 2015). The contraceptive program is expected to focus on targeting low parity young couples, specifically couples who have only had one child and are not yet 30 years old. This is because if the use of a contraceptive method is carried out after having more than two children, then efforts to reduce the TFR figure will be difficult to achieve (Trisnaningsih, 2016).

The variable child mortality in married women aged 15 to 49 years does not have a significant effect on fertility. Based on the odds ratio value, women who have never experienced mortality have a 1.178 times greater chance than women who have experienced child mortality to have less than or equal to two children. This is because the alleged psychological effect on parents who are afraid of losing their child if they have previously experienced a child death was not proven in this study.

The variable in which married women aged 15 - 49 years old live has a significant influence on fertility. Based on the odds ratio value, women who live in urban areas have a 0.790 times smaller chance than women who live in rural areas of having less than or equal to two children. In other words, women who live in rural areas have a 1.266 times greater chance than women who live in urban areas of having less than two children.

According to research Zarate, A., (1967) and it was conducted in Mexico, there is a phenomenon of high fertility in women in urban areas compared to rural areas in Mexico. This is because urbanization and industrialization have resulted in the rapid development of health facilities and public infrastructure which can make it easier for

women to have more children. The results of an in-depth interview with the informant with the initials YU who is a woman who lives in an urban area are as follows.

"Actually, I don't want to have any more children because of my old age. But looking at increasingly advanced developments, facilities can be obtained easily. In the past, I couldn't go for a pregnancy check if my husband was out of town. Now I can go with my children because there are online motorbike taxis. Apart from that, the doctor who treated me previously has now opened his own hospital so that I can immediately come to have a pregnancy check there with more sophisticated equipment. Here in Makassar, there are also lots of childcare centers and institutions that provide nannies, so maybe finding a babysitter is not as difficult as it used to be, considering that my mother is old and can no longer look after the baby."

The development of maternal and child hospitals and pediatrician clinics, childcare facilities and schools starting from the age of 3 years around office areas, transportation technology such as online motorcycle taxis, and childcare providers have meant that women in urban areas tend to have easier access to support system to make their daily lives easier even if they decide to have more children.

Conclusions

Based on the results of research conducted by the author, social factors which influence the fertility of women aged 15 to 49 years in South Sulawesi Province consist of education, working status of women and partners, media exposure to contraception, use of contraceptives, and area of residence. Then, cultural factors which influence women's

fertility include a culture of money panic and the desire of parents for their children to have a better life. Steps which can be taken to reduce fertility include efforts to equalize education and employment opportunities for women and men, intensify media outreach regarding modern contraceptive programs, and focus contraceptive programs targeting young parity couples. Apart from that, development needs to focus on eliminating disparities between rural and urban areas both in terms of education and health infrastructure.

