

A model of self-regulation in preventing risk sexual behavior among adolescents

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ABSTRACT

The inability to control themselves causes adolescents to have low self-regulation and causes engage in risky sexual behavior which can cause serious problems such as sexually transmitted diseases, disability, and death. This study aims to develop a self-regulation model based on the theory of planned behavior to prevent risky sexual behavior in adolescents. Explanatory observation with a cross-sectional approach to 140 adolescents in four high schools/vocational schools selected using a convenience sampling. Data collection used questionnaires, focus group discussion (FGD), and expert discussions. Data analysis using partial least square. The development of a self-regulation model based on the theory of planned behavior toward preventing risky sexual behavior in adolescents has the best path, namely the path from background factors (X1) to subjective norms (X3) to personal regulation (X6) and behavioral self-regulation (Y1). The direct effect shows that intention (X4) has a direct effect on self-regulation (Y1). Intention is an important domain for forming a behavior through attitudes, subjective norms, and behavioral control so that self-regulation will be formed to prevent risky sexual behavior in adolescents. Adolescents should be given the training to improve self-regulation to be able to take action to prevent risky sexual behavior.

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1. INTRODUCTION

Sexual behavior is a serious problem because it is the most important risk factor for various sexually transmitted infections (STIs) such as hepatitis C, hepatitis B, human immuno-deficiency (HIV), and various other sexually transmitted infections as well as disability and death in adolescents [1]. Many teenagers drop out of school because they become pregnant before marriage as a result of free sexual behavior, causing them to experience remorse, depression, and the risk of suicide [2]. Adolescents' sexual conduct demonstrates that they have attitudes that favor risky sexual behavior, making it difficult for them to control their urges and susceptible to both external and internal influences [3]. There need to be positive activities to prevent risky sexual behavior in adolescents, including sexual health education from health workers and schools, the role of parents, and a conducive environment, but this is still not running optimally [4].

According to the World Health Organization (WHO), premarital sex can lead to a 10% increase in HIV infection by 2020, an increase in divorce rates, an increase in age at marriage, and an increase in the prevalence of sexually transmitted disease (STDs) [5]. The National Commission for Child Protection examined sexual behavior in junior high and high school adolescents in 17 major cities in Indonesia and found that as many as 97% of adolescents had watched pornography, 93.7% were no longer virgins and

21.26% had had abortions and some of them had postoperative complications. abortion such as heavy bleeding, and defects in the fetus to death [6].

Risky sexual behavior in adolescents is influenced external and internal factors. External factors in the form of environmental influences such as peer association, broken homes, or living close to prostitute places. Characteristics of adolescents have high curiosity, also supported by easy access to technology that allows adolescents to find and see things related to sexuality without adult supervision. Meanwhile, internal factors such as biological, psychological, philosophical, spiritual, ethical, and moral factors [7]. One of the psychological factors that influence the emergence of risky sexual behavior is self-regulation.

Self-regulation is an individual's ability to control his behavior by regulating environmental influences, generating cognitive support, and making consequences for his actions to achieve a goal and avoid emotional stimulation that can interfere with individual development [8]. To prevent risky sexual behavior, it is necessary to develop a model for increasing self-regulatory abilities in preventing risky sexual behavior. Good self-regulation can be formed if a person has the belief and intention to change his behavior. The theory of planned behavior (TPB) is the best approach, especially for those who are in high-risk groups. Paying special attention to social factors that are effective in developing a person's specific behavior and attitudes [5]. TPB provides detailed substance information about the determinants of behavior contained in a person's behavior, normative, and belief controls. This theory not only determines where those beliefs come from but also suggests several other possible factors that influence a person's beliefs such as personality and life values including education, age, gender, economy, and environment. Based on this background, a study was conducted to develop a self-regulation model for preventing risky sexual behavior in adolescents.

