

The Internet: Source of Promise or Source of Concern? A Case Study Of Onamong Senior High School Secondary School Students In Of Four Senior High Schools In Semarang, Central Java, Indonesia

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ABSTRACT

Background: *As the Internet penetrates homes and schools, it's now become one of the major sources of information in adolescents' life. The amount of time adolescents spent in front of this media is likely to increase as its availability, affordability and anonymity brought generous advantages for them. Nevertheless, despite its benefits, many studies revealed that the Internet also brought very serious risks to adolescents' sexual attitudes and behaviors. This study examined the influence of the Internet and other factors contributing to adolescents' sexual attitudes.*

Methods : *It was a cross-sectional study, employing a self-administered questionnaire in a semi-school setting involving 320 students in Semarang.*

Result : *45.9% of the adolescents had permissive sexual attitudes. Sex, peer influence, television exposure, internet exposure, and internet content were significantly correlated to adolescents' sexual attitudes whereas living arrangements, family relations, knowledge, printed media exposure and motive of internet access were not. The likelihood of having more permissive sexual attitudes was 3.93 and 1.81 times higher among adolescents who were unable to mention any websites and those who accessed entertainment websites. Adolescents with higher internet exposure were 0.28 times less likely to have more permissive sexual attitudes. This study indicates that the Internet exposure does not form adolescents' sexual attitudes. It was not exposure to the medium, but users' attitudes toward it which lead them to have permissive sexual attitudes.*

Keywords : *Internet, exposure, adolescents, sexual, attitudes*

BACKGROUND

Semarang as Central Java's capital is considered as representative of Javanese Culture. Javanese ethnic in the past was very well known with its norm which holds Moslem traditional value strictly. Nevertheless, some study revealed that youth in Central Java nowadays enjoy much more liberal environment than is found (Ford, Shaluhayah, & Suryoputro, 2007). Youth sexual attitudes and behavior are becoming more permissive (Ford et al., 2007; Shaluhayah, 2006; Winarno, 2008). There were 18% males and 6% females of Central Java's youth had engaged to premarital sexual intercourse (Ford et al., 2007; Winarno, 2008). Forty eight percent of university students in Semarang touched their partner's genital, 28% experienced petting, and 20% admitted had engaged to premarital sexual intercourse (Shaluhayah, 2006). Thus become a concern since adolescents are in an exploratory phase of life, they do not plan their sexual experience and often are not well prepared or informed about sexual practices.

Most people would agree that in an ideal world, young people would search their parents for information about sexuality. Parents and children would be able to talk about sex, sexuality, and relationships in a convenience atmosphere. In practice, parents are often reluctant to talk to their children about sex (Strasburger, 2006). When they do, the information they provide is often more about physiological changes than about emotional condition that accompanies sexuality or about managing sexuality appropriately and healthfully. Meanwhile, sex education provided in schools also does not provide a comprehensive picture.

It is not so surprising when adolescents trying to figure it out by themselves, through the simplest way and comfortable, their peer (DeLamater, 1981) and media (Sarwono, 1989; Suzuki & Calzo, 2004). In the absence of other comfortable sources for seeking information, media help to fill information gaps for young

people, providing information about topics that parents and schools are not discussing (Strasburger, 2006).

The amount of time adolescents spend using computers and going online is likely to increase as computer penetrate homes and schools. In United States, Internet use is particularly high for adolescents, 75.6 percent of 14-to 17-year-olds and 65.4 percent of 10-to13-year-olds (Gray, Klein, Noyce, Sesselberg, & Cantrill, 2005). In Europe, British adolescent's Internet use was approximately 36%, with five hours as an average time used (Thornburgh & Lin, 2002).

Compared to developed countries like USA and British, South East Asian economies are more generally in the developing phase when it comes to Internet, with user penetrations typically at the lower end of the scale (FamilySafeMedia, 2006). Despite highly penetrated Internet markets to be found in Singapore, Brunei and Malaysia, of Asias estimated 450 million Internet users in early 2007, only about 65 million were to be found in South East Asia. In other words, South East Asia had around 14% of the Internet user population of the region at the time.