References

- Arialdi Rendi, S. M. 2016. Pengaruh Urbanisasi, Pendidikan, dan Pendapatan terhadap Tingkat Fertilitas di Lima Kota di Provinsi Aceh. *Jurnal Ilmiah Mahasiswa Ekonomi Pembangunan Unsyiah*, 1(1), 208–2017. <http://jim.unsyiah.ac.id/EKP/article/view/693>.
- Badan Kependudukan dan Keluarga Berencana Nasional. 2021. *Laporan Kinerja BKKBN Provinsi Sulawesi Selatan Tahun 2020*. https://SouthSulawesi.bkkbn.go.id/?page_id=836.
- Becker, G. S. 1954. *Investment in Human Capital : A Theoretical Analysis*, 9–49. <https://www.journals.uchicago.edu/doi/10.1086/258724>.
- BKKBN. 2021. *Laporan Sistem Informasi Kependudukan dan Keluarga (SIDUGA)*. <http://aplikasi.bkkbn.go.id/sr/Klinik/Laporan2013/Tahunan/FaskesTahunan2013Tabel2A.aspx>.
- Bongaarts, J. 1978. *for Analyzing the Proximate Determinants of Fertility*, 4(1), 105–132.
- Davis and Blake. 1956. Social Structure and Fertility: An Analytic Framework. *Economic Development and Cultural Change*, 4(3), 211. <https://www.journals.uchicago.edu/doi/pdf/10.1086/449714>.
- de la Croix, D., & Gobbi, P. E. 2017. Population density, fertility, and demographic convergence in developing countries. *Journal of Development Economics*, 127, 13–24. <https://doi.org/10.1016/j.jdeveco.2017.02.003>.
- Desai, S. 1995. When are children from large families disadvantaged? Evidence from Cross-National analyses*. *Population Studies*, 49(2), 195–210. <https://doi.org/10.1080/0032472031000148466>.
- Ekawati, R. 2008. Faktor Karakteristik Keluarga, Tingkat Fertilitas dan Pemakaian Kontrasepsi. *Jurnal Kependudukan Padjadjaran*, 10(2), 135–151. <http://portalgaruda.fti.unissula.ac.id/index.php?ref=browse&mod=viewarticle&article=166448>.
- Freedman, R. 1979. Teori of Fertility Decline: A Reappraisal. *Oxford Journal*, 58(1), 1–17.
- Haerana, B. et al. 2022. The Predictive Model of the Fertility Pattern of Young Women (15-24 Years Old) In South Sulawesi, Indonesia. *Social Medicine*, 15(1), 11–20.
- Hartanto, H. 1991. *Keluarga Berencana dan Kontrasepsi*. BKKBN.
- Ikbal, M., Modern, P. P., Asri, R., Enrekang, M., & Selatan, S. 2016. “Uang Panaik” Dalam Perkawinan Adat Suku Bugis Makasar. *The Indonesian Journal of Islamic Family Law*, 06, 2089–7480.
- Iswarati. 2009. *Proximate Determinant Fertilitas di Indonesia*. Jakarta: Puslitbang KB dan Kesehatan Reproduksi, BKKBN.
- Jalaluddin, & Irwan Suriadi. 2019. Dinamika Kependudukan dan Dampaknya Terhadap Perubahan Lingkungan (Kasus Penambangan Batu Apung Ijobelit Kec. Labuan Haji Lombok Timur). *Journal of Economics and Business*, 5(2), 64–96. <https://doi.org/10.29303/ekonobis.v5i2.45>.
- Laat, J. De, & Sanz, A. S. 2006. Working Women, Men’s Home Time, adn Lowest Low Fertility. *Institute For Social and*