2. METHOD

The research employed explanatory observational desing with a cross-sectional approach. The research was conducted from September-October 2022. The research target population was 2,570 youth from all high schools and vocational schools in Lamongan Regency, East Java, Indonesia. The sampling technique was convinience sampling. This technique is a way of determining the sample by looking for subjects based on things the researcher wants. The sample size was 140 youth from four high schools/vocational schools in Lamongan Regency who met the inclusion criteria. Inclusion criteria include students (male and female) who have an age range of 16-19 years, can communicate well, and are willing to become research respondents. Data were collected using demographic questionnaires, background factors, personal factors, environment, attitude, subjective norms, perceived behavior control, intentions, and risky sexual behavior prevention questionnaires. The questionnaire was tested for validity and reliability with the Cronbach Alpha test. The reliability value of the background factor variable using Cronbach's Alpha is 0.775, the attitude factor is 0.931, the subjective norm factor is 0.785, the perceived behavior control factor is 0.862, the intention factor is 0.876, the personal regulation factor is 0.747, the environment self-regulation factor is 0.889, and the behavior self-regulation of 0.850. The data collected was then analyzed with SmartPLS.

3. RESULTS AND DISCUSSION

3.1. Results

Based on the model test conducted, the research results show a recommendation for a self-regulation model for preventing risky sexual behavior in adolescents. The recommended model is composed of background factors (X1) which consist of three indicators, namely personal, social, and informational factors. Attitude toward behavior (X2) consists of behavioral beliefs and outcome evaluations. Subjective norms (X3) consist of normative beliefs and motivation to comply. Perceived behavioral control (X4) consists of control beliefs and perceived power. Intention (X5) which consists of intentions. Personal regulation (X6) consists of metacognitive and self-motivated. Environment self-regulation (X7) consists of social experience and environmental management as well as behavior self-regulation (Y1) in the prevention of risky sexual behavior which consists of self-observation, self-assessment, and self-reaction. The results of hypothesis testing are shown in Table 1 which shows that all variables have a significant relationship.

Figure 1 also explains that behavior self-regulation of risky sexual behavior in adolescents is influenced by background factors, attitude toward behavior, subjective norms, perceived behavior control, intention, personal regulation, and environmental self-regulation.

Table 1. Results of the hypothesis testing of the self-regulation model in preventing risky sexual behavior in adolescents

| Variable | Original sample | T-statistic | p-value | Information |
|--|-----------------|-------------|---------|-------------|
| X1 Background factors -> X2 Attitude toward behavior | 0.500 | 6.756 | 0.000 | significant |
| X1 Background factors -> X3 Subjective norm | 0.465 | 6.744 | 0.000 | Significant |
| X1 Background factors -> X4 Perceived behavior control | 0.418 | 0.418 | 0.000 | significant |
| X2 Attitude toward behavior -> X5 Intension | 0.381 | 2.544 | 0.023 | Significant |
| X2 Attitude toward behavior -> X6 Personal regulation | 0.433 | 2.990 | 0.022 | Significant |
| X3 Subjective norm -> X5 Intension | 0.506 | 4.666 | 0.006 | Significant |
| X3 Subjective norm-> X6 Personal Regulation | 0.374 | 3.425 | 0.015 | Significant |
| X4 Perceived Behavior control -> X5 Intension | 0.435 | 2.394 | 0.017 | Significant |
| X4 Perceived Behavior Control -> X6 Personal regulation | 0.420 | 2.373 | 0.070 | Significant |
| X5 Intension -> Y1 Behavior Self Regulation | 0.565 | 8.454 | 0.000 | Significant |
| X6 Personal Regulation -> Y1 Behavior self regulation | 0.444 | 2.061 | 0.040 | Significant |
| X7 Environment self regulation -> X6 Personal regulation | 0.406 | 2.102 | 0.037 | Significant |
| X7 Environment self regulation ->Y1 Behavior self-regulation | 0.466 | 2.304 | 0.022 | Significant |

