

## The phenomenon of child marriage: How do sociodemographic and adolescent perceptions shape reproductive health behavior

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### Abstract

Child marriage is a problem that is increasingly rampant in Jember Regency. Child marriage is a form of deviant sexual behavior (deficiency) because it involves underage teenagers. This behavior arises from a combination of various factors, both internal and external factors. So, in an effort to solve this problem, an in-depth study of the phenomenon of child marriage is needed. The purpose of this study was to analyze the phenomenon of child marriage through a model of reproductive health behavior in adolescents by considering sociodemographic factors, antecedent factors, behavioral factors and consequence factors. Thus, by understanding the model, it can be used to design effective health promotion program interventions to prevent child marriage in Jember Regency. The design of this study was cross-sectional. The population of this study was adolescents under the age of 19 years in Jember Regency, East Java. The sample size in this study used quota sampling of 140 adolescents. Data collection in this study used a questionnaire. Data processing used research Structural Equation Modeling (SEM) SmartPLS 4. The results of modeling reproductive health behavior in adolescents show that socio-demographic factors influence antecedent factors (p value 0.001) and then will influence behavioral factors (p value 0.000). Antecedent factors also contribute to consequences, namely the perception of child marriage in women. Efforts to prevent child marriage models that can be carried out according to this model are by strengthening antecedent factors, because Antecedent factors are factors that have a major contribution to behavior. So, it is necessary to strengthen the level of knowledge, motivation, family support and adolescent social environment. Child prevention can also be done by providing health education, through collaboration between various parties, including health workers, peer counselors, parents, and the community.

**Keywords:** Child Marriage; Adolescent Reproductive Health; Antecedent-Behavior-Consequence (ABC) Model; Sociodemographic Factors; Health Promotion Interventions

### 1. Introduction

Child marriage is a marriage that occurs at an age that is still not mature enough. The profile of Indonesian children in 2018 showed that around 39.17 percent or 2 out of 5 girls aged 10-17 were married before the age of 15. Around 37.91 percent were married at the age of 16, and 22.92 percent were married at the age of 17. This figure places Indonesia in the seventh highest ranking in the world and is ranked second in ASEAN (Puspasari & Pawitaningtyas, 2020). In East Java province, there were 9,453 cases of child marriage during the COVID-19 pandemic in 2020. There were 1,066 child

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marriages in Jember Regency, spread across 31 districts, with details of 402 girls and 664 boys (Layli & Prayogi, 2021). Based on the data found, the number of child marriages in Jember Regency, East Java is still quite high. As of August 2023, Jember Regency ranked first in East Java with the highest number of child marriages (PUA), with the number of marriage exceptions reaching 903. (Radar-Jember, 2023). The high rate of child marriage in Jember Regency is a serious problem, because child marriage can have a negative impact on health and socio-economic conditions in the future.

The most obvious impact of child marriage is on women's reproductive health, such as death during childbirth, physical violence, depression, and the risk of sexually transmitted infections. Pregnant women in adolescence are at higher risk of premature birth and neonatal death compared to pregnant women at a sufficient age (Irani & Roudsari, 2019). In addition to having an impact on health, child marriage also has social and economic impacts. Girls who marry early have less power to make decisions in the household, are more likely to drop out of school and be illiterate, have lower labor force participation and income, and have less control over productive household assets. and tend to have less healthy and less mature children compared to girls who marry at an older age (Parsons, et al., 2015).

Child marriage is a form of deviant sexual behavior (deficiency) because it involves a minor girl. This behavior arises from a combination of various factors, both internal and external factors. Internal factors are innate that a person has such as knowledge, attitude, gender, emotional level, and so on. While external factors are the environment around such as social, physical, economic, and political environments. The rampant child marriage in Jember Regency is a problem that needs to be resolved. Child marriage is mostly caused by several factors, including unwanted pregnancies, the influence of parents and the surrounding environment, education, and economy. (Lustitiani & Ajikusumo, 2018). Child marriage is the result of risky sexual behavior. One of the efforts that must be implemented to overcome the problem of child marriage is to analyze the reproductive health behavior model in adolescents.

