

# Triability or Observability That Influences The Youth Decision Using Mobile Application “Remaja Sehat” ?

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## Abstract

Reproductive health of adolescents in Indonesia has become an unresolved priority problem and the number of its cases keep increasing from year to year. It caused by access to information and adolescent health programs that are haven't been distributed evenly. In fact, not all programs use the media that is in line with the current characteristics of adolescents. Media is an adolescent health promotion strategy that has to be considered in order to increase knowledge. There have been many kinds of media related to adolescent reproductive health in the form of posters, leaflets, public service announcements and so on. According to the previous research, during all this time the media tend to be patronizing and boring. The adolescents nowadays will not be far from gadgets, so researchers have developed “Remaja Sehat” application as a media for adolescent health education. The purpose of this study was to analyze the effect of media on the variables of triability and observability on the decision to use “Remaja Sehat” application.

This research was conducted to high school students in Surabaya. The method used in this research is the Quasi Experiment and uses post only design. Samples in this study were 302 conducted by using simple random sampling. The students were given a number of questions in the questionnaire after be given intervention in the form of exposure to a healthy adolescent application.

The results showed that there was a significant effect on triability ( $p$  value = 0,000) and observeability ( $p$  value = 0.042) on the decision to use “Remaja Sehat” application. Based on this research, it can be concluded that the “Remaja Sehat” application can be used as a media for health promotion which matches the characteristics of adolescents.

**Keywords:** *application, decision, adolescents, observability, triability*

## Introduction

Indonesia is one of the countries that still have problems in the field of health, especially in adolescent reproductive health. Health problems in Indonesia still become one of the things that have to be considered both in terms of the community itself as well as the health sector. Perpetrators of the community one of which must be considered are the adolescent. The adolescent is the age of transition to maturity. This age forms the identity of a person and will go through a process of instability both in psychological or feelings. The physical organ, psychological and intellectual of one's health will be more productive and develop rapidly in adolescence because at the age of adolescence have a great curiosity and the behavior of wanting to try new things is high<sup>(1)</sup>.

The age of adolescents according to WHO are 10-24 years old and geographically adolescents are divided into two groups, namely the 10-14 year age group and the 15-19 year age group. While the age of adolescents according to the BKKBN are 10-24 years old and unmarried<sup>(1)</sup>. Adolescence is a transition period that has challenges of risky sexual behavior.

Adolescent sexual risk behavior can be described through one of the previous studies. Adolescents whose sexual behavior not at risk and the one who at risk were exposed through almost the same media, where adolescents whose sexual behavior not at risk using the internet as many as 25 people (32.1%). Likewise, adolescents with risky sexual behavior using the internet as many as 53 people (67.9%). The results of the bivariate analysis showed there's no significant

relationship between electronic media and adolescent sexual risk behavior<sup>(2)</sup>.

Chi-square test results show there is a relationship between smartphone usage and adolescent sexual behavior in senior high school “X” Jember (p-value = 0.004; CI = 95%). Exposure to pornography when the adolescents access the internet and social media through smartphones raises the desire of adolescents to engage in sexual behavior by their self (onani or masturbation) or with their partners (holding hands, hugging, kissing the forehead, kissing the cheeks and kissing the lips)<sup>(3)</sup>. It can be seen that adolescent sexual behavior can be affected by exposure to the media used so there need to be a media that can provide knowledge about adolescent reproductive health issues.

Knowledge of adolescent reproductive health is very important in the role of adolescent health. The higher knowledge of adolescents about adolescent reproductive health will cause a decrease in adolescent sexual behavior and vice versa<sup>(4)</sup>. One of the ways to increase knowledge is through the media as learning media. Media is all forms of intermediaries used by humans aiming to convey or spread ideas, thoughts or opinions<sup>(5)</sup>. The media as the means to deliver the information or messages whether it's ideas or opinions to get thoughts, feelings, attention and to make effective and efficient communication. Media can also be a learning method in order to increase knowledge.

There are three types of exposure to mass media such as printed media (newspapers and magazines), radio, and television other than that, regarding exposure to the internet<sup>(6)</sup>. There are fifteen percent of women and 20 percent are not exposed to all three information media in a week. So that the three types of mass media can develop along based on their level of education. But the internet nowadays is not only for an adult age, but even adolescents can't get far from the internet.