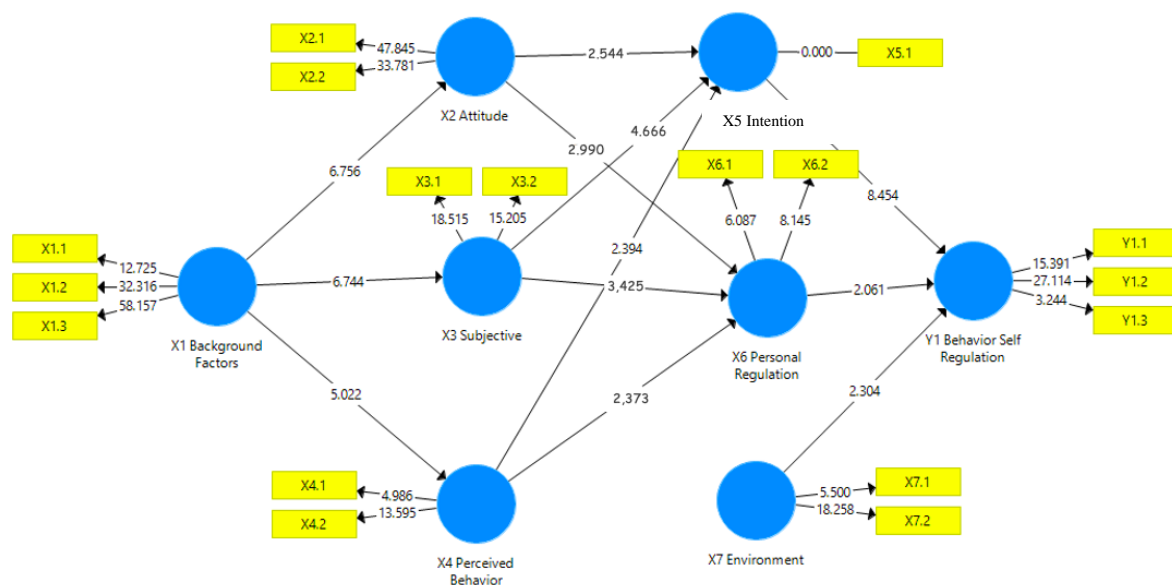


Figure 1. Model test results

3.2. Discussion

3.2.1. Effect of background factor on attitude toward behavior

Background factors have sub-variables namely personal, social, and information. The research results show that background factors influence attitude toward behavior in preventing risky sexual behavior. Of the three sub-variables, the information factor is more dominant. The results of the study describe that the information factor shows sufficient results in attitudes toward preventing sexual behavior. Most of the knowledge of adolescents is obtained from education, other people's experiences, the environment, and mass media/social media. The information obtained will increase a person's intellectual maturity so that they can make the right decisions in acting and behaving.

Knowledge influences a person's behavioral beliefs to determine attitudes toward behavior [9]. Someone who has good knowledge, then he will tend to have a good attitude so that he will behave well too. Social factors showed that female adolescents were more enthusiastic and tended to be higher in preventing sexual behavior. Gender has the strongest influence on making adolescents more permissive towards premarital sex. The search for information about reproductive and sexual health is mostly done by young girls than boys. In addition, there is a tendency that men seek more information about pornography on digital media [9]. Adequate family income will support the growth and development of children. Luxury makes children too spoiled, mentally weak, and unable to use their free time with useful things [10]. Such situations cause adolescents to become aggressive and rebellious, then try to find compensation for themselves by committing acts that are violating. Personal factors have components of spiritual values, emotions, and intelligence [11]. Adolescence is a period of searching for identity and transition to adulthood, adolescents

are looking for new things related to sex, which will affect their emotional intelligence in behaving and acting. This shows that emotional intelligence is one of the things that can influence the occurrence of sexual behavior in adolescents.

3.2.2. Effect of background factor on subjective norm

The results of the study show that background factors influence subjective norms in preventing risky sexual behavior. The information factor shows that knowledge, experience, and media are in the sufficient category. The majority of adolescents use the internet to research information [9]. However, internet access can also be misused to look for negative things such as fulfilling sexual desires through pornographic images, sentences, or videos or sexual stimulation from other people through social media. The better the level of knowledge a person will usually have healthy sexual behavior because the knowledge a person has shapes personality and has an impact on behavior and the surrounding environment [12].

Social factors show that young girls are more concerned about other people's judgments or perceptions of them [13]. In contrast to men who tend to be ignorant. Young women will think first whether this behavior has an impact or not by the surrounding environment. Socioeconomic status can affect the social acceptance of individuals [14]. Individuals with high socioeconomic status are more respected than individuals from the lower class. One of the social stigmas is that having a high socioeconomic status is also followed by high self-quality [15]. Therefore, the higher the socio-economic status of an individual, the greater the social capital he has. Personal factors, namely spiritual values, emotions, and intelligence, are in the less category [16]. Individuals will consider the opinions of others before taking action (premarital sex behavior) and will be motivated or not to carry out the behavior. This shows that positive subjective norms can be formed if the individual has a good personality. Individuals must have religious, emotional, and intelligence values to gain the trust of others.

