



# The effect of media and information literacy towards the response of hoax information via Whatsapp

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## ABSTRAK

*Kemampuan wanita dalam menggunakan teknologi harus disertai dengan literasi yang baik agar mereka dapat merespons informasi hoax yang banyak beredar melalui WhatsApp secara kritis. Demikian juga dengan gerakan Pemberdayaan Kesejahteraan dan Keluarga (PKK) Situbondo yang mayoritas tim penggerakannya (TP) adalah ibu-ibu yang memanfaatkan WhatsApp sebagai komunikasi kelompoknya. Tujuan penelitian ini adalah 1) mengidentifikasi literasi informasi dan media TP PKK Situbondo serta respons informasi hoax melalui WhatsApp; 2) mengidentifikasi pengaruh literasi informasi dan media TP PKK Situbondo terhadap respons informasi hoax melalui WhatsApp; 3) mengidentifikasi pengaruh literasi informasi dan media TP PKK Situbondo terhadap respons kognitif, afektif, dan perilaku informasi hoax melalui WhatsApp. Metode yang digunakan adalah kuantitatif dengan 440 responden. Hasil yang didapat yakni: 1) literasi informasi dan media TP PKK Situbondo cukup tinggi, tetapi respons informasi hoax melalui WhatsApp cukup rendah; 2) terdapat pengaruh positif dan signifikan literasi informasi dan media TP PKK Situbondo terhadap respons informasi hoax melalui WhatsApp; 3) terdapat pengaruh positif dan signifikan literasi informasi dan media TP PKK Situbondo terhadap respons kognitif, afektif, dan perilaku informasi hoax melalui WhatsApp. Penelitian ini memberikan gambaran dalam membuat strategi kebijakan literasi informasi dan media untuk pemberdayaan TP PKK Situbondo dalam merespons informasi hoax secara kritis dan bijak.*

## ABSTRACT

Women's ability in using technology must be completed with a good literacy to respond critically towards hoax information on WhatsApp. Likewise, the Empowerment and Family Welfare movement or Pemberdayaan Kesejahteraan Keluarga (PKK) in Situbondo, where most of the driving teams are housewives who use WhatsApp application as their group communication. Therefore, the purposes of this study were: 1) to identify the Media and Information Literacy (MIL) of PKK Driving Team in Situbondo and hoax information responses on WhatsApp, 2) to examine the effect of MIL of PKK Driving Team in Situbondo towards hoax information responses on WhatsApp, 3) to investigate the effect of MIL of PKK Driving Team in Situbondo to the cognitive, affective, and behavioral responses of hoax information via WhatsApp. The research method used was a quantitative method with 440 respondents. The results revealed that: 1) the MIL was quite high, but the responses of hoax information were quite low, 2) there was a positive and significant effect of MIL towards hoax information responses, 3) there was a positive and significant effect of MIL to the cognitive, affective, and behavioral responses. This study provides an insight in making MIL policies for empowering PKK Driving Team in Situbondo in responding hoax information critically and wisely.

**Keywords:** Media and Information Literacy; Hoax; WhatsApp; housewives

## 1. INTRODUCTION

The presence of new media today, the internet, has made many changes in the lives of women recently, both in their roles as mother, career women, and their roles in society. Based on Susenas data in 2018 with 300,000 samples of households, it is known that nationally, female internet users reached 46.83 percent, while the rest was dominated by men with 53.17 percent (Badan Pusat Statistik, 2019).

These data indicate that women have played an active role in the use of information and communication technology (ICT). However, this active role must be accompanied by their ability to

use and utilize qualified ICT. This ability is reflected in a good literacy level that will help women, especially housewives, to face the challenges of the digital era. This is very important considering that currently the internet has a significant effect on society and individual, especially the negative effects of the internet on housewives.

According to (Yuniar *et al.*, 2019) explained that there are two negative effects of the internet on housewives: first the rapid flow of information through the internet makes it difficult to filter information or factual news and fake news (hoax) where women's groups are the most vulnerable to being exposed to hoaxes and also spreading them. The second is the occurrence of cyber bullying and hate speech. Regarding hoax information, Ferdinandus Setu as a Task Executor of Head of Public Relations of Kominfo (Indonesian Ministry of Communication and Informatics) through Kominfo observations using the AIS machine (negative content tracker machine) that most hoax spreaders are housewives who carried out it via WhatsApp messages (Gumay, 2019). The same results were also obtained through a special study by the Masyarakat Anti Fitnah Indonesia (Mafindo) that it was housewives who spread the most hoaxes through WhatsApp (Gumay, 2019).

To tackle the spread of hoaxes, the government has done many things such as blocking sites that spread fake news, launching the Anti Hoax Society movement (Novellino, 2018), law enforcement with the Electronic Transaction Information (ITE) law, collaborating with platform administrators, educating the public to report if finding hoaxes and the perpetrators, and so on (Yovita, 2017). However, the Minister of Communication and Informatics, Rudiantara stated that the success in eradicating hoaxes leans on the community who can filter themselves (Perkasa, 2017). Therefore, the strategy conducted by the government is to encourage literacy, education and outreach for the community (Librianty, 2017).