Behavior can be learned and changed by recognizing and manipulating previous situation (antecedent) and the results of the behavior (consequence). One model that can be used to study this problem is the ABC model. ABC Model (Antecedent-Behavior-Consequence), emphasize that behavior is triggered by a series of previous events (Antecedent) and followed by the results of the behavior (Consequence). The use of the ABC model is an effective way to understand the causes of behavior and increase desired behavior. The consequences in this model are used as motivation to increase the frequency of desired behavior, as well as assist in designing interventions to improve individual, group, or organizational behavior.

The purpose of this study is to analyze the phenomenon of child marriage through a model of reproductive health behavior in adolescents by considering sociodemographic factors, antecedent factors, behavioral factors and consequence factors. Thus, by understanding the model, it can be used to design effective health promotion program interventions to prevent child marriage in Jember Regency.

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## 2. Method

The design of this study was cross-sectional. The population of this study were adolescents under 19 years old in Jember Regency, East Java. The sample size in this study used quota sampling of 140 adolescents by considering the "rule of the thumbs" in the structural equation model. The research protocol has been approved by the Ethics Committee of Jember State Polytechnic (Reference Number: 1085/PL17.4/PG/2024). All respondents were asked to provide written consent. They can withdraw at any time without any consequences.

This study was used to analyze the factors that influence child marriage using the ABC theory (Antecedent, Behavior, and Consequences). The variables studied in this study were socio-demographic, antecedent, behavior and variable consequences (perception of the impact of child marriage for women). Measurement of socio-demographic variables was carried out by identifying the level of education and gender. Measurement of antecedent variables was measured through the level of adolescent knowledge, adolescent social environment, parental support to prevent child marriage, and children's motivation to prevent child marriage. The behavior variable in this study was seen from the relationship with peer groups, physical interaction with the opposite sex, behavior of addiction to pornography, masturbation and orgasm (PMO), and hygiene and sanitation behavior of reproductive organs. The consequences variable seen was the perception of the impact of child marriage for women measured through perceptions of domestic violence, divorce, reproductive health problems, dropping out of school, and psychological stress.

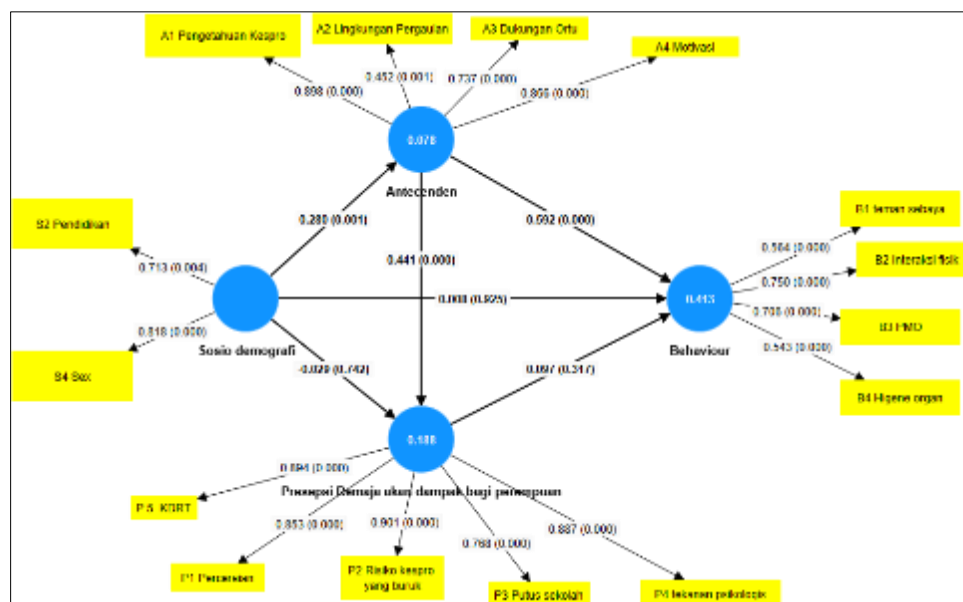
Data collection in this study used a questionnaire. Before filling out the questionnaire, respondents will be given an explanation regarding the purpose of the research, data collection methods, followed by an informed consent challenge. This research uses Structural Equation Modeling (SEM) SmartPLS 4. The path analysis model of all latent variables in PLS consists of several sets of relationships:

- The outer model that specifies the relationship between latent variables and their indicators or manifest variables (measurement model), is measured by looking at convergent validity and discriminant validity. Convergent validity with a loading value of 0.5-0.6 is considered sufficient, for the number of indicators of variables 3-6, while discriminant validity is recommended to have an AVE value greater than 0.5 and also by looking at the weight relation where the case value of the latent variable remains estimated.
- The inner model, which specifies the relationship between latent variables, is measured using Q-Square predictive relevance with the formula  $Q^2 = 1 - (1 - )$

The presentation of the research results is arranged based on a systematic approach that begins with a description of univariate and bivariate analysis to obtain the frequency distribution of exogenous and endogenous variables and at the end of this study a description of the Structural Equation Modeling (SEM) analysis is provided to explain the complex relationships of several variables tested in the data presentation.

### 3. Result and discussion

Adolescence is a transition period towards reproductive organ maturity. In adolescence, there are two aspects that change, namely the physical aspect and the biological aspect. Adolescence is a transition period between childhood and adulthood. During this transition period, adolescents often face confusion and cause conflict within themselves. Usually, it causes strange behavior, and if not controlled, it will cause juvenile delinquency such as engaging in risky sexual behavior and ending in child marriage. The practice of child marriage has a major impact on girls who experience it. First, the loss of access to reproductive and sexual health rights for girls, potentially experiencing complications and maternal death due to undergoing the birth process at too young an age. As a result, babies who are born often have low birth weight due to the unpreparedness of the pregnant mother; Second, child marriage is susceptible to domestic violence, because girls are not psychologically and mentally ready to live a household life. The findings of the migrant worker mapping show that victims of domestic violence due to child marriage contribute to the potential for human trafficking cases. This is motivated by the desire to become migrant workers as a way out of domestic violence; Third, the practice of child marriage also eliminates girls' access to decent education. This happens to those who experience unwanted pregnancies, where the school removes them from school so that they can no longer access higher education (National Commission on Violence Against Women, 2019).



**Figure 1** Reproductive health behavior models in adolescents

Figure 1. Describes the reproductive health behavior model in adolescents in Jember Regency. To read Figure 1, start by looking at the loading factor values in each indicator such as S2 (0.713), A1 (0.898), B1 (0.564) and P1 (0.853) and other indicators. to find out all indicators are significant with their latent variables by reading the loading factor value. If the loading factor value is  $> 0.5$ , this means that all indicators have met the convergence validity (significant) well. So that a structural model analysis (Inner Model) can be carried out. In Figure 1. It is known that all variables have a direct influence on the main variable.

### 3.1. Socio-demographic factors on antecedents and behavior

Sociodemography is a study of the social and demographic conditions of a population or society to analyze patterns, tendencies, and social phenomena that affect individuals or groups in society (Susanti, Siregar, & Falefi, 2020). In this study, sociodemographic factors consist of several aspects such as gender, age, educational status, and marital status. However, the aspects of educational status and marital status are not reliable. So the sociodemographic factors in this study consist of age and gender. Based on Figure 1, it is known that sociodemographic variables have a significant effect on antecedent variables ( $p$  value 0.001). This shows that sociodemographic factors, especially the age and gender of adolescents, influence and help shape behavior (antecedent). The results of this study are in line with previous research which states that sociodemographics have a significant relationship with the level of knowledge and attitudes of adolescents (Guan, 2021).

Education level is one of the important sociodemographic aspects in forming antecedents. Education level can play an important role in making it easier for someone to receive new knowledge. Education provides various skills, basic knowledge, and mindsets that allow individuals to more easily understand, process, and adapt new information. Education affects adolescent knowledge. Adolescents with higher education will have better knowledge compared to adolescents with lower education (Nurmawati & Rusyidi, 2018). Therefore, in formulating reproductive health promotion program interventions, it is necessary to pay attention to the suitability of adolescent education and cognitive levels. Because adolescents with higher levels of education will be more receptive to new information compared to adolescents with lower levels of education.