3.2.3. Effect of background factor on perceived behavior control

The research results show that background factors have an influence on perceived behavior control in preventing risky sexual behavior. The results of the study describe that information factors derived from knowledge, experience, and the media are in the sufficient category. The information obtained will add insight so that it will directly influence individual thought control to have perceptions of the actions to be taken [7]. In line with the self-control aspect, the cognitive aspect is to manage the information which then influences decision-making and produces behavior [17]. Individual perceptions about sexual behavior will be formed through mature thoughts and knowledge they get from school, social media, parents, and other sources. Perception will form individual opinions about something that is believed and then with the support of intentions or intentions will be realized in real action.

Social factors show that female adolescents have higher self-control than male adolescents. Men feel freer to explore various forms of sexual behavior. The risks of pregnancy that are not experienced by men further strengthen this opportunity. Teenagers' perceptions of sexual behavior can be raised from the socio-economic level [18]. Low socio-economic conditions which are completely deficient, causing adolescents to engage in sexual behavior resulting in pregnancy and early marriage, to make ends meet [19]. Meanwhile, adolescents with moderate socio-economic status and who have barely enough pocket money can be involved in juvenile delinquency, including premarital sexual behavior. Likewise, adolescents with high socioeconomic status who are all well-off engage in sexual behavior because all desires are always obtained easily. Personal factors which include spiritual values, emotions, and intelligence are in the less category so that they can affect perceptions of behavioral control in preventing risky sexual behavior. Individuals who have good emotional intelligence will be able to exercise self-control over a behavior. Self-control tends to have a strong control role, so they are better able to control themselves so they don't commit risky sexual acts [18]. Spiritual values become part of the individual foundation in controlling behavior. The ability to control oneself will be formed when individuals can regulate their emotions and spiritual values so that they can anticipate the impact that will occur from risky sexual behavior before taking such action.

3.2.4. Effect of attitude toward behavior on intention

Perceived behavior control has components, namely behavioral beliefs (control belief) and perceived power (perceived power). The results of the study describe that behavioral beliefs show good results which can influence adolescents' intentions to prevent risky sexual behavior. Perceived behavioral control refers to an individual's belief or belief in his ability to judge whether or not he is doing a behavior that is questionable in him. Most adolescents have strong behavioral beliefs, enabling them to have strong perceptions of behavioral control so that they will have a strong intention not to engage in negative sexual behavior [20]. The sexual impulses that arise in adolescents to engage in sexual behavior must be controlled, deep and sincere forms of love do not have to be carried out by acts of free sexual behavior and free sexual behavior

means damaging the good name of the family. Free sexual behavior can lead to early marriage, and loss of virginity/virginity with a view of refusing which means making adolescents tend to have the belief that behavior Negative sexual behavior is behavior that is not good and can be self-defeating and can damage the good name of the family. Teenagers have good self-control so they don't do this behavior.

3.2.5. The effect of attitude toward behavior on personal regulation

The results of the study show that attitude toward behavior influences personal regulation in preventing risky sexual behavior. Attitude toward behavior has two components, namely normative belief, and evaluation. Of the two components, behavioral beliefs are more dominant. The results showed that behavioral beliefs about self-regulation in preventing sexual behavior were in a good category. Adolescents who have attitudes toward risky sexual behavior are mostly able to determine their sexual behavior relationship. The results of previous research indicate that attitude is a predisposition (determinant) that gives rise to behavior that is following the attitude. Attitudes begin to grow from the knowledge that is perceived as something good (positive) or bad (negative), then internalized within themselves [21]. The higher attitude toward risky sexual behavior in adolescents means that these adolescents have the ability and judgment to refuse risky sexual behavior [22]. This means that individuals can place sexuality according to its function and purpose, not think that sex is disgusting, taboo, and dirty, not to be used as a joke and subject of conversation, follow the rules for using it and talk about sex in a scientific context or learn to understand oneself and others. as well as proper and correct utilization following its function and. The more positive attitudes toward sexual behavior prevention, the more confident they are in their abilities and have more efficient abilities and motivational strategies in behaving to prevent sexual behavior.