Meanwhile, new literacy concepts have developed over the past decade in response to the power and impact of information, media, information and communication technology, and the digital world (UNESCO, 2013b). Therefore, UNESCO with the new literacy movement launched Media and Information Literacy (MIL) which aims to bring the fields of information literacy and media literacy as a combination of competencies needed in life (Librianty, 2017). MIL teaches women who involve in this problem to have knowledge and skills in responding to various information and media content. This response plays a role in deciding how individuals will act because humans will continue to be involved in communication not only with their head or cognition, but also with their heart or affective which then manifests in their behavior.

MIL is the priority for a housewife because she is a very influential figure in empowering her family who also plays a role in building the nation. The movement that accommodates family empowerment activities where housewives are the majority of the members of the Driving Team is called the Empowerment Family Welfare or *Pemberdayaan Kesejahteraan Keluarga* (PKK). They are housewives who actively design and organize various activities in the local community, as well as improving their own community. With the trend of WhatsApp groups, they also take advantage of it to communicate with each other and share information among their members.

Some research related to information literacy among housewives concerning their response to hoax information in the health sector shows that they have not been able to distinguish hoax information about health, so they cannot apply this information (Rachman & Laksmi, 2017). Furthermore, regarding the potential of housewives against hoaxes through women's empowerment, the results show that knowledge and ability to use the internet is limited to Facebook and WhatsApp, without knowledge of browsers and newsmaker credibility so that fact-checking is never carried out (Lestari & Widarini, 2019).

Whereas some research related to student responses to 2018 CPNS hoax information on WhatsApp show their cognitive aspects had an understanding of hoax information and could distinguish hoax information from correct information, affectively they disliked and were disappointed with hoax information, and conatively the informants did not participate in spreading it (Mardliana, 2019). Next, research on student responses to hoax information on social media shows the cognitive aspects of students were unable to distinguish between hoaxes and real news, the affective aspect shows disliking and annoyance with the number of spreaded hoaxes, while in the behavioral aspects they did not participate in spreading and practicing it (Mardliana, 2019).

According to the background of the study, the researcher was interested in conducting MIL research on the PKK Driving Team in Situbondo Regency about their behaviour in responding to hoax information via WhatsApp. The previous research on information literacy and response was separate research, while in this study researcher combined both of them and added the concept of media as a combined concept, namely MIL from UNESCO (2013a). Meanwhile, Situbondo PKK Driving Team was chosen because most of the members are women/housewives who become the members of the WhatsApp group who have no rules in it so that each member can share any information, even hoax information, whether intentionally or not. Thus, this research aims to: 1) identify the MIL of Situbondo PKK Driving Team and hoax information responses via WhatsApp, 2) investigate the effect of MIL of Situbondo PKK Driving Team on hoax information responses via WhatsApp, 3) examine the effect of MIL of Situbondo PKK Driving Team toward the cognitive, affective, and behavioral responses to hoax information via WhatsApp.

## 2. LITERATURE REVIEW

### 2.1 Information and Media Literacy as a Combined Concept

UNESCO combines the two constructions of information literacy and media literacy with the complementary construction of ICT and digital literacy in a multiple concepts, namely MIL. Although they are naturally different constructs, all of which are complementary and compatible. It happens because of some reasons as follows: 1) Media cover all types of mass media: interactive media (internet), advertising and informal media, such as Twitter, blogs, etc. 2) Information literacy relates to how data and information in various forms are managed using different tools and technologies. 3) Media literacy focuses on the media for good democracy and development ICT or technology literacy is related to skills in managing information and media content. 4) Digital literacy is very important in complementing media and information literacy because it refers to the ability to use ICT effectively and efficiently. 5) All of the literacy supports human rights in freedom of expression and access to information in article 19 of the Universal Declaration of Human Rights, United Nations (UN). 6) All of the literacy emphasizes on critical evaluation of information and media content, and requires an understanding of the functions of media and information providers (products, services and processes) in society. 7) All of the literacy is very important for citizens, children, youth, women, people with disabilities, indigenous groups and ethnic minorities, as literacy enables them to be informed and involved in social, economic and political development that has an equal contribution. 8) Information literacy and media literacy help to equip individuals with the competencies required for 21<sup>st</sup> century life and the needs to handle the enormous volume of data, information, and media messages that come from different information and communication providers and platforms (UNESCO, 2013a; Grizzle *et al.*, 2013).

Furthermore, UNESCO defines MIL as a set of competencies that empowers citizens to access, retrieve, understand, evaluate, use, create and share information and media content in all forms, using various tools, in a critical, ethical and effective way, to participate and engage in personal, professional, and social activities (UNESCO, 2013a).

### 2.1.1 Standards of Media and Information Literacy Competency

The MIL competency standard (UNESCO, 2013a) consists of three components below:

#### Component 1: Access

Recognizing the requests to be able to search, access and retrieve information and media content. In this first component, a media and information literate person must be able to: define and articulate the nature, role and scope (content) of information and media through various sources; search for and find the content of information and media; access the required information and media content and information and media providers in an effective, efficient and ethical manner; rediscover and temporarily store information and media content using a variety of methods and tools.

#### Component 2: Evaluation

Understand, assess and evaluate the information and media. In this second component, a media and information literate person must be able to: understand the needs of information and media providers in society; assess, analyze, compare, articulate, and apply criteria for assessing information as well as its source, and evaluating media and information providers in society; evaluate and authenticate the content of information and media collected and its sources as well as media and information providers in the community; synthesize and organize the collected information and media content.

