

The Influence of Self-Efficacy and Social Support on Capability (C), Opportunity (O) and Motivation (M) (Com B) in Adolescents' Adoption of Sexual Abstinence in Surabaya

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Abstract

In adolescents, behaviors in dating have a high chance of escalating into sexual contact. To prevent and minimize sexual contact in adolescence, adolescents must adopt sexual absenteeism.

This research aims to analyze the effect of self-efficacy and social support on capability (C), Opportunity (O), and Motivation (M) (COM-B) in the adoption of sexual abstinence of adolescents in the city of Surabaya. As a quantitative study with analytical observational research, the writer used a cross-sectional approach. This research was conducted in five areas in the city of Surabaya, namely Central Surabaya, West Surabaya, East Surabaya, North Surabaya, and South Surabaya in December 2021 – December 2022 with the inclusion criteria of students attending high school. The results showed that there was an influence between Capability on Motivation ($p=0.000$), Opportunity on Motivation ($p=0.000$), Self-Efficacy on Capability ($p=0.000$), self-efficacy on Opportunity ($p=0.000$), Social Support on Opportunity ($p=0.014$), and Motivation on the adoption of sexual abstinence ($p=0.032$) in adolescents in Surabaya.

The findings show that the Self-Efficacy factors contribute to Capability and Opportunity, while Social Support contributes to opportunity in COM-B theory.

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Introduction

Adolescence is defined as a phase where an individual has left the childhood phase but has not yet been categorized as an adult. In the age range of 10-19 years, an individual experiences physical and psychological changes. Adolescents also experience changes in social environment, expectations, and perceptions.

According to World Health Organization, physical growth and development are accompanied by sexual maturation which might bring obstacles because this development does not occur together with emotional maturity. Of approximately 1.2 billion people in the world, 1 in 5 people is currently entering adolescence. According to the Population and Family Planning Agency (Badan Kependudukan dan Keluarga Berencana, BKKBN), the adolescent age range is 10-24 years old and is unmarried. Based on

the 2020 Population Census data, it is known that there were 67.2 million adolescents or 24.87% of the 270.2 million population in Indonesia. The number of adolescents in Indonesia is more than 65 million people or 13 times the population of Singapore.

As their sexual maturation begins, adolescents tend to be attracted to each other. This would later cause them to be engaged in dating behaviors which can escalate into sexual contact. The stages of sexual contact in adolescents are divided into five stages, namely touching, dating without kissing, kissing, touching sensitive parts (breasts to genitals), and sexual intercourse¹. Based on the results of a report from the Indonesian Demographic and Health Survey (*Survei Demografi dan Kesehatan Indonesia*, SDKI) in 2017, it is known that most dating behavior of women and men in Indonesia involves holding hands with a percentage of women reporting it by 64% and men 75%. Men tend to report lip kissing (50%) and cuddling (33%) compared to women (30% and 17% respectively). As many as 8% of men and 2% of women have sexual intercourse during the dating period. Sexual experience is reported to be

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higher in women and men aged 20 – 24 years compared to 15 – 19 years old.

On the other hand, based on BKKBN data in 2020, it was found that the percentage of unwanted pregnancies at the national level reached 17.5%. The data can be interpreted that for every 100 pregnant women, there will be 17 unwanted pregnancies which led to an estimation of 2 fetuses to be aborted each year in Indonesia. Research from the Guttmacher Institute in six regions in Indonesia estimates that there are 37 abortions for every 1,000 pregnant women with an age range of 15-49 years². However, until now there is no data available that mentions how many abortion practice has been allowed.

Sexual abstinence is the attitude of avoiding all genital contact and all sexual desire or arousal³. Abstinence or absenteeism is one of the guaranteed methods to avoid the risk of unwanted pregnancy and contracting sexually transmitted infections where this program prevents sexual intimacy outside of marriage, such as kissing that causes risky sexual arousal⁴. Sexual abstinence is the refusal and restraint of arousal caused by kissing and touching since they are considered to be the first steps that may lead to coitus⁵. Sexual abstinence consists of three aspects, namely identification of sexual drives in oneself, identification of superego in oneself related to premarital sexual activity, and controlling ego related to premarital activity. Sexual drive identification is recognizing various kinds of sexual impulses within oneself and acknowledging that various sexual activities have been carried out to satisfy sexual impulses within oneself⁶.