3.2.6. Effect of subjective norm on personal regulation

Subjective norms have two components, namely normative beliefs, and motivation to comply. The research results show that subjective norms influence personal regulation in preventing risky sexual behavior. Of the two components, normative beliefs are more dominant. The results of the study show that normative beliefs in preventing sexual behavior are in a good category. The relationship between subjective norms and personal regulation in preventing sexual behavior shows that the greater the subjective norm value, the stronger the natural motivation to organize strategies to carry out activities that are following the expectations of those around them in preventing sexual behavior. The existence of self-regulation makes the individual able to control his behavior to be following the environment. because the environment has certain norms, values, and standards for behavior that are given to each of its members. These norms, values, and standards put pressure on individuals to curb their impulses and desires so that their behavior can be in line with the needs of society [23]. Subjective norms related to the prevention of sexual behavior, namely parents, close friends, playmates, and teachers. Belief in subjective norms is formed based on invitations, suggestions, advice, and advice. Positive views or beliefs of family, friends, teachers, and people closest to them can influence adolescents to have positive views/beliefs about sexual behavior (subjective norms) so that they have positive self-regulation in achieving a goal and enabling them to choose behavior positively [24].

3.2.7. Effect of perceived behavioral control on personal regulation

Perceived behavior control has components, namely behavioral beliefs (control belief) and perceived power (perceived power). The research results show that Perceived behavior control influences personal regulation in preventing risky sexual behavior. The results of the study showed that adolescents' behavioral beliefs about preventing sexual behavior were in a good category. Perceived behavior control is the level of belief about how difficult or easy it is to exercise control over sexual behavior [5]. Perceived behavioral control influences personal regulation. If the individual has the belief that the individual can exercise control over the behavior that will be carried out and has the power and ability to do so, the individual will seek strategies to form a preventive measure against this behavior, in this case, risky sexual behavior. There is a lack of information regarding sexual behavior, so it is hoped that educational institutions will be able to improve adolescent perceptions by requiring youth to take part in spiritual activities to instill morality that is applied in adolescents' daily lives.

3.2.8. Effect of intention on behavior self-regulation

The research results show that intention has an influence on behavior self-regulation in preventing risky sexual behavior. The results showed that the adolescent's intention to prevent sexual behavior was in a good category. The intention is the intention that underlies a person to perform a behavior. The theory of planned behavior (TPB) states that individual behavior is determined by the individual's intention to perform a behavior. The appearance of an intention to behave is influenced by the individual's attitude towards the intended behavior (attitude toward a behavior), subjective norms (subjective norms), and perceptions of the control they have (perceived behavior control) [5]. The intention is assumed as a motivation catcher that

influences behavior. Sexual intention can be formed by individual factors (including values, spiritual, emotional, and personality), social factors (including age, gender, ethnicity, religion, parental income, and parental education), and information factors (knowledge, experience, media) which can provide knowledge and experience regarding sexual relations for adolescents [25]. These factors will form an attitude, subjective norms (judgments from other people about sexual behavior), and adolescent perceptions of sexual behavior so that it will form an intention to form self-regulation of behavior. The stronger the intention to engage in the behavior, the more likely it is to perform the behavior. If the individual has the intention to perform the behavior, then the individual will perform the behavior and vice versa.

3.2.9. The effect of personal regulation on behavior self-regulation

The research results show that personal regulation has an influence on behavior self-regulation in preventing risky sexual behavior. Personal regulation has two components, namely metacognitive (knowledge and self-esteem) and self-motivation (self-efficacy belief approach) [26]. Of the two components, the more dominant is self-motivation. Adolescents' self-motivation towards preventing sexual behavior is in the sufficient category. The motivation in this case is the belief in self-efficacy. Self-efficacy is a belief in one's ability to carry out an expected action and also the background for someone to take an action or control certain conditions [27]. Adolescents who have low self-efficacy have the opportunity to engage in premarital sexual behavior that is at risk 1.7 times compared to adolescents who have high self-efficacy.