In Indonesia, media use among youth is understudied. Data are available only for household Internet user. National Statistic Bureau (*Biro Pusat Statistik*) did not collect indicators related to adolescent's Internet use (Osgerby, 2004). However, it was found about 2.2 million from total 58.8 million household (3.68%) had computer and 27% of them connected to Internet. According to Internet Service Provider Association, there were about 20 million people or about 9 people for every 100 citizens (9%) in Indonesia accessing Internet (Research&Market, 2007). In Central Java, specifically in Semarang, internet is more widely used nowadays especially when it penetrates schools. Out of 97 high schools in Semarang, approximately 25 % of them are already connected to internet.

The existence of Internet then becoming controversial because its source of promise and

source of concern:(Thornburgh & Lin, 2002). Despite its risk providing sexually explicit online material, many people argued that Internet provide information about health and live :(Brown & Keller, 2000; Greenfield, 2004; Lenhart, 2005). By its accessibility, availability and affordability, Internet widely reaches community across the countries providing information people needed. Internet make people's life become more efficient, more productive, enabling them to avoid unnecessary transportation that make them less stress, have more time and new online contact (Barak & Fisher, 2001, 2003; Brown & Keller, 2000; Feldman, 1989; Gray et al., 2005; Greenfield, 2004; J. A. Levy & Strombeck, 2002; Lou, Zhao, & Gao., 2003; Osgerby, 2004; Thornburgh & Lin, 2002).

However, the extent of sexually explicit online material which intentionally or unintentionally seen by adolescents have been studied would bring negative impact to them. Many study indicated that the exposure of sexually explicit material associated to adolescent's recreational attitude towards sex and behaviors (Brown & Keller, 2000; Fleming, Greentree, Cocotti-Muller, Elias, & Morrison, 2006; Gray et al., 2005; M. R. Levy & Windahl, 1984; Lo & Wei, 2005; Lou et al., 2003; O-Prasertsawat & Petchum, 2004; Peter & Valkenburg, 2006; Phoemshap, 2003; Thornburgh & Lin, 2002). Therefore, Internet brought a very serious risk to adolescents, related to the nature of adolescents who has high curiosity about sexual matters on the one hand, and on the other hand, their experiences on it very limited so they don't have enough ability to put the information consisted sexually material on the right perspective :(Ross, Dick, & Ferguson, 2006).

RESEARCH DESIGN

This study was a cross sectional study conducted on August-September 2008, involved 320 students who randomly selected from two strata, public and private schools in Semarang.

Schools were selected based on the availability of internet connection as major criteria. 11th grade classes which currently received internet curriculum during the period of data collection were selected. The respondents were then chosen randomly from those classes by using a coin. Researcher walked in a class from the closest seat from the door and then asked a student to choose a side of the coin to determine whether he/she involved in the study. Selected students then were given a sealed envelope to be brought home. This step repeated until the minimum number of schools' sample obtained.

Prior to the implementation of the survey, institutional approval, and adolescents' oral consent were obtained. Respondents were given a brief introduction about the research purposes, assured that their answers would remain anonymous and finally, they were asked to make sure that they filled in the questionnaire in privacy. They brought the anonymous questionnaire home in a sealed envelope and returned it the next day.

Self administered questionnaire based on semi-school setting was employed to measure variables. The set of variables were derived from cultivation theory, uses and gratification theory and theory of reasoned action especially on subjective norm. Individual factors consisted of socio-demographic characteristic (sex, living arrangement, and daily pocket money) and knowledge, whilst social factors consisted of family interaction and peer influence. Various media exposure was measured, including printed media (magazines, newspaper, comic book), visual media (television and VCD/DVD), and the Internet. Internet exposure, internet content and motive of accessing internet become the main focus of the study.

RESULT AND DISCUSSION

As many study revealed, adolescents are heavy users of various media (Coleman, Catan, & Dennison, 2005; Osgerby, 2004; Strasburger, 2006; Thornburgh & Lin, 2002). They are en-

gage with several kinds of media at the same times. Since all of selected schools provided internet connection for their students, all of respondents in this study were exposed with internet.