In Indonesia, research on sexual abstinence is still limited. Research conducted in Denpasar from October 2011 to January 2012 on 626 respondents consisting of 377 (93.32%) public high school students and 249 (92.22%) private high school students, found that 95.4% of respondents admitted to not having premarital sex or adopting sexual abstinence. Research conducted at the Faculty of Education, Surabaya State University in the class of 2009 to 2012 with 4297 respondents, shows that 98.1% of respondents did not have sex before marriage. Another study conducted in Manado City in 2016, showed a similar result where there were still many adolescents who engaged in sexual abstinence. In this study, 88.5% of respondents

stated that they did not have sex before marriage, this was very good considering 91% of respondents stated that they were dating upon the research. From the results of the study, it was also found that respondents claimed to get information about sex mostly from television and the internet, which sometimes do not present the correct information, although some claimed to also get information from schools about sex issues⁷.

Behavior is influenced by three pivotal things, namely Capability (C), Opportunity (O), and Motivation (M). This concept is known as COM-B. Behavior will be formed if these three things can be fulfilled. COM-B is a theory used in preparing interventions for behavioral change. Capability, Opportunity, and Motivation are factors that are considered influential in adopting a behavior. COM-B is widely used in behavior change interventions that seek to alter risky behaviors and instruct healthy behaviors that bring positive impacts⁸. The use of COM-B theory in studying sexual abstinence in adolescents is considered to be fitting. Aside from instructing a behavior with a positive impact, the use of COM-B to study sexual abstinence in adolescents can reveal the strengthening factors in their adoption of absenteeism.

A study conducted in Germany on interventions using the COM-B model shows that there is an influence of social environment on Capability. There is also a Reflective Process where one discusses their plan and evaluation of a behavior⁹. COM-B is widely used in understanding positive behavior because it is considered comprehensive and can be used in almost all behaviors, especially to understand healthy behaviors¹⁰.

Research conducted in Canada on the utilization of sexual health services by adolescents found that in terms of Capability, there was low knowledge of reproductive health and past experiences, while attention and decision-making played important roles. Opportunities are influenced by the social environment and environmental resources while Motivation is formed by emotions and perception of the consequences¹¹. COM-B is very comprehensive in revealing factors that influence behavior. However, this also makes the method to be overly general and hence, extended study and discussion are required. There are several things that can be added to COM-B by looking at

several studies on sexual behavior, self-efficacy, and social support that affect the decision to adopt sexual abstinence in adolescents. Therefore, this study adds the constructs of self-efficacy and social support to examine its effect on COM-B in the adoption of sexual abstinence in adolescents¹².

Materials and methods

This is an analytical observational research. The data that has been collected will be analyzed and tested to find the influence between existing variables. This research also applied a cross-sectional approach by making measurements and observations at the same time on each research variable. Independent and dependent variables were observed at the same time in the absence of an intervention from the study. The research also applied Multistage Cluster Random sampling technique. The sample selection process was carried out on the allocation of sample sizes according to 5 regions in Surabaya (North, South, West, East, and Central). From this group, schools were randomly selected. Based on the calculation results, a minimum sample size of 299 samples was obtained. The data obtained from the results of the study were then processed using data analysis techniques, namely the SEM (Structural Equation Modeling) test at a significance of 0.05¹³.

Results

Path Analysis Results

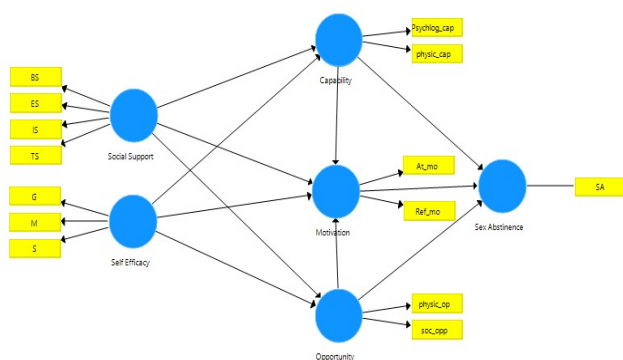


Figure 1. Research Constructs and Variables.

