



ANALYSIS OF SOCIOCULTURAL CHANGES IN THE ERA OF INDUSTRIAL REVOLUTION 4.0 ON MENTAL HEALTH IN TEENAGE WOMEN

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ABSTRACT

The era of industrial revolution 4.0 brought changes to the social life system of Indonesian society. The negative impact faced by teenagers with negative and irresponsible information can destroy the mentality of the younger generation in building the nation. This quantitative research uses a cross-sectional design. The population of this study was all 60 female students of SMA Negeri 11 Ambon who were selected using stratified random sampling techniques. The instrument used was a questionnaire. Bivariate analysis uses the chi-square test, and multiple linear regression to test the influence of independent variables on mental health. Bivariate analysis shows that the proportion of poor mental health without social isolation is 25 (41.7%) higher than the proportion of mental health with social isolation, namely 2 (3.3%). The results of bivariate analysis show that the proportion of poor mental health without Hedonism is 27 (45.0%) higher than the proportion of mental health with Hedonism, namely 0 (0%). The results of bivariate analysis show that the proportion of poor mental health without bullying is 25 (41.7%) higher than the proportion of mental health with bullying, namely 2 (3.3%). The results of the chi square test stated that the p-value was <0.05 between the variables social isolation (0.008), hedonism (0.000) and bullying (0.015) with mental health. The results of the multiple linear regression test found that hedonism had the most influence on mental health with a p value = 0.012. This value shows that there is a relationship between each variable (social isolation, hedonism and bullying with mental health. And hedonism as the variable that has the most influence on mental health.

Keywords: industry 4.0; mental health; socio-cultural

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INTRODUCTION

In this era of industrial revolution 4.0, it can bring changes and technological developments (Sampetoding et al., 2022). It also weakens the social life system in Indonesian society. Meanwhile, it can influence teenagers with negative and irresponsible information and can destroy the mentality of the young generation or teenagers who will build the nation and state because of the seamless exchange of global information. Globalization has resulted in psycho-social and adolescent health problems with deviant sexual behavior, same-sex liking, many cases of bullying circulating and lifestyles influenced by social media (Arif Ainur Rofiq, 2019). On the other hand, due to this technology, non-verbal communication is becoming increasingly minimal and attachment between individuals is becoming weaker due to the increasing rapidity of anonymity in social life (Dr. Dewi Retno Suminar, 2019).

Social and cultural context can never be separated from the development of human social life (Dr. Dewi Retno Suminar, 2019). The socio-cultural changes that are currently occurring are causing changes in all areas of people's lives, including in the family, especially in teenagers (Daniswara & Risko Faristiana, 2023). Today's teenagers, who are called generation Z, are those who have known and been accustomed to various forms of gadgets since childhood. In Indonesia, the largest number of active social media users are teenagers, especially teenage

girls. In fact, quite a few of them have more than one social media account such as Facebook, Twitter, Instagram and WhatsApp, which sometimes become a medium for spreading gossip or insinuating each other about someone (Rosita Dewi, 2020).

There are also many who use social media to sell online and for social activities that make it easier for people to shop, which can be one of the factors that makes it easy to buy goods but makes them addictive. It is feared that the development of communication technology will result in a crisis in communication as well as a culture of bullying and a lifestyle full of unlimited fun which could have a negative impact and also shape individualistic personalities, especially in the younger generation. Teenagers tend to be influenced by their attitudes. In terms of social media, usually women, especially young women, are more influenced by the information on social media. This is believed to be because women use social media more often every day than men. They are the ones who check their social media accounts more often, and this makes them more vulnerable to psychological stress (Rosita Dewi, 2020).

Mental health is related to happiness, including positive thinking, communication skills, learning, emotional growth, flexibility and self-confidence (Subaryana, 2022). The problems of Indonesian teenagers include 3 important things; social problems, cultural problems and morality problems (Aisyaroh et al., 2022). Mental health disorders or depression are mental health problems that are prone to occur in adolescents. Based on data from the Ministry of Health in 2023 in Indonesia, it shows that as many as 6.1% of the Indonesian population aged 15 years and over experience mental health disorders. According to data from RISKESDAS 2018, Maluku is ranked 10th for severe mental disorders in the population aged over 15 years based on the province (Liesay et al., 2023).