Out of 335 respondents, 329 of them returned the questionnaires. However, nine respondents were excluded from analysis since they were not complete the form, thus make the response rate 95.5% and therefore, the total sample was 320 students.

1. Characteristic of Study Population

From 320 subject of study, more than half were female and most of them were Javanese. Nevertheless, there were about 7.8% of them were Chinese and the rest were mixed of many ethnics in Indonesia. Although the vast majority of respondent (81.6%) were Moslem, there were 18% of respondents were Christian, and less than 1% were Buddhist.

This finding indicated that Semarang as one of urban area in Central Java attracts many

people from different kind areas to visit and then finally lived in. With the variety of ethnic, culture and religion, it might bring an effect to one's attitudes and behavior who lived in.

2. Sexual Attitudes

It seemed that adolescents' sexual attitudes nowadays have been shifted from less permissive to more permissive. This study found that 45.9% of adolescents were more permissive. Although two third of them negatively respond to premarital sexual intercourse as marital adjustment, there were still 12.8% undecided and 10.6% positively respond to such statement.

This study also found that there was an inconsistency of attitudes towards condoms. Although about a half of respondents agreed using contraception as the act of responsible person, but more than half agreed that using condom with regular boy/girlfriend were unnecessary. This finding somehow showed that adolescents' lack of knowledge and their ignorance will simply put them in a risky sexual practices which possibly

Table.1. Characteristic of Study Population

Variables	n	%
Sex :		
Male	136	41.2
Female	184	55.8
Total	320	100
Ethnicity :		
Javanese	285	89.1
unda	1	0.3
Batak	4	1.2
Padang	1	0.3
Betawi	1	0.3
Bugis & other Sulawesi	2	0.6
Dayak & other Kalimantan	1	0.3
Chinese	25	7.8
Total	320	100
Religion :		
Moslem	261	81.6
Buddhist	1	0.3
Christian	58	18.1
Total	320	100

harm them to the occurrence of unwanted pregnancy and sexually transmitted disease.

Respondents' attitudes towards prostitutes, cohabitation, homosexuality and pornography showed a normative result. More than half judged that prostitutes as well as cohabitation were immoral. Their attitudes towards homosexuality and erotic movies were obviously clear as rejection. However, nearly half of respondents were unsure about masturbation.

Logistic regression showed that several factors determined adolescents' sexual attitudes (see table 3). Internet Content was found to be the strongest predictor. Whilst motive of access was failed to predict, the internet exposure was found

as a protective factor for adolescents. Other media exposure, sex, ethnicity, living arrangement and peer influence also predict adolescents' sexual attitudes.

3. Internet Exposure

The amount of times adolescents devoted to internet is more likely to increase as this technology more available in the community. Several years ago when the cost of internet subscriber was relatively high, adolescent went to internet café and should pay around 7500 IDR (0.75 USD) for an hour of internet access. But nowadays, one's should pay only 100.000-200.000 IDR (10-20 USD) a month to have daily internet connection at home. Moreover, as the govern-

Table.2. Respondents' Level of Permissiveness

Variables	n	%
Sexual Attitudes:		
Less Permissive	173	54.1
More Permissive	147	45.9
Total	320	100

Table.3. Determinant Analysis of Adolescents' Sexual Attitudes

Variables	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Internet Exposure	-1.248	.089	197.658	1	.000	.287	.241	.342
Internet Content			70.476	3	.000			
Entertainment sites	.595	.093	41.025	1	.000	1.814	1.512	2.176
Potentially harmful or porn sites	-.326	.262	1.552	1	.213	.722	.432	1.205
Unable to mention any sites	1.369	.276	24.574	1	.000	3.930	2.288	6.751
Internet Motive			4.794	2	.091			
Communication	.508	.232	4.788	1	.029	1.663	1.054	2.622
Entertainment	.454	.229	3.932	1	.047	1.575	1.005	2.468
TV Exposure	-.367	.088	17.552	1	.000	.693	.583	.822
Comic Exposure			6.467	2	.039			
Low exposure	.251	.100	6.265	1	.012	1.286	1.056	1.565
High exposure	.073	.109	.447	1	.504	1.075	.869	1.330
Peer Influence	-.598	.104	33.155	1	.000	.550	.449	.674
Living Arrangement	.395	.094	17.774	1	.000	1.484	1.235	1.783
Ethnicity	-1.414	.157	80.777	1	.000	.243	.179	.331
Sex	1.212	.098	152.963	1	.000	3.360	2.773	4.072
Constant	-1.025	.246	17.305	1	.000	.359		