1. Convergent Validity Test

a) Validity

	Outer Loading
At_mo	0.950
Ref_mo	0.944
SA	1.000
BS	0.817
ES	0.675
IS	0.753
TS	0.748
G	0.895
M	0.830
Psychlog_cap	0.910
physic_cap	0.934
physic_op	0.934
soc_opp	0.929

Table 1. Output Loading Factor

Table 1. shows the result of the output loading factor after eliminating the Strength indicator, there is no loading factor value below 0.5. Hence, this indicator is correlated. Likewise, the value of the t statistic is above 1.96. Hence, the indicator can be concluded to be valid. The extract below can be considered as correlated. Likewise, the value of the t statistic is above 1.96. The variables that can be considered valid are the variables below:

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
At_mo	0.950	0.950	0.006	154.042	0.000
Ref_mo	0.944	0.943	0.009	109.318	0.000
SA	1.000	1.000	0.000		
BS	0.823	0.818	0.036	22.833	0.000
ES	0.689	0.680	0.074	9.322	0.000
IS	0.715	0.709	0.062	11.461	0.000
TS	0.776	0.771	0.049	15.697	0.000
G	0.896	0.897	0.017	53.256	0.000
M	0.829	0.829	0.034	24.363	0.000
Psychlog_cap	0.910	0.909	0.017	53.527	0.000
physic_cap	0.934	0.934	0.009	101.132	0.000
physic_op	0.893	0.893	0.016	55.382	0.000
soc_opp	0.928	0.929	0.007	126.777	0.000

Table 2. Outer loading, Sample Mean, Standard Deviation, T Statistics and P Value.

b) Reliability

	AVE	Composite Reability	Cronbachs Alpha
Capability	0.850	0.919	0.825
Motivation	0.897	0.946	0.885
Opportunity	0.830	0.907	0.797
Sex Abstinence	1.000	1.000	1.000
Social support	0.566	0.839	0.747
Self efficacy	0.745	0.853	0.661

Table 3. AVE Value, Composite Reability dan Cronbachs Alpha.

The last stage of convergent validity is to look at the AVE value of each construct. A good construct has an AVE value of more than 0.50. In the output table 4.15. above, all construct have an AVE output value of more than 0.50. Thus, it can be said that all constructs have good convergent validity.

2. Discriminant Validity

	C	MO	O	SA	Self efficacy	Social support
At_mo	0.645	0.950	0.696	0.414	0.494	0.168
Ref_mo	0.500	0.944	0.739	0.333	0.397	0.144
SA	0.296	0.396	0.346	1.000	0.398	0.059
BS	0.117	0.149	0.230	0.082	0.195	0.823
ES	0.059	0.076	0.136	0.064	0.150	0.689
IS	0.181	0.158	0.203	0.018	0.206	0.715
TS	0.077	0.098	0.203	0.017	0.195	0.776
G	0.556	0.451	0.525	0.368	0.905	0.222
M	0.455	0.365	0.404	0.303	0.777	0.211
Psychlog_cap	0.911	0.499	0.484	0.259	0.510	0.126
physic_cap	0.933	0.612	0.612	0.285	0.549	0.148
physic_op	0.524	0.611	0.893	0.269	0.464	0.237
soc_opp	0.565	0.757	0.928	0.354	0.546	0.242

Table 4. Cross Loading of the Research Construct.

The correlations of BS; ES; IS; and TS; with the Social Support construct are 0.823; 0.689; 0.715; and 0.776. The correlation value is greater with Social Support than the correlation value with other constructs.

The correlation of G and M with Self-efficacy is 0.905; and 0.777. The correlation value is greater with Self-Efficacy than the correlation value with other constructs.

The correlation of Psychlog_cap and physic_cap with the Capability construct is 0.911; and 0.933. The correlation value is greater with the Capability construct than the correlation value with other constructs.

The correlations of At_mo and Ref_Mo with the Motivation construct are 0.950 and 0.944. The correlation value is greater with the Capability construct than the correlation value with other constructs.

The correlation of Physic_op and Soc_opp with the Opportunity extract is 0.893; and 0.928. The correlation value is greater with the Capability construct than the correlation value with other constructs.

The correlation of SA with the Sex Abstinence construct was 1.000. The correlation value is greater with the Sex Abstinence construct than the correlation value with other constructs.

3. Structural Model Evaluation

After the examination of the measurement model is fulfilled, the next step is an examination of the structural model. This examination includes the significance of the path relationship and the R2 value.

The structural model of Sex Abstinence can be seen in the figure below:

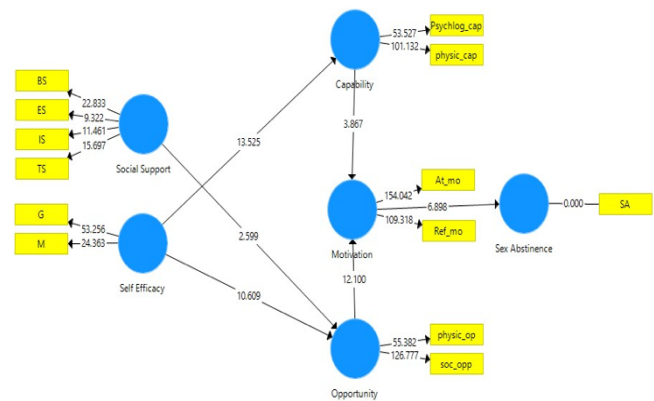


Figure 2. Sex Abstinence Model.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Conclusions
C → MO	0.234	0.238	0.057	4.076	0.000	Influential
MO → SA	0.182	0.186	0.085	2.146	0.032	Influential
O → MO	0.622	0.617	0.056	11.193	0.000	Influential
Self efficacy → C	0.589	0.586	0.050	11.716	0.000	Influential
Self-efficacy → O	0.511	0.505	0.047	10.939	0.000	Influential
Social support → O	0.135	0.144	0.054	2.476	0.014	Influential

Table 5. Value of the Inter-Construct Line.

Based on Figure 3 and Table 7 above, it can be concluded that:

- 1) The higher the Capability, the higher the Motivation construct.
- 2) The higher the Opportunity construct, the higher the Motivation construct.
- 3) The higher the Motivation construct, the higher the Sex Abstinence construct.
- 4) The higher the Self-efficacy construct, the higher the Capability construct.
- 5) The higher the Self-efficacy construct, the higher the Opportunity construct.
- 6) The higher the social support construct, the higher the Opportunity construct.

Discussion

The COM-B model states that behavior change is influenced by the Capability, Opportunity, and Motivation of the person. Adolescents' adoption of sexual abstinence is also influenced by their physical and psychological abilities. In addition, opportunities are needed to perform these behaviors.

The opportunities for adolescents to adopt sexual abstinence are built from physical and environmental opportunities. This is because adolescents still dwell in a social setting where their lives are provided for. Thus, these opportunities stem from the social support that is received by adolescents¹⁴. Self-efficacy helps adolescents in a variety of unsatisfactory situations by encouraging them to believe that they can be strong. In addition, self-efficacy also varies from situation to situation, depending on the competencies needed for the different activities they perform¹⁵. Their belief in the ability to adopt sexual abstinence will strengthen their motivation to adopt such behavior. Social Support and Self-Efficacy influence the behavioral changes discussed in COM-B theory through the motivation and abilities of adolescents to adopt sexual abstinence.

The results showed that there was an effect of Capability on Motivation. The higher the capability of adolescents, the higher the motivation of adolescents in adopting sexual abstinence. For instance, the greater a person's self-regulation resources the greater the likelihood for maintaining a successful lifestyle that person will experience¹⁶. The ability to control sexual impulses and desires is an important factor in undergoing sexual abstinence.

Adolescents who have a strong ability to regulate sexual impulses and are able to manage temptations are capable of maintaining sexual abstinence. Alternative Development or the ability of individuals to meet emotional and physical needs healthily can also affect sexual abstinence. For example, adolescents can turn their attention to physical activity, hobbies, self-development, or interpersonal relationships that do not involve sexual relations. If the alternatives are adequate, then adolescents can remain motivated to undergo sexual abstinence¹⁷.

The results of the analysis showed that there was an influence between motivation and the adoption of sexual abstinence in adolescents in Surabaya. Adolescent girls are more motivated to do sexual abstinence to avoid pregnancy, while it can be taken that the boys are motivated to avoid STIs/HIV. demonstrated that about one-third of the students had high levels of stigma based on their personal/cultural beliefs. More than two-thirds of the students in this study would feel ashamed if they were infected with HIV. These results indicated that the students had internalized stigma, which is an important factor related to HIV continuum care, since it contributes to depression and social isolation among PLWHA and a low rate of HIV status disclosure that could lead to greater public health consequences¹⁸. Sexual abstinence is more common in boys because they are more prone and more often affected by STIs. For boys, sexual abstinence becomes a complex behavioral decision because it is influenced by demographic, behavioral, attitude, and contextual factors such as age, race, non-coital sexual behavior, and masculine values¹⁹.

The results showed that there was an influence between Opportunity and Motivation. The higher the Capability of adolescents, the higher the motivation of adolescents in adopting sexual abstinence. Low opportunity for sexual abstinence (If individuals are in a situation where the opportunity to engage in sexual activity is low, for example, due to environmental factors that limit access or social limitations, then the influence of opportunity can support their motivation to maintain sexual abstinence²⁰).