One of the ways to measure the effectiveness of media is by using the Diffusion of Innovations. Diffusion is one type of communication where the characteristic of the main message being communicated is new or can be called innovation. Diffusion is also an innovation communication process between citizens using a certain channel and a certain time<sup>(7)</sup>.

The Remaja Sehat application is one of the educational innovations regarding reproductive health

knowledge that will be given to adolescents. The Android-based application will be used as an educational medium for adolescents. Adolescents are more enthusiastic about new things, including the development of information and technology. Adolescents use an android smartphone because it has excellence over other types of mobile phones. The excellence in applications and appearance is more attractive. The easiness of downloading applications through Google Play<sup>(8)</sup>. This application was designed based on the results of previous studies. The results showed that during all this time, adolescent health program methods still tend to be patronizing and boring so that it requires methods that are matched to the current characteristics of adolescents<sup>(9)</sup>.

Diffusion of Innovations has various characteristics in innovation including Triability and Observability. Triability is the possibility to be tested from an idea or innovation. While Observability is the level of results of an innovation that can be seen easily from the technical-economic advantages so it can accelerate the adoption process<sup>(10)</sup>. An innovation in order to reach the goals that want to be achieved it must be right on target at its usefulness. Therefore, this study will analyze the effect of triability and observability on the decision to use Remaja Sehat application.

## **Material and Method**

This study uses a pre-experimental method. Researchers will provide intervention in the form of exposure to Remaja Sehat application and then will be given a questionnaire about Triability and Observability and the decision to use Remaja Sehat application. This research refers to the theory of diffusion of innovation to analyze the effect of triability and observability on the decision to Remaja Sehat application. This study uses a post only design.

This research was conducted on senior high school students in Surabaya. The sample in this study was conducted using simple random sampling technique. There are 302 students in total as the sample. The sample was given action in the form of health education about reproductive health by using the Remaja Sehat application. The respondents study about reproductive health material and play games in the application. The respondents are given 1 week to study and operate the application. Then it will be measured according to the variables studied. The variables include adolescent

characteristics as well as triability and observability towards the decision to use Remaja Sehat application.

### Findings

#### 1. Characteristic of Respondent

**Table 1. Characteristic of Respondent based on Age, Residence, Gender**

Characteristic of Respondent	Frequency	Percentage (%)
Respondent's Age		
16 Years old	124	41.1
17 Years old	161	53.3
18 Years old	17	5.6
Respondent's Residence		
House	293	97
Boarding house/ dormitory	9	3
Respondent's Gender		
Male	121	40.1
Female	181	59.9

The frequency distribution generated according to the age of the respondents is based on the table above, at the age of 17 years old, there are 161 students or 53.3% while the age of 16 years old, there are 124 students or 41.1%, and the age of 18 years old, there are 17 students or 5.6%. The frequency distribution according to most respondents' residence based on the table above showed that 293 students live in the house or 97% while

**Table 3. Cross-tabulation Result of Characteristic Respondent (Age and Gender) with Triability, Observability**

Age	Characteristic Respondent					
	Triability					
	Good		Enough		Less	
	N	%	N	%	N	%
16	88	29.1	25	8.3	11	3.6
17	134	44.4	23	7.6	4	9.6
18	10	3.3	4	1.3	3	1.0

respondents live at the boarding house/dormitory are as much as 9 students or 3%. The frequency distribution according to the gender of the most respondents shown on the table above. There are 121 male students or 40.1%, while female respondents are as much as 181 students or 59.9%.

#### 2. Triability and Observability categories based on the results of respondents

**Table 2. Triability and Observability categories**

Triability		
Categories	Frequency	Percentage %
Good	232	76.8
Enough	52	172.2
Less	18	6
Observability		
Good	245	81.1
Enough	39	12.9
Less	18	6

Table 2 shows that the most categories in Triability are categorized as good with the total number 232 or 76.8%, while there are 52 students categorized as enough or 172.2% and categorized as less as much as 18 students or 6%.

Most observability variables are categorized as good with the number of students as much as 245 or 81.1% while in enough category, there are 39 students or 12.9 and as much as 18 students or 6% are categorized as less.