ment of Indonesia starts to establish internet connection at schools, the cost of internet accessed has been rapidly decrease (subsidized) and given free for the students. As a result, most of students in urban area are more familiar with internet.

The study found that more than half of respondent was low exposed with internet. They accessed the Internet for about 9 hours a week. Considering that they have regular internet connection at school with 2-4 hours in a week, this number are the result of school, home and other places access such as their friends' house and internet café.

Among low exposed respondents, there were more females with high level of permissiveness whilst among respondents who high exposed, most female and males were in low level

of permissiveness (see table 4). The exposure of internet may play as protective role for adolescents sexual attitudes. Adolescent who exposed internet in higher degree are 0.28 times less likely to have more permissive sexual attitudes. This finding somehow proved that the Internet was truly a good medium to deliver health messaged especially to young people since they are getting more involved with this media.

For the students, the Internet helped them in finding information related to school's assignment as well as other information they are interested in. The availability of Internet in their school gives them opportunity to access the Internet more advance and more convenient than going to library. The lower price of internet subscriber also give them a chance to interact with this media

Table.4. Internet and Sexual Attitudes by Sex

Note : *) variables significant at bivariate analysis with p value <0.05

Group (1) : Accessed mailing, networking, communication websites

Group (2) : Accessed entertainment websites

Group (3) : At least mention one potentially harmful or porn sites

Group (4) : Unable to mention any websites

more frequent than other media (Barak & Fisher, 2001, 2003; Brown & Keller, 2000; Feldman, 1989; Gray et al., 2005; Lou et al., 2003; Thornburgh & Lin, 2002).

Adopting Cultivation Theory, heavy exposure to mass media creates and cultivates attitudes more consistent with a media-directed version of reality than with reality it self. Media portrayals and messages affect the behavior of young persons over time by enabling them to acquire new attitudes and behaviors or by changing the likelihood that they will perform new or previously learned responses (Chandler, 2006; Escobar-Chaves et al., 2005; Shanahan & Morgan, 1999; Ward & Rivadeneyra, 1999).

Referring this theory, the information that adolescents obtained from the Internet may influence their attitudes both in positive and negative way. The internet may lead them to have a good sexual attitudes when they have good enough searching skill and are well informed about kind of websites they are might needed to find such information. Barak and Crutzen studies revealed that Internet played an important role in raising awareness of adolescents on sexual reproductive health matter. Adolescents whose more exposed with the Internet significantly have higher knowledge and better attitudes toward sexual matter (Barak & Fisher, 2001, 2003; Barak & King, 2000; Crutzen, 2009; Goodson, McCormick, & Evans, 2001; Lou et al., 2003). However, many scholars also argued that frequency or exposure was significant predictors of adolescents' sexual attitudes (Phoemshap, 2003; Ward & Rivadeneyra, 1999). One concern of high internet exposure was the extent of sexually explicit online material which intentionally or unintentionally seen by adolescents. Whilst sexually explicit online materials have been widely provided, their skill on managing the risks from the excess of such material was lacking. As a result, the exposure of sexually explicit online material brings negative effects to their sexual attitude and behavior (Adebayo, Udegbe, &

Sunmola., 2006; Barak & Fisher, 1997; Barak & King, 2000; Brown & Keller, 2000; Fleming et al., 2006; J. A. Levy & Strombeck, 2002; Peter & Valkenburg, 2006; Phoemshap, 2003).