#### Component 3: Creation

Creation, utilization and monitoring of information and media content. In this third component, a media and information literate person must be able to: create and produce new information, media content, or knowledge for a specific purpose in an innovative, ethical, and creative way; convey the information, media content and knowledge ethically, legally and effectively using appropriate channels and tools; engage with media and information providers for self-expression, intercultural dialogue and democratic participation in various ethical, effective and efficient ways; monitor the impact of created and distributed information, media content and knowledge and use of existing media and other information providers.

### 2.1.2 Level of Proficiency in Media and Information Literacy

Furthermore, UNESCO (2013a) created the MIL framework which aims to assess the level of proficiency of various competencies, as follow: elementary level, respondents have knowledge, training, or experience in information and media literacy but still need improvement for a more effective application; intermediate level, respondents have a good level of knowledge and skills obtained from practice and training on information and media literacy, but there are still gaps in several aspects; and advance level, respondents have excellent knowledge and skills obtained from practice and training on information and media literacy.

## 2.2 Mass Communication and New Media

McQuail, (2011) states that “new media technology brings activities to mass communication”. It occurs because many new media such as the internet also have characteristics as the same as mass communication which is reaching distant users in large numbers. The term new media is synonymous with digital content that can be distributed massively and interactively via the internet (Watie, 2011).

## 2.3 Mass Communication Effects

Communication activities have an effect of feedback or responses from the communicant to the message launched by the communicator. Meanwhile, “the effect of mass communication is focused on how messages can change people’s behavior, attitudes, or beliefs” (Hanson, 2019). Effects/responses are important elements in the mass communication process consisting of three main types of effects according to (Baran & Davis, 2012) namely: cognitive, affective, and behavioral.

Cognitive effects involve knowledge - do people know more after being exposed to the media? Affective effects cover the feelings - are people's feelings influenced by the media? Behavioral effects include the action - do people act differently after being exposed to the media? (Baran & Davis, 2012).

## 2.4 Stimulus Theory – Response

The main elements in this theory are: (a) message (stimulus, S); (b) recipient (organism, O); and (c) effects (response, R) (Rakhmat, 2018). According to this stimulus-response theory, the media present a high stimulus to which the masses are concerned.

## 2.5 WhatsApp

Built as an alternative to the Short Message Service (SMS), WhatsApp offers real-time communication messages (in person), including easy sharing of information (e.g. contact lists) or media content (e.g. audio, video files, images, location data) (Ahad & Lim, 2014). It operates on almost all types of devices and operating systems today with a free system in an ad-free environment and for sending and receiving messages to and from individuals and groups (Bouhnik & Dshen, 2014).

## 2.6 Hoaxes

Hoaxes are false stories to deceive that is usually spread for political and financial gain as well as to mislead recipients (Hunt, 2016; Habib *et al.*, 2019). Whereas Kumar *et al.*, (2016) and Zannettou *et al.*, (2019) explained that hoaxes are news stories that contain facts that are either false or inaccurate and are presented as legitimate facts.

## 2.7 Empowerment Family Welfare/Pemberdayaan Kesejahteraan Keluarga (PKK)

The Movement of PKK as a national movement in community empowerment that grows from below which mobilizes women's participation in the development. Therefore, it grows from women as activators, founder, and family makers as the smallest group unit in society. With this movement, the active participation of all levels of society, especially women in development, is also mobilized and enhanced, so it is expected to be more equitable and valuable (Tim Penggerak PKK Pusat, 2017).

## 2.8 Women's Literacy

According to Wahyuni, et al (2017), literacy is necessary so women can play a further role in carrying out their obligations and claiming their rights as women and citizens of Indonesia (Badan Pusat Statistik, 2019). UNESCO also believes that literacy is the key to the 21st century and fundamental to community participation, as well as a way to achieve rights, work skills, and socio-economic participation and empowerment of women (Wetheridge, 2016).

## 3. METHOD

This research used a quantitative survey method while data collection techniques used questionnaires, observation, and free interviews. The questionnaire was arranged with structured questions using a Likert scale with a range of 1 to 4. Observations were made during the study by looking at the behavior of the respondents. Meanwhile, free interviews were conducted to obtain additional information required.

The population of this study consisted of 3,641 PKK Driving Team of Situbondo Regency in 2019-2020. Sampling was based on estimating population proportions using the Slovin formula (Ryan, 2013) and obtained 360 participants. However, the researcher distributed 500 questionnaires to avoid the large number of unfulfilled data, besides that the number of PKK Driving Team which meet with the sample selection criteria exceeded the desired target. Thus, from 500 questionnaires,

the following details were obtained: 32 questionnaires were incomplete, 11 questionnaires had missing sheets, 7 questionnaires did not return, and 10 questionnaires did not meet the sample criteria, so the sample taken was 440 participants. The observation was conducted on February - March 2020 which took place in the PKK office of Situbondo Regency and the village hall where the PKK Driving Team training activities consisted of 17 assisted villages with a total of 969 participants.

The questionnaire was divided into 3 parts, such as the first is the respondent's data consisting of age and last education, the second part is variable (X) MIL which consists of sub-variables of access, evaluation and creation with a total of 43 questions and third, variable (Y) responds to hoax information via WhatsApp which consists of cognitive, affective, and behavioral sub-variables with 11 questions.