Research on mental health in the Industrial Revolution 4.0 era has been conducted previously from 2019-2022 with several topics such as Analysis of Mental Health of College Students at the Beginning of the Covid-19 Outbreak in Indonesia with the results of the study showing that as many as 46% of College X students have poor mental health status. Of the ten explanatory variables, there are four variables that have a significant effect on mental health, namely gender, social support, smartphone dependence, and income (Aloysius & Salvia, 2021), further research entitled Cyberbullying Victimization and Mental Health in Adolescents with research results showing that adolescents who have lower experience as victims of cyberbullying have positive mental health. Conversely, adolescents who have higher experience as victims of cyberbullying have negative mental health. (Ningrum & Amna, 2020). Next, Mental Health in Adolescents with Results: The majority of respondents were aged 19-24 years, as many as 117 (44.2%) and the gender was dominated by women, as many as 138 (52.1%).

According to the Psychiatrist of the Maluku Regional Special Hospital (RSKD), Dr. Sherly Yakobus emphasized the importance of awareness of mental health for millennials in Maluku. What is currently trending is anxiety to depression. If for example there are teenagers who are depressed, overly anxious because of certain things and then not checked, it will actually have an impact on other negative things such as violence against teenagers to suicide. The reason is that these problems can be caused by many things such as economic and other social problems. Based on a preliminary study conducted by researchers in the field with a brief observation, there were many female students sitting together but busy with their own cellphones and when a short interview was conducted regarding the lifestyle of today's teenagers, several female students said that they like to shop, eat well and want to have luxury goods. Thus, this research has the aim of analyzing the lifestyle patterns of adolescents from

the aspects of (1) Social isolation/interaction patterns, (2) Hedonism (3) Bullying, (4) Mental health of adolescent girls, which is an initial screening in carrying out promotive, preventive, curative, and rehabilitative efforts regarding mental health so that adolescent health in Indonesia, especially Maluku, can be achieved evenly and optimally.

METHOD

This research uses quantitative methods with a cross-sectional design. The research population was all female students at SMA Negeri 11 Ambon. A sample of 60 female students was selected using a stratified random sampling technique based on class. The instrument used is a questionnaire that has been tested for content validity ($> 0,361$) and internal consistency reliability ($0,789$) on the research instrument. Data collection using primary data was obtained through a questionnaire that measured the variables of social isolation, hedonism, bullying and mental health. Secondary data in the form of demographic data was obtained from schools. Univariate analysis was carried out to describe the characteristics of respondents. Bivariate analysis uses the chi-square test to test the relationship between categorical variables, and multiple linear regression to test the influence of independent variables on mental health. This research has received ethical approval from the STIKES Nani Hasanudin Health Research Ethics Committee, on 08/08/2024, with registration number: 277/STIKES- NH/KEPK/VIII/2024.

RESULTS

Table 1.
Distribution of Respondent Characteristics at SMA Negeri 11 Ambon

Characteristics	Category	f	%
Age	18 years old	20	33,3
	17 years old	20	33,3
	16 years old	20	33,3
Class	X	20	33,3
	XI	20	33,3
	XI	20	33,3

Based on the results of the distribution of respondent characteristics in table 1, it is known that the age of respondents ranges between 16 (33.3%) 17 (33.3%) and 18 (33.3%) years, consisting of classes X, XI and XII with an average total of 20 respondents per class.

Table 2.
Frequency Distribution Based on Social Isolation, Hedonism, Bullying and Mental Health

Characteristics	Category	f	%
Social Isolation	Yes	46	76,7
	No	14	23,3
Hedonism	Yes	48	80,0
	No	12	20,0
Bullying	Yes	47	78,3
	No	13	21,7
Mental Health	Good	27	45,0
	Not Good	33	55,0

Based on table. 2 shows that the social isolation variable is that there are 46 (76.7%) female students with no social isolation and there are 14 (23.3%) female students with social isolation, based on the distribution of hedonism there are 48 (80.0%) female students with no hedonism and there are 12 (20.0%) female students with hedonism, for the bullying variable there are 47 (78.3%) female students who do not experience bullying and there are 13 (21.7%) female students who experience bullying, in mental health there are 27 (45.0%) female students who do not experience mental health and there are 33 (55.0%) female students who experience mental health.