#### 3. Cross-tabulation Result of Characteristic Respondent (Age and Gender) with Triability and Observability

Observability								
16	101	33.4	15	5	8	2.6		
17	132	43.7	21	7	8	2.6		
18	12	4	3	1	2	0.7		
Gender	Triability							
	Good		Enough		Less			
	N	%	N	%	N	%		
Male	89	29.5	22	7.3	10	3.3		
Female	143	47.4	30	57.7	8	2.6		
Observability								
Male	94	31.3	21	7	6	2		
Female	151	50	18	6	12	18		

Table 3 show that Triability (44.4%), observability (43.7%) most widely categorized as good at the age of 17 years. Tables 3 show that Triability (47.4%), observability (50%), most widely categorized as good at female adolescents.

4. Cross-tabulation Result of Characteristic Respondent (Age and Gender) with Decision

**Table 4. Cross-tabulation Result of Characteristic Respondent (Age and Gender) with**

Gender	Decision			
	High		Low	
	N	%	N	%
Male	100	33.1	21	7
Female	1147	48.7	34	11.3
Gender	Decision			
	High		Low	
	N	%	N	%
Male	100	33.1	21	7
Female	1147	48.7	34	11.3

Table 4 show that high decisions (48.7%) most widely categorized as good at female adolescents. Table 4 show that high decisions (45.4%) most widely categorized as good at the age of 17 years.

5. Cross-tabulation Result of Characteristic Respondent (Residence) with Triability and Observability

**Table 5. The result of cross-tabulation of Residence with triability, observability**

Residence	Triability					
	Good		Enough		Less	
	N	%	N	%	N	%
House	226	74.8	50	16.6	17	5.6
Boarding house / dormitory	6	2	2	0.7	1	0.3
Observability						
House	293	79.1	36	11.9	18	6
Boarding house / dormitory	6	2	3	1	0	0

**Table 6. The result of cross-tabulation of Residence with decision**

Residence	Decision			
	High		Low	
	N	%	N	%
House	240	79.5	53	17.5
Boarding house/ dormitory	7	2.3	2	0.7

Tables 5 and 6 show that Triability (74.8%), observability (79.1%), and high decisions (79.5%) most widely categorized as good at the adolescents residing at house.

**6. The Effect of Triability and Observability with Decisions on the use of Remaja Sehat application**

Dependent	Independent	Significant
Triability	Decision	0.000
Observability	Decision	0.042

There is a significant effect of triability and observability on the decision to use Remaja Sehat application. These results indicate that Remaja Sehat application is possible to be retested and the results of this application can be seen easily as good from the

technical-economic advantages so it can accelerate the adoption process.

**Discussion**

**The Effect of Triability on the Decisions to Use Remaja Sehat Application**

This study uses several indicators to measure how much the triability is. These indicators are able to decide to maintain reproductive health, to feel happy to try Remaja Sehat application, and feel that Remaja Sehat application provides information that can be accessed easily.

Triability is the possibility to be tested from an innovation. According to Kurniawan, an innovation that can be tested can be adopted faster than an innovation that can't be tested. Innovation must also show how excellence and usability match the innovation users so that innovation can be adopted faster. In this study, triability is included as good categories. In line with the results of research on the usage of android smartphones are widely used in accessing various education needed. The easiness of downloading educational applications on Google Play<sup>(8)</sup>. In this study, application access has been available on Google Play as well as the easiness in operating Remaja Sehat education application.

In addition, innovation has to be maximally promoted to users to explain its usefulness, excellence until it can be tested. This can cause an increase in the user's confidence in using an innovation. Sholahudin's research shows there is no influence between triability and intention to adopt Solopos epaper because most of the respondents still don't know that the innovation can't be tested<sup>(11)</sup>.

This research is also supported by research from Kurniadi. The results show that there is a significant effect of triability on Blackberry product purchase decision making<sup>(12)</sup>.

The intensity of using a smartphone influences communication patterns and behavior. The results of other studies conducted have provided information that smartphone users use high duration and frequency. The content viewed is games, videos, music, social media<sup>(13)</sup>. In the results of this study can be found that the adolescents use and try the application that have been made.

### **The effect of Observability on the Decision to Use Remaja Sehat Application**

Observability is the results level of an innovation that can be seen easily as good from an economic technical advantage. The easier the user sees the results of an innovation, the greater the user will decide to adopt an innovation<sup>(5)</sup>. This study uses an indicator as an observability measurement tool listed in the questionnaire. These indicators are other people or friends interested in the Remaja Sehat application, friends have liked the innovation of Remaja Sehat application, feeling easy when friends or other people ask about the innovation of Remaja Sehat application.