The hypothesis of the research is as follow:

The main hypothesis are:

- H1: 1. H0: There is no effect between MIL and the response to hoax information via WhatsApp  
2. H1: There is an effect between MIL and the response to hoax information via WhatsApp

While the sub-hypothesis is:

- H2: 1. H0: There is no effect between MIL and the cognitive response to hoax information via WhatsApp  
2. H1: There is an effect between MIL and the cognitive response to hoax information via WhatsApp
- H3: 1. H0: There is no effect between MIL and the affective response to hoax information via WhatsApp  
2. H1: There is an effect between MIL and the affective response to hoax information via WhatsApp
- H4: 1. H0: There is no effect between MIL and the behavioral response to hoax information via WhatsApp  
2. H1: There is an effect between MIL and the behavioral response to hoax information via WhatsApp

Validity and reliability were carried out on 125 respondents who were not samples but the members of Situbondo PKK Driving Team. The validity test used the Pearson Product Moment formula, while the reliability test used Alpha Cronbach. The results obtained 43 statements on variable (X), 40 items declared valid and 3 items declared invalid because  $r_{count} < r_{table}$  (0.176) (Ghozali, 2013). So that the item used to measure the MIL level consists of 40 statements. While variable (Y) obtained 11 statements, 10 items were declared valid while 1 item was declared invalid because  $r_{count} < r_{table}$  (0.176). Thus, the items used to measure the response to hoax information via WhatsApp were 10 statements.

The reliability results of MIL items reached an alpha reliability coefficient of 0.948 which indicated that the Cronbach's Alpha value was more than 0.70 (Garson, 2013). So it can be concluded that the variable (X) MIL is reliable. While the reliability results for items of response hoax information via WhatsApp reached an alpha reliability coefficient of 0.768 which indicated that Cronbach's Alpha value was more than 0.70. So it can be concluded that the variable (Y) response to hoax information via WhatsApp was reliable.

Data processing was done by checking the completeness of the answers, coding, entering data in the table for further data analysis. The data was analyzed by a descriptive analysis of the identity of the respondents using frequency distribution, while descriptive analysis of the respondents' answers

to the variable (X) MIL and variable (Y) of the response to hoax information via WhatsApp used the mean. Then answering the research hypothesis used simple linear regression analysis which previously had been tested for normality using Histogram and Probability-Plot Graph analysis as well as the Kolmogorov-Smirnov test.

## 4. RESULTS AND DISCUSSION

### 4.1 Descriptive Analysis

#### 4.1.1 Identity of Respondents

The identity of the respondents based on age and last education is obtained in the table below:

**Table 1.** Identity of Respondents by Age

Age	Frequence	Percentage
16 – 20 years old	0	0 %
21 – 25 years old	21	4,8 %
26 – 30 years old	127	28,9 %
31 – 35 years old	267	60,7 %
36 – 40 years old	22	5 %
41 – 45 years old	3	0,7 %
>46 years old	0	0 %
<b>Total</b>	<b>440</b>	<b>100 %</b>

Source: Researcher's analysis (2021)

In table 1, it is known that most of the respondents were 60.7% aged 31 - 35 years. Based on these data, the majority of the PKK Driving Team in the Situbondo Regency were in the young and productive age category, which ranged from 15 - 64 years (Badan Pusat Statistik, 2019). In addition, the ages of 25 - 39 were quite high age of internet users based on the 2018 APJII (Indonesian Internet Service Provider Association) survey, ages 25-29, ages 30-34, and ages 35-39 included in rank 3rd, 4th, and 5th in internet usage in Indonesia

**Table 2.** Identity of Respondents by Last Education

Education	Frequency	Percentage
Elementary school	0	0 %
Junior high school	10	2,3 %
Senior high school	286	65 %
Diploma degree	45	10,2 %
Bachelor degree	98	22,3 %
Master degree	1	2 %
Doctoral degree	0	0 %
<b>Total</b>	<b>440</b>	<b>100 %</b>

Source: Researcher's analysis (2021)

Based on table 2, it is known that most of the respondents 65% have senior high school education. According to the 2018 APJII survey, out of 5,900 samples, internet users with a senior high school education were 7 or 80.6%. Meanwhile, based on Badan Pusat Statistik, (2019), female high school graduates in urban areas were 29.94%, higher than college graduates by 12.95%. Meanwhile, the number of female high school graduates in rural areas was 15.70% compared to university graduates by 5.22%. This shows that internet access, both in urban and rural areas, is dominated by women with senior high school education. This explanation is in accordance with the data of women in Situbondo PKK Driving Team where most of the internet user respondents have senior high school education.