Table 3.
Bivariate Analysis of the Relationship between Social Isolation and Mental Health

Bivariate Analysis of the Relationship between Social Isolation and Mental Health						
Variable	Chategory	Mental Health				p-value
		Not Good		Good		
		(n)	%	(n)	%	
Social Isolation	No	25	41,7	21	35,0	0,008
	Yes	2	3,3	12	20,0	
Hedonism	No	27	45,0	21	35,0	0,000
	Yes	0	0	12	20,0	
Bullying	No	25	41,7	22	36,7	0,015
	Yes	2	3,3	11	18,3	

Based on table. 3, it is known that the results of the bivariate analysis show that the proportion of poor mental health with no social isolation is 25 (41.7%) higher than the proportion of mental health with social isolation, which is 2 (3.3%). The results of the bivariate analysis show that the proportion of poor mental health with no Hedonism is 27 (45.0%) higher than the proportion of mental health with Hedonism, which is 0 (0%). The results of the bivariate analysis show that the proportion of poor mental health with no Bullying is 25 (41.7%) higher than the proportion of mental health with bullying, which is 2 (3.3%). The results of the chi square test stated that the p-value was <0.05 between the variables social isolation (0.008), hedonism (0.000) and bullying (0.015) with mental health. This value shows that there is a relationship between each variable and mental health.

Table 4.
Results Of Multiple Linear Regression Tests On Variables That Influence Mental Health

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.678	.224		3.027	.004
Isolasi Sosial	.184	.161	.156	1.138	.260
Hedonisme	.436	.168	.351	2.603	.012
Bulying	.100	.168	.083	.594	.555

Based on the results of the multiple linear regression test to test the influence of independent variables on mental health, it was found that the most influential result was Hedonism on Mental Health with a p value = 0.012, of the three variables tested, namely Social Isolation, Hedonism and Bullying.

DISCUSSION

This study was conducted to analyze the relationship between Social Isolation/Interaction Patterns, Hedonism, and Bullying in the era of the industrial revolution 4.0 on Mental Health in female adolescents at SMA Negeri 11 Ambon. The results of the data analysis showed that there was a relationship between poor mental health in female students who did not experience social isolation, then there was a relationship between poor mental health in female students who did not experience Hedonism, and there was a relationship between poor mental health in female students who did not experience Bullying.

Social isolation

The data shows that from the bivariate analysis of the social isolation variable, the p value is obtained = 0.008. These results indicate that social isolation has a significant relationship to the mental health of adolescent girls in the current industrial revolution 4.0 era. However, in this study, it was found that there were 25 (41.7%) female students who experienced poor mental health without social isolation. The social isolation factors in this study include; socializing/communicating with friends, frequent use of gadgets when with friends and being embarrassed when communicating with others. This is in line with research conducted

by (Zeng et al., 2022) he explained that some scientists use the social network scale to measure subjective social isolation, that is, if someone scores low, they are considered to be experiencing social isolation. Scientists measure it with the loneliness index, which can more directly reflect the level of social isolation from the individual's subjective perception.

Social isolation can be interpreted as a condition when someone has little social contact, does not engage with others, which can cause someone to feel lonely, rejected and not accepted. Social isolation can occur due to shyness, lack of self-confidence, lack of social skills and difficulty making new connections. Findings in other studies show a significant increase in the amount of time adolescents spend on activities in the virtual environment (internet) and a decrease in the time spent on activities in the real world. There are significant differences in the form of these activities based on gender: in the real environment, girls spend more time than boys. Correlation analysis showed that the more time students spent actively in the virtual environment, the higher their levels of depression ($R=0.27$; $Tn<0.001$), anxiety ($R=0.25$; $Tn<0.001$), stress ($R=0.25$; $Tn<0.001$). The duration of online activities was also negatively correlated with psychological well-being ($R=-0.13$; $Tn=0.013$), emotional well-being ($R=-0.15$; $Tn=0.003$) and social well-being ($R=-0.12$; $Tn=0.026$). (Sikorska et al., 2021).

A survey of 14,302 adults from 101 countries showed a prevalence of social isolation of 13% in 2021, another study involving 32,359 Spaniards resulted in 26% in 2022. The prevalence of social isolation has increased as the COVID-19 pandemic continues. Where there are challenges for students, namely reduced interaction with classmates and teachers, with survey results showing that 70% of studies are negatively affected, Therefore, the respondents of this study mainly focused on the group of students, and defined social isolation as two dimensions, namely: loneliness at the subjective level and social distance at the objective level (Zeng et al., 2022).

Social isolation is a growing public health problem associated with poor physical and mental health outcomes including increased morbidity and mortality and reduced quality of life. Social isolation can be defined as an objective lack of social interaction while the related concept of perceived social isolation (e.g., loneliness and perceived lack of social support) is characterized by a subjectively perceived lack of social interaction. Loneliness is specifically defined as the distressing experience of a discrepancy between desired and actual social connections. (Brandt et al., 2022). This study shows that there is a relationship between social isolation and mental health of adolescent girls which can be caused by lack of social contact, not being involved with others, feeling lonely, not accepted, feeling shy, lacking self-confidence, lacking social skills and difficulty making new connections. Based on several factors, it could be one of the reasons why adolescent girls at SMA Negeri 11 experience poor mental health but do not experience social isolation.