Based on the results of the study, it shows that the more other people recommend or suggest to use Remaja Sehat application, the faster students will make decisions to use or download Remaja Sehat application. Supporting research is on Sholahudin research that showed there is a significant influence between observability on decision making to adopt innovative e-paper sloops<sup>(11)</sup>. In addition, on the research of Pertiwi that showed there is an influence of observability on the decision of purchasing Blackberry products and the most influential factor is the Observability<sup>(12)</sup>.

Remaja Sehat application that is developed can be effective as an educational media. Remaja Sehat media application can affect the Triability and Observability, it means the adolescents can try and feel that the application can be applied easily after observing and trying the media. This is in line with the research on using Android-based games that encourage the adolescents to change healthy lifestyles, that games can improve healthy lifestyles<sup>(14)</sup>.

### **Conclusion**

The effect of Triability and Observability in this study effect on the decision making on the use of Remaja Sehat application. Therefore the Remaja Sehat application can be used as an effective medium to provide education about adolescent reproductive health. The android-based application that is developed can be obtained easily and downloaded on the Google Play application. Aside from there are educational materials about reproductive health, there are also games that relevant to increase adolescent knowledge about reproductive health. The Remaja Sehat application that can be used easily can be one of the factors of Triability and Observability variables categorized as good.

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### **References**

1. BKKBN. Survei Kependudukan, Keluarga Berencana, Kesehatan Reproduksi Remaja dan Pembangunan Keluarga di Kalangan Remaja Indonesia. Jakarta: BKKBN, 2017.
2. Dewi AP. Hubungan Paparan Pornografi Melalui Elektronik Terhadap Perilaku Seksual Remaja. *Jurnal Online Mahasiswa Program Studi Ilmu Keperawatan Universitas Riau*.2(2):1141-8.
3. Darnoto ARP. Hubungan Penggunaan Smartphone dengan Perilaku Seksual Remaja di SMAN "X" Jember. 2016.
4. Romulo HM, Akbar SN, Mayangsari MD. Peranan pengetahuan Kesehatan Reproduksi Terhadap Perilaku Seksual Remaja Awal. *Ecopsy*. 2014;1(4).
5. Sri A. Media pembelajaran. Surakarta: UPT UNS Press Universitas Sebelas Maret. 2008.
6. BKKBN B, Kemenkes, USAID. Survei Demografi dan Kesehatan Indonesia Tahun 2017. Jakarta: 2017 September 2018. Report No.
7. Ashari A. FACTORS AFFECTING ACCOUNTING INFORMATION SYSTEMS SUCCESS IMPLEMENTATION (An Empirical Study on Central Java Small and Medium Company): Diponegoro University; 2008.
8. Juraman SR. Pemanfaatan smartphone android oleh mahasiswa ilmu komunikasi dalam mengakses informasi edukatif. *Jurnal Acta Diurna*. 2014;3(1).
9. Siswantara P, Soedirham O, Muthmainnah M. Remaja Sebagai Penggerak Utama dalam Implementasi Program Kesehatan Remaja. *Jurnal Manajemen Kesehatan Indonesia*. 2019;7(1):55-66.
10. Wahid F, Iswari L. Adopsi teknologi informasi oleh usaha kecil dan menengah di Indonesia. *Jurnal Inovasi dan Kewirausahaan*. 2007.
11. Sholahuddin S, Setyawan AA, Trisnawati R. Pengaruh Karakteristik Inovasi terhadap Niat Mengadopsi Solopos Epaper. 2017.

12. Kurniadi E. PENGARUH INOVASI PRODUK TERHADAP KEPUTUSAN PEMBELIAN TELEPON SELULER BLACKBERRY PADA MAHASISWA FAKULTAS BISNIS MANAJEMEN UNIVERSITAS WIDYATAMA BANDUNG: Universitas Widyatama; 2016.
13. Gifary S. Intensitas Penggunaan Smartphone Dan Perilaku Komunikasi (Studi Pada Pengguna Smartphone di Kalangan Mahasiswa Program Studi Ilmu Komunikasi Universitas Telkom). *Jurnal Sositologi*. 2015;14(2).
14. Rahmawati DI, Haryanto H, Setyanto DW. Perancangan Game Sebagai Upaya Sosialisasi Perilaku Hidup Sehat Dengan Mengonsumsi Air Putih Setiap Hari Pada Remaja Usia 10-18 Tahun Di Kota Semarang. Skripsi; 2016.