The results of this study indicate that socio-demographic factors do not directly affect behavior ( $p$  value 0.925). Socio-demographic factors do not directly affect reproductive health behavior, however, socio-demographic variables can affect antecedent variables that will later encourage adolescents to behave.

### 3.2. Antecedent Factors with Behavior

Antecedent is an environmental event that triggers behavior, very important in shaping and directing individual behavior. In this study, antecedent consists of adolescent knowledge about reproductive health, adolescent social environment, motivation to engage in child marriage, and parental support in preventing child marriage. Based on the results of the study, it is known that the antecedent variable has a significant effect on reproductive health behavior ( $p$  value 0.000). This shows that adolescent knowledge about reproductive health, adolescent social environment, motivation to prevent child marriage, and parental support in preventing child marriage can affect reproductive health behavior in adolescents. Knowledge is an important aspect in preventing bad behavior about reproductive health. Knowledge can influence the actions that will be taken by adolescents. Indonesian adolescent knowledge about reproductive health is still low, this encourages adolescents to try but also creates a wrong perception about reproductive health problems (Nasution S, 2012). So it is very important to increase adolescent knowledge about reproductive health.

In addition to knowledge factors, adolescent social environment and parental support are also antecedent factors that influence reproductive health behavior. The social environment is a place to obtain information that is not obtained in the family, a place to increase abilities and a second place after the family that directs him towards good behavior and provides input (correction) to the shortcomings he has, of course it will have a positive impact on the teenager concerned (Santrock, 2003). Often, teenagers are more comfortable telling stories and seeking information from peers or social environments, so that the approach to peer groups can be used as a way to provide health promotion program interventions. Although during adolescence peer groups or environments have a great influence on adolescent social interactions, parents still always play an important role in the lives of adolescents themselves. This is because between the two relationships with parents and relationships with peers provide fulfillment of different needs in adolescent development (Sulistyaningsih, 2010). Parental support referred to in this study is the high level of family support such as providing information, motivation, emotional support, financial support, and facilities needed by adolescents both psychologically, biologically, and socially. The lack of family support received is also influenced by several factors such as parental divorce, family economic conditions, relationships and knowledge or level of family education. Family support is a form of giving or receiving assistance in the form of attitudes or actions from the family towards adolescents that can bring about positive changes through various forms of support (Aseri, 2021).

### 3.3. Antecedent Factors with Consequences Impact on Adolescent Girls

Antecedent is an environmental event that triggers behavior, is very important in shaping and directing individual behavior but its influence is not strong enough to make the behavior last long. So that a consequence factor is needed to maintain the behavior that is created to last forever. Based on the results of the study, it is known that the antecedent

variable has a significant effect on the consequences of the impact on adolescent girls (p value 0.000). This shows that adolescent knowledge about reproductive health, adolescent social environment, motivation to prevent child marriage, and parental support in preventing child marriage can influence perceptions about the consequences received if they have child marriage.

Consequences are environmental events that follow a behavior, which also strengthen, weaken or stop a behavior. In general, a person will repeat behavior that has a positive impact and avoid behavior that has a negative impact. The consequences described in this study are the consequences of the impact of child marriage on adolescents including perceptions about domestic violence, divorce, reproductive health problems, school dropout, and psychological distress. Adolescent knowledge about reproductive health, adolescent social environment, motivation to prevent child marriage, and parental support in preventing child marriage can influence perceptions about consequences.

Adolescence is often referred to as a period of searching for identity (ego-identity). This period is very important for the younger generation to guide teenagers so that their great curiosity is channeled into positive, creative and productive activities. The family has a central role in shaping the identity, behavior, and outlook on life of individuals to prevent early marriage. In addition, appropriate sexual education can be provided by family members by increasing awareness of the importance of formal education for children, as well as facilitating access for family members, especially women, to reproductive health services and counseling can help increase efforts to prevent early marriage (Juniari, Nuryanto, & Agustini, 2024).