#### 4.1.2 Analysis of Respondents' Answers

Descriptive analysis of respondents' answers to variables X and Y were obtained in table 4 and 5 with the value category is depicted in table 3:

**Table 3.** Value Category

Category	Range
Low	1.00 - 1.75
Quite low	1.76 - 2.50
Quite High	2.51 - 3.25
High	3.26 - 4.00

Source: Researcher's analysis (2021)

**Table 4.** Descriptions of Respondents' Answers for Indicator Variable X

Sub Variable	Mean	Category
<b>Access</b>		
Definition	2.956	Quite high
Search	2.318	Quite low
Access	2.412	Quite low
Retrieval	2.755	Quite high
Total of sub variable access	2.578	Quite high
<b>Evaluation</b>		
Understanding	2.734	Quite high
Assessment	2.239	Quite low
Evaluation	2.216	Quite low
Organization	2.564	Quite high
Total of sub variable evaluation	2.578	Quite high
<b>Creation</b>		
Creation	2.510	Quite high
Communication	2.505	Quite low
Participation	2.498	Quite low
Observation	2.502	Quite low
Total of sub variable creation	2.504	Quite low
<b>Total average of variable X answer</b>	<b>2.558</b>	<b>Quite high</b>

Source: Researcher's analysis (2021)

Based on table 4, it is known that the highest same mean is obtained in the access and evaluation sub-variable, by 2.578, while the creation sub-variable has the lowest mean, by 2.504. It shows that the ability of the MIL of Situbondo PKK Driving Team in accessing and evaluating the media and information content they needed is higher than their ability to create. It could be said that the Situbondo PKK Driving Team has the confidence/ability to access and evaluate the media and information they needed, but they are lack confidence or do not have the ability to create, utilize, and monitor media and information content that they have created or obtained. Overall, the variable (X) MIL obtained an average of 2,558 respondents' answers and was categorized as quite high. It shows that the MIL ability tendency of the PKK Driving Team is quite high. So it can be concluded that the Situbondo PKK Driving Teams already have adequate MIL capabilities.

**Table 5.** Description of Respondents' Answers for the Variable Y Indicator

Sub variable	Mean	Category
Cognitive	2.986	Quite high
Affective	2.270	Quite low
Behavioral	2.096	Quite low
<b>Total average of variable Y answer</b>	<b>2.505</b>	<b>Quite low</b>

Source: Researcher's analysis (2021)



Based on table 5, it is known that the cognitive sub-variables have the highest mean by 2.986 and are categorized as quite high. In this response, respondents who have a (cognitive) understanding of hoax information in general are able to distinguish between hoax information and true information spreading through WhatsApp groups and do not easily believe it. Meanwhile, the lowest score for behavioral responses is 2.096, which means that the Situbondo PKK Driving Team is lack of response in taking direct action to believe and disseminate, cross-check, and clarify hoax information they get through the WhatsApp group. Situbondo PKK Driving Team also has a lack of affective response in receiving hoax information. While the overall variable (Y) Hoax Information Response via WhatsApp has an average of 2,505 or it is in the range of 1.76 - 2.50 and categorized as quite low. It shows that the MIL ability tendency of PKK Driving Teams is quite low. So, it can be concluded that the women of the PKK Driving Team in Situbondo Regency can be categorized as still not showing significant effects/responses to hoax information via WhatsApp media.

## 4.2 Regression Analysis

### 4.2.1 The Effect of MIL (X) Variable towards Information Response Variable of Hoax via WhatsApp (Y)

The result of regression analysis about variable X and Y effect is obtained in table 6 showed below.

**Table 6.** Summary of Simple Linier Regression Test

Variable	<i>B</i>	<i>t<sub>test</sub></i>	<i>p-value</i>	Information
Constanta	10.634			
X (Media and Information literacy)	0.141	13.862	0.000	Significant
A		= 0.050		
R		= 0.552		
the coefficient of determination (R <sup>2</sup> )		= 0.305		
t-table (0.05,438)		= 1.965		

Source: Researcher's analysis (2021)

Based on table 6, it is known that the R-value of 0.552 is included in the medium category or there is a moderate relationship between variable X and variable Y. Next, the coefficient of determination (R square) is 0.305. This means the contribution of the influence of variable X (MIL) which is included in the regression equation on variable Y (hoax information response via WhatsApp) is 30.5%, while the other 69.5% is contributed by other independent variables which are not included in this equation.

Then for the t-test, it is found that the variable X (MIL) has a t-test statistic of 13,862 with a p-value of 0.000. Value of t count is greater than t table (13,862 > 1,965), and the p-value is smaller than  $\alpha$  (0.000 < 0.050). This test shows that H<sub>0</sub> is rejected, so it can be concluded that variable X has a significant effect on variable Y. Variable X (MIL) has a positive and significant effect on variable Y (Hoax Information Response via WhatsApp).

Based on table 6 above, the regression model is obtained as follows:

$$Y = 10.634 + 0.141 X + e_i$$

A regression model with a line coefficient of 0.141 shows that every unit increase happens in X, the predicted average Y will increase by 0.141 units. While the level Y with 0 variable X is 10,634. In other words, the MIL level without being affected by the response to hoax information via WhatsApp is 10,634.

These results indicate that MIL has a positive and significant influence on the response to hoax information via WhatsApp. Positive means that the higher the MIL owned by the Situbondo PKK Driving Team, the higher their response to hoax information via WhatsApp. On the other hand,

the lower the MIL owned by the Situbondo PKK riving Team, the lower their response to hoax information via WhatsApp. While the significance means that these results can be generalized to all respondents, the housewives of the PKK Driving Team of Situbondo Regency.

MIL will improve critical thinking skills in accessing, evaluating, and creating hoax information spreading on WhatsApp. This will increase their cognitive response abilities regarding more complex information: how to distinguish, how to cross-check, knowledge of copyright, censorship, and so on. It will then have an impact on their affective response so that they have emotions that can be controlled in receiving any information. Finally, this ability will affect behavioral responses so they will act positively in receiving hoax information, such as not directly believing and disseminating it but doing some cross-checks and clarifications if the information is a hoax so that it helps others find hoax information and prevents others to disseminate without cross-checking and clarification.