Adolescents who have an effective level of regulation will have a goal where the goal set is to prevent sexual behavior [28]. Adolescents must develop strategies such as avoiding gatherings in secluded places, determining what behaviors are permitted and prohibited in a relationship (no holding hands, kissing, and groping), and rejecting requests from their partners for sexual behavior. Adolescents who have high self-esteem can adequately manage their urges and needs, have a strong respect for themselves and others, and can consider all the risks of the behavior they take. This also shows that adolescents who have high self-esteem tend to have a negative attitude towards premarital sexual behavior, lower their self-esteem, and can control their impulses of sexual behavior.

3.2.10. Effect of environment self-regulation on personal regulation

The research results show that environmental self-regulation influences personal regulation in preventing risky sexual behavior. Environment self-regulation has two components, namely social experience and environmental regulation. Of the two components, social experience is more dominant. Environment self-regulation is a situation in an individual's environment, depending on how the environment supports or does not support it. Includes social experiences such as peer experience, information media, and environmental structurings such as family, teachers, and also policies or rules in society [29]. The results of the study show that adolescents' social experience of adolescent personal regulation in preventing risky sexual behavior is in a good category. Teenagers who get sexual information from teachers and friends show lower personal thoughts about sexuality than teenagers who access it from the media or the internet. Teenagers usually share knowledge based on their sexual experiences with their friends. Sexual communication with friends fosters sexual self-efficacy so that it can generate the urge to have sexual intercourse.

The results of the study show that the environmental management of adolescents in preventing sexual behavior is in a good category. Environmental management includes family support, teachers, and policies or rules in the community. Sexual communication from the environment such as parents to adolescents will influence adolescent self-regulation to control behavior, one of which is adolescent sexual behavior. Information conveyed by families and teachers is two-way and mutually respectful will allow adolescents to receive correct and directed information so that they can rethink the impact of sexual behavior. Teenagers will be able to exercise self-control over sexual behavior even though some friends or the media normalize sexual behavior, firmly rejecting sexual behavior.

3.2.11. The effect of environment self-regulation on behavior self-regulation

The research results show that environmental self-regulation has an influence on behavior self-regulation in preventing risky sexual behavior. Environment self-regulation has two components, namely social experience and environmental regulation. Of the two components, social experience is more dominant. The effect of social experience on preventing sexual behavior is in a good category. Socializing in the social environment is needed by adolescents to show their existence. Friends are a place for teenagers to share experiences, which they often don't get from their families [4]. Peers have an important role in the social life and development of adolescents. Peers play an active role in providing information about reproductive health and sexual behavior [30]. The form of peer support in risky sexual prevention behavior in adolescents is through advice. Social media can facilitate socialization and communication, increase learning opportunities, and increase access to health information, it can also lead to cyberbullying or harassment, sexting, and

depression [31]. When adolescents do not receive information wisely and thoroughly, all information accessed through social media or the internet that is not filtered will cause the condition of adolescents to change, if viewed from a negative side, it can cause adolescent behavior to become out of control.

The results of the study show that the environmental management of adolescents in preventing sexual behavior is in a good category. Environmental management one of which is from family support. Adolescents who engage in promiscuous sexual behavior are caused by parents who are too focused on work, have less harmonious family relationships, are less close to parents, and never have discussions with family [32]. Lack of supervision will make children vulnerable to unwanted sexual behavior. Religious education in the family also contributes to the character of adolescents. In addition, adolescents get support in preventing risky sexual behavior through school lessons, extracurriculars, and rules that exist at school. The rules at school can also shape character and mentally train teenagers to be more disciplined by imposing sanctions on teenagers for dating behavior or behavior that leads to sexual behavior.

4. CONCLUSION

Background factors increase attitudes (attitude toward a behavior), subjective norms, and perceived behavior control in preventing risky sexual behavior. Intentions (intentions) and personal regulation are influenced by attitude toward behavior, subjective norms, and perceived behavior control. Intention (intention), personal regulation, and environment self-regulation increase behavior self-regulation. Environmental self-regulation which consists of social experience and environmental management increases personal regulation in preventing risky sexual behavior. Self-regulation plays a role in efforts to change the thoughts, feelings, desires, and actions taken by individuals to achieve higher goals. The self-regulation model is proven to significantly influence the prevention of risky sexual behavior in adolescents.

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