Hedonism

The data shows that from the bivariate analysis of the Hedonism variable, a p value of 0.000 was obtained. These results indicate that Hedonism has a significant relationship to the mental health of female adolescents in the current era of the 4.0 industrial revolution. However, in this study, it was found that there were 27 (45.0%) female students who experienced poor mental health with No Hedonism. The Hedonism factors in this study include; Changing gadgets, often shopping online, buying goods following trends, shopping for branded goods to be confident. Previous research conducted by (Wayan et al., 2019) he explained that there is a significant influence between the intensity of use and peer group

interaction on the hedonistic lifestyle of adolescent social media users. Sukmaraga's research (2018) also shows that there is a significant and positive relationship between the intensity of Instagram social media use and the materialistic lifestyle of adolescents. This means that the higher the intensity of Instagram social media use, the higher the materialism of adolescents and vice versa. Hidayatun (2015), that there is a positive and significant influence between the intensity of social media use on the consumer behavior of adolescents/students.

Hedonism is a lifestyle that is oriented towards pleasure. According to Veenhoven (2003) This lifestyle does not look at age. Swastha in Putri (2009) said that the characteristics of individuals who have a hedonistic lifestyle are: like to seek attention, tend to be impulsive, tend to be followers, are less rational, and are easily influenced. For hedonists, having fun and satisfying lust is their goal in life by setting aside intellectuality. This hedonistic lifestyle is identical to the use of stimulants and happiness including alcohol, cigarettes, and drugs, relaxing, free sex, and being tied to the luxury and glamorous side (Adi et al., 2022). According to research (Adi et al., 2022) he researched a film whose concept is about hedonism in his research results showed that the characters in the Gossip Girl Series represent two types of hedonism, namely people's hedonism and selfish hedonism. The second finding is that hedonism has an impact on the lives of the characters, namely reducing happiness, disrupting their physical and mental health, being treated arbitrarily.

The hedonistic lifestyle is currently very widespread in all circles, young people, especially students, have many who do this lifestyle, even hedonism is also close to people who do not work or more precisely school children who do not have their own income. This hedonistic lifestyle directs someone to do various ways to get pleasure alone. (<https://www.kompasiana.com>, 2019). The negative impacts of hedonistic culture on teenagers are promiscuity (free sex, clubbing and drugs), individualism, materialism, irresponsibility, laziness, undisciplined, and discrimination. One of the causes of the emergence of hedonistic culture is the rapid development of information technology (internet) and social media, one of which is. Information about current lifestyles from both the internet and social media has become a trend for today's youth. (Wayan et al., 2019).

This study shows that there is a relationship between Hedonism and the mental health of adolescent girls which could be caused by liking to seek attention, tending to be impulsive, tending to be followers, being less rational, and easily influenced, including alcohol, cigarettes, and drugs, relaxing, and being tied to the side of luxury and glamour. One of the causes of the emergence of a hedonistic culture is the rapid development of the internet and social media. Based on several factors above, it can be one of the reasons why adolescent girls at SMA Negeri 11 experience poor mental health but do not experience Hedonism.

Bullying

Data shows from the bivariate analysis of the Bullying variable obtained a p value = 0.015. These results indicate that Bullying has a significant relationship to the mental health of adolescent girls in the current era of the 4.0 industrial revolution. However, in this study it was found that there were 25 (41.7%) female students who experienced poor mental health with No Bullying. Bullying factors in this study include; Bullying on social media, gossiping, insulting, pinched / hit in the real world. According to research (Man et al., 2022) which displays previous research that varies regarding Bullying on Mental Health, first seen in the research of Maunder et al. (2010) who conducted a survey of students, teachers, and staff in four secondary schools in England, and a total of 1302 people participated in this

survey, and the results found that physical bullying was the most dangerous for students; then, Chen et al. (2012) chose a junior high school in Taiwan, China, and conducted two samples (605 students and 869 students) and found that relational bullying such as spreading rumors and cyberbullying was more dangerous than physical and verbal bullying; and in the research of Thomas et al. (2016) selected 10,273 secondary school students in the first adolescent health survey conducted in 2009 in Victoria, Australia, and found that neglect had the strongest relationship with mental health among the four forms of bullying (taunting or inappropriate names, spreading rumors, neglect, and physical bullying). Other studies have shown that bullying and cyberbullying behavior is currently a major social problem, affecting 37% of adolescents, with significant negative consequences for the victims involved. Traditional bullying can occur in direct forms, such as hitting, threatening, and insulting, or it can occur in indirect forms, such as spreading rumors and excluding others. Unlike bullying, cyberbullying involves the use of electronic communication devices, with mobile phones (calls and text messages), social media, and instant messaging on the internet being the most common platforms used for cyberbullying. (Gabrielli et al., 2021).