#### 4.2.2 The Effect of Variable MIL (X) on Cognitive Response Variables for Hoax Information via WhatsApp (Y1)

The results of the regression analysis the effect of the variables X and Y1 is obtained in table 7 below:

**Table 7.** Summary of Simple Linear Regression Test

Variable	<i>B</i>	<i>t<sub>test</sub></i>	<i>p-value</i>	Information
Constanta	4.824			
X (Media and Information Literacy)	0.070	12.005	0.000	Significant
A		= 0.050		
R		= 0.498		
the coefficient of determination (R <sup>2</sup> )		= 0.248		
t-table (0.05,438)		= 1.965		

Source: Researcher’s analysis (2021)

Based on table 7, it is known that the R-value of 0.498 is included in the medium category or there is a moderate relationship between variable X and variable Y1. Next, the coefficient of determination (R Square) of 0.248 is obtained, which means that the contribution of the influence of variable X (MIL) which is included in the regression equation on the Y1 variable (cognitive response to hoax information via WhatsApp) is 24.8%, while the other 75.2% is contributed by independent other variables that are not included in this equation.

For the t-test, it is found that the variable X (MIL) has a t-test statistic of 12.005 with a p-value of 0.000. Value |t count| is higher than t table (12.005 > 1,965), and the p-value is lower than α (0.000 < 0.050). This test shows that H0 is rejected, so it can be concluded that the X variable has a significant effect on the Y1 sub-variable. The variable X (MIL) has a positive and significant effect on the sub-variable Y1 (Cognitive Response).

Based on table 7 above, the result of the regression model is as follows:

$$Y1 = 4.824 + 0.070 X + e_i$$

A regression model with a line coefficient of 0.070 indicates that every unit increase occurs in X, the predicted average Y1 will increase by 0.070 units. While the level of Y1 with 0 variable X is 4,824. In other words, the level of MIL without being affected by the cognitive response to hoax information via WhatsApp is 4,824.

Based on the explanation above, it can be seen that MIL has a positive and significant effect on the cognitive response to hoax information via WhatsApp. The positive means that the higher the MIL of Situbondo PKK Driving Team, the higher their cognitive response to hoax information via WhatsApp. Conversely, the lower the MIL of Situbondo PKK Driving Team, the lower their cognitive responses towards hoax information on WhatsApp. While significance means that these results can be generalized to all respondents, the housewives of the PKK driving team of Situbondo Regency.

MIL is very influential in providing good cognitive abilities (knowledge) in receiving exposure towards various information spreading on WhatsApp. A good MIL will increase the cognitive effect of individuals related to the informative function of the mass media which provides knowledge for the public, thereby increasing awareness and ways of thinking. This knowledge includes various things ranging from important to trivial information conveyed by the WhatsApp media which will be an important reference for them. The reality of the information conveyed by WhatsApp is also often not the same as the reality, even deliberately constructed with various forms that have undergone certain selections, interpretations and adjustments. Therefore, increasing MIL is needed to improve their cognitive response for the better.

#### 4.2.3 The Effect of Variable MIL (X) on Affective Response Variables for Hoax Information via WhatsApp (Y2)

The results of the regression analysis show the effect of the variables X and Y2 in table 8 below:

**Table 8.** Summary of Simple Linear Regression Test

Variable	B	t <sub>test</sub>	p-value	Information
Constanta	2.976			
X (Media and Information Literacy)	0.037	7.950	0.000	Significant
A		= 0.050		
R		= 0.355		
Coefficient of Determination (R <sup>2</sup> )		= 0.126		
t-table (0.05,438)		= 1.965		

Source: Researcher's analysis (2021)

Based on table 8, it is known that the R-value is 0.355. This is included in the low category or there is a low relationship between variable X and variable Y2. Next, the coefficient of determination (R Square) is 0.126. This showed that the contribution of the influence of variable X (MIL) which is included in the regression equation on the Y2 variable (affective response to hoax information via WhatsApp) is 12.6%, while the other 87.4% is contributed by independent other variables that are not included in this equation.

For the t-test, it was found that the variable X (MIL) has a t-test statistic of 7,950 with a p-value of 0.000. Value | t count | is higher than t table (7,950 > 1,965), and the p-value is lower than  $\alpha$  (0.000 < 0.050). This test showed H<sub>0</sub> is rejected. So, it can be concluded that the X variable has a significant effect on the Y2 sub-variable. The variable X (MIL) has a positive and significant effect on Y2 sub-variable (affective response).

Based on table 8 above, the regression model is obtained as follows:

$$Y2 = 2.976 + 0.037 X + e_i$$

A regression model with a line coefficient of 0.037 indicates that for every unit increase that happens in X, the predicted average Y2 will increase by 0.037 units while the level of Y2 with 0 variable X is 2.976. In other words, the level of MIL without being affected by the affective response to hoax information via WhatsApp is 2,976.

Based on the explanation above, it can be seen that MIL has a positive and significant effect on the affective response to hoax information via WhatsApp. Positive means that the higher the MIL of Situbondo PKK Driving Team, the higher their affective response to hoax information via WhatsApp. Conversely, the lower MIL of the Situbondo PKK Driving Team, the lower their affective responses to hoax information via WhatsApp. While the significance means that these results can be generalized to all respondents, housewives of the PKK driving team of Situbondo Regency.