The results showed that there was an effect of Self-efficacy on Capability in adolescents in Surabaya. Some ways self-efficacy can affect a person's ability are through increased effort and perseverance (individuals

with high self-efficacy tend to make greater efforts to achieve their goals. Adolescents are required to have the confidence that they can do it and will work hard to achieve the expected results. A high level of perseverance can help adolescents improve and develop their abilities over time), Proper goal setting (strong self-efficacy helps individuals in setting realistic and achievable goals. They have a better understanding of their own abilities and skills. By setting goals that are in accordance with their abilities, they can utilize their full potential to develop better capabilities and improve learning quality (high self-efficacy contributes to improving the quality of individual learning²¹. They tend to be more involved in the learning process, have high motivation, and strive to understand and master the material better. In the long run, this has a positive impact on improving their abilities and capabilities), Overcoming Obstacles and Failures (Individuals with high self-efficacy have a better ability to deal with obstacles and failures²². Adolescents see failure as a challenge that can be overcome and remain optimistic in facing it. This self-confidence helps adolescents to continue to try and learn from every experience, which ultimately increases their ability²³.

The results showed that there was an influence between Self-Efficacy on Opportunity. The higher the Self-Efficacy of adolescents, the higher the Opportunity. Self-Efficacy that could open Opportunities for sexual abstinence is decision making (Individuals who have high self-efficacy usually have a strong one if they can refrain from sexual activity if they consider it important for their lives), resistance to social pressure (High self-efficacy can help individuals face social pressure that spurs them to enter sexual behavior. The individual is more confident to resist peer pressure or their partner that spurs them to engage in sexual activity²⁴), communication skills (High self-efficacy allows individuals to develop efficient communication skills about their desire to maintain purity and delay sexual activity²⁵. The individual is better able to convey their desires clearly to their partner and build mutual understanding), Emotion Management (Self-efficacy drives individuals to manage their emotions about desire and temptation to engage in sexual activity. The individual has better strategies for overcoming temptation and preventing

themselves from situations that may trigger sexual behavior)²⁶.

The results showed that there was an influence between Social Support and Opportunity in adopting sexual abstinence in high schoolers in Surabaya. The higher the Social Support for adolescents, the higher the Opportunities for them to maintain sexual abstinence. In the era of advances in information technology, the challenges to foster adolescents in transitioning and maintaining this behavior are complex, this includes in the counseling on sexual abstinence from school, parents, and even from the perspective of peers. Sexual maturity and wider access to information on various media and the influence of the social environment such as peers, expose adolescents to risky sexual behavior. Family support is one of the factors related to sexual abstinence in adolescents. Parents are the ones who play a role in the development of adolescents. Good parent-teen communication can lead to good sexual behavior in adolescents, causing sexual behavior in adolescents to fall into the low-risk category²⁷. Adolescent and family relationships also affect risky sexual behavior in adolescents²⁸. Adolescents who get poor supervision and communication from parents are 1,527 times more likely to have premarital sex than those who are supervised by their parents and build good communication²⁹. In addition to parental support, adolescents spend most of their time in school. School support in providing adolescents with knowledge about reproductive health is very important. The role of teachers also influences the prevention of premarital sexual behavior in adolescents at the junior and senior high schools in Cilacap³⁰.

Conclusions

Based on the results of the research, it can be concluded that the distribution of respondents by age shows that the majority are in the age range of 16 to 17 years, female, and have ever dated or are currently dating. Based on the variables of Social Support, Self-Efficacy, Capability, Opportunity, and Motivation, it is known that the majority of respondents are in the medium category. The path analysis revealed that there was an influence between variables, such as Ability on Motivation, Opportunity on Motivation, Self-Efficacy on Ability and

Opportunity, Social Support on Opportunity, and Motivation on Sexual Abstinence. Meanwhile, the variables that have no effect on each other include Opportunity on Sexual Abstinence, Ability on Sexual Abstinence, Social Support on Ability and Motivation, and Self-Efficacy on Motivation.

From the results of the study, it is expected that parental role as a supporting environment has a pivotal impact on adolescents. Parents can provide social support to adolescents in the form of knowledge and emotional closeness, as well as facilitate them with any needs that can improve adolescents' ability to adopt sexual abstinence. The results of this study are expected to be used as a reference for further research both related to the COM-B theory and the adoption of sexual abstinence in adolescents. Schools are expected to provide health education and reproductive health promotion interventions because students spend most of their time in school and health promoters have the opportunity to reach a large audience. Sexual health education in adolescents is expected to strengthen adolescents' motivation and behavior in adopting sexual abstinence. Schools are expected to be able to provide social support to adolescents, especially reproductive health issues.

Declaration of Interest

The authors report no conflict of interest.

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