- Economy Research Working Paper Series*, 23, 1–38. <https://www.econstor.eu/bitstream/10419/92052/1/2006-23.pdf>.
- Larasati, D., & Anis, A. 2018. *Analisis Pengaruh Faktor Sosial Ekonomi Rumah Tangga Terhadap Fertilitas di Sumatera Barat*. 1(September), 648–658.
- Madris. 2021. *Penerapan Model Regresi dalam Penulisan Karya Ilmiah*. Nas Media Pustaka.
- Mahendra, A. 2017. Analisis Faktor-faktor yang Mempengaruhi Fertilitas di Indonesia. *Jurnal Riset Akuntansi & Keuangan*, 3(2), 223–242. <https://core.ac.uk/download/pdf/267032569.pdf>.
- Manis, J. D. 2015. *The Value of Children in the United States : A New Approach to the Study of Fertility **. 41(3), 583–596. <https://doi.org/10.2307/351628>.
- Moon-seo, S. K., Sung, J., Moore, M., & Koo, G. 2021. Important role of parenting style on college students' adjustment in higher education. *Education Research: Theory and Practice*, 32(2), 47–61.
- Nur, S. 2023. *Kajian Fertilitas Wanita Usia 15–65 Tahun di Provinsi Sulawesi Selatan Tahun 2021*. Universitas Hasanuddin.
- Perda Nomor 1 Tahun 2019 Tentang RPJMD Provinsi South Sulawesi Tahun 2018–2023.
- Pronk, T. M., Buyukcan-Tetik, A., Iliás, M. M. A. H., & Finkenauer, C. 2019. Marriage as a training ground: Examining change in self-control and forgiveness over the first 4 years of marriage. *Journal of Social and Personal Relationships*, 36(1), 109–130. <https://doi.org/10.1177/0265407517721065>.
- Putri, N. A., Saiban, K., Sunarjo, S., & Laila, K. 2021. Kedudukan Uang Panaik Sebagai Syarat Perkawinan Dalam Adat Suku Bugis Menurut Hukum Islam. *Bhirawa Law Journal*, 2(1), 33–44. <https://doi.org/10.26905/blj.v2i1.5852>.
- Refrihardi, R., & Putri, D. Z. 2019. Faktor-faktor Yang Mempengaruhi Fertilitas Pada Pasangan Yang Menikah di Usia Dini di Kabupaten Sijunjung. *Jurnal Kajian Ekonomi Dan Pembangunan*, 1(3), 705. <https://doi.org/10.24036/jkep.v1i3.7698>.
- Sabina, D. 2020. *Literatur Review Faktor-faktor yang Berhubungan dengan Penggunaan KB Suntuk Tiga Bulan*. <http://digilib.unisyogya.ac.id/4861/>.
- Saragih, D. 2005. *Faktor-Faktor Determinan Tingkat Fertilitas Di Propinsi Sumatera Utara Tahun 2004*. Sekolah Tinggi Ilmu Statistik.
- Sinaga, L., & Hardiani. 2017. Faktor-faktor yang mempengaruhi tingkat fertilitas di perdesaan (Studi pada Desa Pelayangan Kecamatan Muara Tembesi Kabupaten Batanghari). In *Jurnal Paradigma Ekonomika*, 12(1). 10.22437/paradigma.v12i1.3933.
- Sitorus, M. A., Simarmata, R., & Siregar, P. A. 2020. Analisis Preferensi Jumlah Anak Ideal di Provinsi Sumatera Utara: Analisis Data Skunder SDKI 2017. *Contagion: Scientific Periodical Journal of Public Health and Coastal Health*, 2(2), 87. <https://doi.org/10.30829/contagion.v2i2.7989>.
- Sopyan. 2016. Determinant of Fertility Among Married Women in South Sulawesi [Mahidol University]. In *Doctoral Dissertation*. <http://digilib.unila.ac.id/4949/15/BAB II.pdf>.
- Statistics Indonesia. 2021. *The statistic of forest concession establishment 2021*.
- Statistics Indonesia. 2018. *indonesia demographic and health survey 2017*. <https://dhsprogram.com/pubs/pdf/fr342/fr342.pdf>.
- Statistics Indonesia. 2021. Hasil sensus penduduk tahun 2020. *berita resmi statistik*, 7(10), 1–12. <https://www.statistics-indonesia.go.id/pressrelease/2021/01/21/1854/hasil-sensus-penduduk-2020.html>.
- Statistics Indonesia South Sulawesi. 2021. *Statistik Kesejahteraan Rakyat Provinsi Sulawesi Selatan Tahun 2021*.

Determinants of Female Fertility Based on Social and Cultural Perspective in South Sulawesi Province

- Sukim, S., & Salam, R. 2019. Pola Fertilitas Wanita Usia Subur di Indonesia. *Jurnal Aplikasi Statistika & Komputasi Statistik*, 10(1), 67. <https://doi.org/10.34123/jurnalasks.v10i1.203>.
- Sumini, & Tsalasa, Y. 2015. Tren Pemakaian Alat Kontrasepsi di Indonesia 1991-2012. *Populasi*, 23(1), 35–49. <https://jurnal.ugm.ac.id/populasi/article/view/8562>.
- Syam, E. 2016. Analisis faktor yang mempengaruhi fertilitas tenaga kerja wanita di kecamatan ujung bulu kabupaten bulukumba [UIN Alauddin Makassar]. In *Skripsi*. <http://repositori.uin-alauddin.ac.id/4984/>.
- Trisnaningsih. 2016. *Lika-liku Penurunan Kelahiran dalam Perspektif Kekinian*. Yogyakarta: Mobius.
- Undang-undang Nomor 13 Tahun 2003 Tentang Ketenagakerjaan. <https://peraturan.bpk.go.id/Home/Details/43013>.
- Wicaksono, F., & Mahendra, D. 2016. Determinan Fertilitas: Suatu Pendekatan Multilevel. In *Jurnal Ilmiah Widya* (Vol. 134). https://www.researchgate.net/publication/307171204_DETERMINAN_FERTILITAS_SUATU_PENDEKATAN_MULTILEVEL.
- Yusuf, M. S., & Sim, C. C. 2016. Relationship Between Parenting Satisfaction and Parenting Styles of Working Mothers. *Jurnal Psikoislamedia*, 1(1), 279–289.
- Zarate, A. O. 1967. Some Factors Associated with Urban-Rural Fertility Differentials in Mexico. *Population Studies Taylor Francis*, 21(3), 283–293.