MIL also has the influence in providing a good affective response in responding to information spreading via WhatsApp. MIL pays attention to a person's affective when someone consumes media to be more critical thinking, more sensitive, and not prioritizing emotions. The impact of mass media messages reaching the affective stage occurs when the messages spread by the media change what the public feels, likes, or hates. So, it is very important to know and have MIL skills so that they are not easily influenced and carried away by emotions in responding to hoax information circulating.

#### 4.2.4 The Effect of Variable MIL (X) towards Behavioral Response Variables for Hoax Information via WhatsApp (Y3)

From the results of the regression analysis, the effect of the variables X and Y3 is obtained in table 9 below:

**Table 9.** Summary of Simple Linear Regression Test

Variable	B	t <sub>test</sub>	p-value	Information
Constanta	2.834			
X (Media and Information Literacy)	0.034	7.992	0.000	Significant
A		= 0.050		
R		= 0.357		
Coefficient of determination (R <sup>2</sup> )		= 0.127		
t-table (0.05,438)		= 1.965		

Source: Researcher's analysis (2021)

Based on table 9, it is known that the R-value of 0.357 is included in the low category or there is a low relationship between variable X and variable Y3. Next, the coefficient of determination (R Square) is 0.127, which means that the contribution of the influence of the variable X (MIL) which is included in the regression equation for the Y3 variable (behavioral response to hoax information via WhatsApp) is 12.7%, while the other 87.3% is contributed by other independent variables that are not included in this equation.

For the t-test, it is found that the variable X (MIL) has a t-test statistic of 7,992 with a p-value of 0,000. Value | t count | is higher than t table (7,992>1,965), and the p-value is lower than  $\alpha$  (0.000 < 0.050). This test showed that H<sub>0</sub> is rejected, so it can be concluded that the X variable has a significant effect on the Y3 sub-variable. The variable X (MIL) has a positive and significant effect on the sub-variable Y3 (Behavioral Response).

Based on table 9 above, the regression model is obtained as follows:

$$Y3 = 2.834 + 0.034 X + e_i$$

A regression model with a line coefficient of 0.034 indicates that for every unit increase that occurs in X, the predicted average Y3 will increase by 0.034 units. While the level of Y3 with 0 variable X is 2,834. In other words, the level of MIL without being influenced by the behavioral response to hoax information via WhatsApp is 2,834.

Based on the explanation above, it can be seen that MIL has a positive and significant influence on the behavioral response to hoax information via WhatsApp. Positive means that the higher the MIL of the Situbondo PKK Driving Team, the higher their behavioral response to hoax information via WhatsApp. On the other hand, the lower the MIL owned by Situbondo PKK Driving Team, the lower their behavioral responses to hoax information via WhatsApp. While significance means that these results can be generalized to all respondents, housewives of the PKK Driving Team of Situbondo Regency.

MIL has an influence in providing a good behavioral response in responding to information spreading via WhatsApp. Behavioral effects are effects that can be observed, including patterns of

actions, activities, or behavior habits (Rakhmat, 2018). Behavioral effects will occur after individuals receive information from WhatsApp which will be followed by certain behavioral tendencies based on personal knowledge whether to be affected in real actions or not. If affected, the individual will have the intention to carry out certain actions or behaviors in a certain way such as trusting and disseminating it, cross-checking, or verifying. Therefore, MIL helps individuals respond to hoax information in their behavior so that they can be more careful and wiser in responding to it.

### 4.3 Discussion

Based on the overall results, it is known that the results of simple linear regression analysis of the variable (X) MIL to the variable (Y) the response to hoax information via WhatsApp show a positive and significant effect. The age characteristics of the respondents also contributed to the influence of MIL on the ability to respond to hoax information where most of the respondents, 60.7%, belonged to the young and productive age category and the ages of 25 - 39 years were also quite high internet users. Productive age makes it easier and faster for someone to learn many things, understand and use ICT, especially the internet. The latest education is also influential in increasing the self-confidence and ability of individuals in understanding MIL where most of the respondents as much as 65% have high school education. With the high number of high school graduates both in urban and rural areas, it shows that the level of understanding and self-confidence of individuals in MIL with the last high school education is greater than other education.

In addition, the results of the descriptive analysis of respondents' answers also support the effect of MIL on the response to hoax information via WhatsApp. It can be seen from the results of the mean variable (X) in which Situbondo PKK Driving Team has a fairly high level of MIL, but in the variable (Y) the response to hoax information via WhatsApp is still low. Therefore, if MIL is increased, for example through training, socialization, and so on, it will also increase the response to hoax information they get through WhatsApp. This high level of MIL is self-taught, which is based on information from the management and several members of the Situbondo PKK Driving Team that they have never attended any training or literacy education, nor have they been held for all Situbondo PKK Driving Team, both groups and individuals. Therefore, their abilities are still basic level, where respondents have knowledge or experience in MIL but still need improvement for a more effective application. Thus, training and other activities must be conducted so that the response to their hoax information via WhatsApp can also be improved.