Childhood bullying has been classified by the WHO as a major public health problem and has been known for decades to increase the risk of poor health, social and educational outcomes in childhood and adolescence. Characterized by repeated victimization in an imbalanced power relationship, bullying encompasses a wide range of types, frequencies and levels of aggression, from teasing and name-calling to physical, verbal and social violence. The dynamics of the relationship become more intense with repeated and ongoing episodes of bullying, with the bully gaining increased power while the victim loses her or his rights and becomes increasingly unable to defend herself and more vulnerable to psychological distress. (Armitage, 2021). This study shows that there is a relationship between Bullying and the mental health of adolescent girls with an explanation that bullying is not only caused by one factor but can occur due to many factors such as cyberbullying, verbal bullying, or physical bullying so that the selection of answers in this study varies greatly which can show poor mental health but in adolescents who do not experience bullying.

Hedonism on the Mental Health of Adolescent Girls

Based on the results of multiple linear regression tests to test the effect of independent variables on mental health, the most influential results were found, namely Hedonism on Mental Health with a p value = 0.012, from the three variables tested, namely Social Isolation, Hedonism and Bullying. Research Adiansah et al., (2019) he said that if seen from the lifestyle of today's teenagers, it tends to be hedonistic, especially in big cities, they have their own way to express themselves, their life world cannot be separated from entertainment and technology, especially the internet (social media). Social media has become part of their daily lives to be able to see new developments from friends and vice versa, namely sharing the development of their own lives with friends.

Mass media, especially the internet, is a fairly well-known information media with elements such as entertainment and knowledge. In our subconscious, it also influences social behavior, culture, personality development and pushes an individual in a positive or negative direction. (Mustari, 2005). According to research (Saifuddin et al., 2022) said Modern society is also faced with various kinds of entertainment and extraordinary and fascinating cultural situations, which make people interested in the latest reality entertainment style until they are unaware of the limits of entertainment. The fact that excessive entertainment will have a negative impact on personal and mental development, especially for the younger

generation and children who will later become the heirs of the nation. According to Sham et al (2000), entertainment that is too focused on pleasure will make people irresponsible and forget their responsibilities and obligations (Saifuddin et al., 2022). Further in the research (Wayan et al., 2019) explains that uncontrolled and inappropriate use of social media will encourage school-age children and teenagers to have a hedonistic and consumerist lifestyle and can have a negative impact on the continuation of children's education, resulting in them dropping out of school.

CONCLUSION

Bivariate analysis shows that the proportion of poor mental health without social isolation is 25 (41.7%) higher than the proportion of mental health with social isolation, namely 2 (3.3%). The results of bivariate analysis show that the proportion of poor mental health without Hedonism is 27 (45.0%) higher than the proportion of mental health with Hedonism, namely 0 (0%). The results of bivariate analysis show that the proportion of poor mental health without bullying is 25 (41.7%) higher than the proportion of mental health with bullying, namely 2 (3.3%). The results of the chi square test stated that the p-value was <0.05 between the variables social isolation (0.008), hedonism (0.000) and bullying (0.015) with mental health. The results of the multiple linear regression test found that hedonism had the most influence on mental health with a p value = 0.012. This value shows that there is a relationship between each variable (social isolation, hedonism and bullying with mental health. And hedonism as the variable that has the most influence on mental health. The existence of social media has now become a daily necessity. The use of social media can have a positive impact because it can speed up communication, eliminate distance, reduce costs and is very easy. However, if its use is not selective and uncontrolled, especially for school children and adolescents, it will have a negative impact on the continuity of children's education. In addition, social media and social networking sites that are used without control such as fake news or hoaxes, hate speech, and others will cause negative behavior and social vulnerability. Excessive use of social media among students will cause students to become lazy with the real world. This condition also has an impact on students' mental health. The lifestyle caused by uncontrolled virtual communication also encourages individualism, juvenile delinquency, a hedonistic lifestyle and other negative impacts.

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