4. Internet Content

The benefits of internet accessibility have been widely applied to many sector of life. Internet-delivered health behavior intervention change in most studies brought a very good result (Crutzen, 2009). There was a significant difference of knowledge among adolescents who exposed with a specific internet intervention program (Cernada, Chang, Lin, Sun, & Cernada, 1986; Crutzen, 2009; Lou et al., 2003). Internet accessibility enable health providers to disseminate health information to a larger coverage area with the most effective and efficient way (Berland et al., 2001; Gray et al., 2005; J. A. Levy & Strombeck, 2002). Likewise, in educational field, internet nowadays has been promoted to be a supporting tool for students in finding educational information by e-learning method.

This study found most of respondents accessed entertainment websites (49.1%) and education-mailing-communication websites (42.5%). There were only 4.1% openly admit they accessed potentially harmful or porn sites and 4.4% were unable to mention any websites. Table 4 showed that respondents who have more permissive sexual attitudes were mostly those who accessed entertainment websites (group 2). However, the likelihood of having more permissive sexual attitudes were 3.930 and 1.814 times higher among adolescents who unable to mention any websites and among those who accessed entertainment websites.

It is believed that adolescents who unable to mention any websites actually had the same risk with those who exposed with potentially harmful or porn sites. They unable to mention any websites probably because they were reluctant to openly mention the name of the sites they have visited, or they couldn't remember the name of websites they have visited, especially

when it popped out onto their computer screen. Moreover, it is not necessary to search porn sites since nowadays there are many advertisements and links that directly guide internet users to visit those porn sites just with one click.

These studies found only few respondents (4.1%) openly admit that they visited potentially harmful or porn sites. Most of them (49.1%) only mention some entertainment websites as their most frequent visited sites. However, referring to their keywords, it was found that some of them visit potentially harmful or porn sites. *Lalat x, Japanesse girl, sex, bokep, bisex, pic, and gambar xxx*, were some keywords which suspected leading the youngsters to sexually explicit online material.

5. Motive of Access

According to uses and gratification theory, internet users' motive divided into affection, control and inclusion. In 1988, six primary motives for interpersonal communication were suggested: pleasure, affection, inclusion, escapism, relaxation and control. In 1998, Flaherty, Pearce and Rubin reported that individuals used computers to satisfy three major needs: interpersonal needs (inclusion, affection, relaxation and control); traditional needs associated with media (social interaction, passing time, information, habit, entertainment); and new media needs such as time shifting, meeting other individuals (Angelman, 2000; Johnson & Kaye, 2003).

Most of respondents had education motive (59.1%) and followed by communication motive (33.4%). Less than 5% of respondents accessed the Internet for entertainment purposes. Nevertheless, study found that there was no association between internet users' motive to their attitudes. Logistic regression was also failed to predict motive of access as determinant factor of adolescents' sexual attitudes. One possibility which may explain this finding is, it is extremely difficult to distinguish internet users' single motive. Most of internet users access the internet for more than one motive at the same times.

Normally, one's accessing email for communication motive, but at the same time he or she might also view video or music as entertainment motive. The possibility of internet to be accessed for variety of purpose bring this study into a recommendation for further research to identify the motive of access by analyze the proportion of each motive for every internet users rather than a single motive.

6. Other Media Exposure

Except the Internet, other media exposure was also influencing adolescents' sexual attitudes. In average, respondents exposed by various media (printed, visual and internet) for 54 hours a week, consisted of 8 hours printed media exposure, 38 hours visual media exposure and 9 hours internet exposure. Most of them (52.2%) low exposed by printed media and visual media (64.1%).

Table 5 showed that generally, high exposed males were less permissive; on the contrary, high exposed females were more permissive. At bivariate level, television and visual media was only significant to female adolescents' sexual attitudes whilst printed media had no association to both gender. However, logistic regression showed that adolescents who had low exposure of comic book were 1.286 times more likely to have more permissive sexual attitudes.

Television exposures protect adolescents from having more permissive sexual attitudes. Adolescents who have higher level of television exposure were 0.69 times less likely to have more permissive sexual attitudes. This finding somehow showed that as well as internet, television would provide any information adolescents' needed, especially sexual reproductive health matter. Since the Internet and television are the most popular media for adolescents, its role in providing information on sexual reproductive health are undeniable.