### **3.4. Analysis of Factors Influencing Behavior**

Behavioral factors are everything we see when we observe someone doing an activity or work. In this study, behavioral factors include, relationships with peers, physical interaction with the opposite sex, pornography addiction behavior, masturbation and orgasm (PMO), and adolescent behavior in maintaining hygiene and sanitation of reproductive organs. Figure 1 shows that socio-demographic factors influence antecedent factors (p value 0.001) and then will influence behavioral factors (p value 0.000). So, it can be concluded that knowledge, social environment, parental support, and children's motivation to prevent child marriage contribute directly to adolescent behavior. Education level and gender do not directly influence adolescent behavior but influence antecedent factors. Several studies state that behavioral factors (adolescent behavior) are influenced by several factors, gender, age, knowledge of reproductive health, exposure to information related to adolescent sexual behavior (Mahmudah, Yaunin, & Lestari, 2016). In addition, family support, childcare practices, and social environment also have a significant influence on adolescent behavior (Biglan, et al., 1990). Therefore, to prevent adolescent behavior that has an impact on child marriage, the role of involvement from various sectors is needed to strengthen adolescents through several aspects ranging from increasing adolescent knowledge, involving parental support, and social environment.

### **3.5. Prevention of Child Marriage Based on the Results of the Reproductive Health Behavior Model in Adolescents in Jember Regency**

Behavior has a basic principle that can be learned and changed by identifying and manipulating environmental conditions or stimuli that precede and follow a behavior. Based on the modeling carried out, it shows that there is an influence of adolescent sociodemographic factors on antecedent factors. Antecedent factors of adolescents influence adolescent behavior. Antecedent factors also influence consequences (the impact of child marriage on adolescent girls).

Efforts to Prevent Early Marriage in Adolescents in Jember Regency can optimize the existing model. Antecedent factors are factors that have a major contribution to behavior. So, it is necessary to strengthen the level of knowledge, motivation, family support and adolescent social environment. Adolescents can be equipped with reproductive health education, identifying that the dominant factor causing child marriage in Indonesia is the lack of reproductive health education. This study also recommends comprehensive reproductive health education from an early age to reduce the number of child marriages (Djamilah & Kartikawati, 2014). However, the thing that needs to be considered in providing health education is the cognitive level of adolescents according to the level of adolescent education, so that adolescents can more easily accept reproductive health material. Reproductive health education, especially through social media and intervention from parents, is also referred to as an effective step to prevent adolescents from engaging in risky sexual behavior (Hatta, Kote F, & Harianti, 2024).

In addition to health education, Strengthening the adolescent social environment by forming youth organizations and activating peer counselors is very important in creating a healthy and positive environment. The role of organizations and the role of peers is needed to improve adolescent assertiveness, so that adolescents can be free from risky sexual

behavior (Triyanto, Pratama, & Rahayu, 2021). The role of the family also plays an important role in preventing adolescents from engaging in risky sexual behavior. Relationships with parents, parental supervision, and health education from parents can prevent adolescents from engaging in risky sexual behavior (Caruthers, Van Ryzin, & Dishion, 2014). Therefore, it is important for policy makers and program makers to promote family support and improve family function in policies and programs aimed at reducing risky behavior in adolescents and child marriage.

#### 4. Conclusion

The results of the modeling of reproductive health behavior in adolescents show that socio-demographic factors influence antecedent factors (p value 0.001) and then will influence behavioral factors (p value 0.000). Antecedent factors also contribute to consequences, namely the perception of child marriage in women. Efforts to prevent child marriage models that can be carried out according to the model are by strengthening antecedent factors, because Antecedent factors are factors that have a major contribution to behavior. So, it is necessary to strengthen the level of knowledge, motivation, family support and adolescent social environment. Child prevention can also be done by providing health education, by collaborating between various parties, including health workers, peer counselors, parents, and the community. By providing guidance, skills training, and opportunities to participate in positive activities, we can help adolescents avoid risky behavior and develop into more responsible individuals with integrity.

#### Compliance with ethical standards

##### *Disclosure of conflict of interest*

No conflict-of-interest to be disclosed.

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