7. Individual and Social Factors

From several individual and social factors analyzed in this study, sex, living arrangement,

and peer influence predicted adolescents' sexual attitudes. Table 6 showed that most females were more permissive.

This finding opposed to previous studies which revealed males were held more recreational attitudes toward sex whereas female were held more traditional value (Eggleston, Jackson, & Hardee, 1999; Ford et al., 2007; O-Prasertsawat & Petchum, 2004; Oliver & Sedikides, 1992; Phoemshap, 2003; Shaluhayah, 2006; Thornburgh & Lin, 2002; Ward & Rivadeneyra, 1999; Werner-Wilson, 1995). The discrepancy might be caused by the influence of visual media exposure to female sexual attitudes. Chi-square test on bivariate level showed that television exposure was only significant to females. Whilst other variables were failed to showed the differences between males and females, television exposure clearly showed that female adolescents were exposed more by visual media such as television than did males. It is possible because female adolescents were more likely to spend more time and watched television at home than did males. As many scholars notice that mass media could bring both positive and negative impact to its users, it seemed female in this study were less benefited by television. The genres of television programs had been watched probably have more influence to female sexual attitudes. Whilst most males prefer news and sport, most females prefer news, infotainment and soap operas as their most watched programs.

In term of living arrangement, this study found that most of respondents lived in a free arrangement. Although most of them lived in their parents' house (90.3%), however, 47.2% had no curfew time and allowed to accept their guests freely. Thus become a concern since previous studies revealed that premarital sexual intercourse often occurred at parents' house when they were lack of parents' supervision (Suwarni, 2009).

Both bivariate and multivariate analysis were failed to predict daily pocket money and knowl-

edge to adolescents' sexual attitudes. The study showed that respondents' daily pocket money ranged from IDR 5000 to 10.000. With such amount of money, however, most of respondents' expense was on entertainment needs. Education only placed at the 2nd level after enjoyment or entertainment.

Respondents' knowledge level was mostly (60.3%) on low degree. Many misconceptions occurred around pregnancy and STIs modes of transmission. Respondents perceived that withdrawal before ejaculation and urinate after sexual intercourse might prevent them from pregnancy. Moreover, thirty nine percent of adolescents had low awareness on the risk of being pregnant at their first sexual intercourse.

By contrast, respondents' knowledge on STI was quite good. Most of them were aware that having sex with many people and receiving blood transfusion from a person who has STIs would put them on a high risk situation. Nevertheless, some of respondents assumed that STI was transmitted through sharing meals/cup with person who has STI and insect bite.

In term of social factor, family relation failed to predict adolescents' sexual attitudes whereas peer influence protected them from having it in higher level. This study found that most of adolescents were having loose relation with their family. When most of them were rarely solved their problem by them selves, teachers were obviously not their reference as well as teacher, parents and siblings. Indeed, most of them (90%) seek their friends to share and seek advises. It was proven that parents and child communication were lacking, shown by the finding that most of respondents rarely discuss about sexual reproductive health matter as well as other issues with their parents. Peer influence determined adolescents' sexual attitudes. The probability of having more permissive sexual attitudes was higher among those who have low rate of peer influence.

CONCLUSION

Sexual attitudes of adolescents in Semarang tend to shifted from less permissive become more permissive nowadays. Given the number of adolescents who have a higher level of permissiveness, the risk of unwanted pregnancy and sexually transmitted disease will be much higher since many study indicated that attitudes may predict behavior. Adolescents who have higher level of permissiveness, will be more likely to engage in risky sexual behavior when the conditions support them.

As many studies suggested that the Internet might bring both risks and benefits to its users, this study indicates that the Internet was not the only factors forming adolescents' sexual attitudes. It was not exposure to a medium, but the users' attitudes toward it which lead them to have more permissive sexual attitudes. Therefore, since internet exposure might protect adolescents from having more permissive sexual attitudes by providing information on sexual reproductive health, there is no reason to limit adolescents' internet use. However, it is necessary to equip them with a proper self risk management skill, including the skill in preventing and handling unintentionally access of sexually explicit online materials.

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