The results of the same regression analysis are also obtained for the variable (X) to every sub variable such as (Y1) cognitive, (Y2) affective, and (Y3) behavioral. A good MIL will increase the cognitive effects of individuals related to the informative function of the mass media which provides knowledge for the community so as to increase awareness and ways of thinking. MIL pays attention on person affective when someone consumes the media to be able to think critically, be more sensitive, and not prioritize emotions. Whereas the behavioral effect will occur after the individual receives information from WhatsApp which will be followed by certain behavioral tendencies based on personal knowledge whether to be affected by real action or not.

The role of the PKK in this case is really needed in contributing to the increase of MIL which has never been done so far, especially for PKK women in Situbondo Regency. Given that the PKK mobilizes women's participation as mobilizers, founders, and family organizers as the smallest group unit in society. In addition, it also supports the implementation of PKK targets in enhancing and developing the abilities and personalities of housewives, especially in education, knowledge and skills.

Through PKK, the enhancement of MIL can improve their quality so that they can be directed, developed, and utilized with their various potentials. Therefore, to be able to play a role in advancing the nation, women must be MIL literate which is necessary for the current era. Thus, literacy in

women not only helps women to face the challenges of the digital era, but also provides intrinsic and instrumental value, builds women's confidence and independence, self-improvement, their families and their environment, and their participation in various fields (Wetheridge, 2016).

The increasing importance of the virtual world today not only provides positive opportunities for the advancement of housewives, but also implies potential risks and threats such as false information, illegal access, data theft, pornography, and other cyber crimes. Positive opportunities, for example, include using the internet for communication, study, work, shopping, trade, and so on (Badan Pusat Statistik, 2019). Meanwhile, in terms of negativity, Yuniar *et al.*, (2019) stated that the rapid flow of information through the internet made it difficult to filter information or factual news and hoaxes where women's groups were the most vulnerable to being exposed to hoaxes and also disseminating them. It is stated in Azali, (2019) according to the Combine Resource Institution that most housewives do not master their own devices, they are assisted by other people in creating social media accounts which will have an impact on their privacy threats. As many as 7 out of 10 women aged 18-24 years who use the internet regularly experience cyber violence (World Wide Web Foundation, 2015 in Kombinasi (2019).

In this case, the role of literacy, especially related to information and media content, is very important because it helps minimize risks related to information reliability, privacy, security, ethics, and the potential for abuse by individuals and society (Grizzle *et al.*, 2013). It is equally important for citizens to understand how media information and content can be accessed, how this content originates, how it is created, funded, protected, evaluated, and shared. At present, all citizens need to know the functions, roles, rights, and obligations of information institutions and media in a sophisticated society. They also need to be aware of the opportunities and challenges as well as potential abuse arising from institutions or individuals targeting certain groups or communities, such as young or old, women or men (UNESCO, 2013a).

Therefore, the ability of MIL which is owned by each individual, especially women/housewives, becomes their shield in responding to all kinds of information challenges, especially hoax information on WhatsApp which reaches the public without time and space limitations. The better the MIL owned by women of PKK in Situbondo, the better their ability to respond to hoax information via WhatsApp critically.

Based on the explanation, it can also be seen that the response stimulus theory in mass communication, in this case, is the WhatsApp media as a communicator that provides a Stimulus (S) in the form of messages to Organisms (O) or communicants which play a role in creating Responses (R) either positively or negatively. Mass communication will be effective if the message conveyed to the community is responded to and has the effect of changing behavior on their cognitive, affective and behavioral. Meanwhile, in this case, the issue of hoax information via WhatsApp has in fact been responded to negatively and women of Situbondo PKK Driving Team refuse to believe it immediately and disseminate it even though they also do not cross-check or classify so they do nothing or passively. Thus, the stimulus response theory, in this case, does not have any significant impact on the behavior change of housewives of PKK in Situbondo.

The response stimulus theory in this case also does not apply because the WhatsApp media does not have full control over the audience in receiving information, they know the credibility and reputation of the WhatsApp group that not all information through the WhatsApp group is worthy of trust because there are various kinds of people with various interests and characters. There are also no rules that prohibit WhatsApp group members from spreading hoax information so that anyone can send any message. In addition, the responses received by the public are not the same, do not also generate pressure, uncontrolled emotions, it means that respondents have their own considerations in their actions to receive hoax information exposure.

## 5. CONCLUSION

Based on the research that has been carried out and described, the results of this research were obtained as follows: First, the PKK of Situbondo Regency already has a fairly high level of MIL. Meanwhile, at the level of response to hoax information via WhatsApp, the PKK in Situbondo District has not shown a significant effect/response. Second, MIL has a positive and significant effect on the response to hoax information via WhatsApp. It shows that if PKK Driving Team women in Situbondo Regency have a high MIL level, their response to hoax information via WhatsApp will also increase significantly. Thus, the hypothesis (H1) in this study can be accepted. Last, MIL has a positive and significant effect on cognitive, affective, and behavioral responses. It shows that if PKK Driving Team women in Situbondo Regency have a high level of MIL, it will affect their cognitive, affective, and behavioral responses to hoax information via WhatsApp which will also increase significantly. Thus, the hypotheses (H2, H3, and H4) in this study are accepted.

Based on the conclusions, the researcher underlines several things that need attention and to be followed up: (1) Providing training, socialization, workshops, and other activities related to MIL for all PKK Driving Team in Situbondo Regency either independently or in collaboration with related parties such as librarians, regional libraries, and others. This needs to be done so that their MIL is increasing, more directed and in accordance with the MIL procedures from UNESCO so it can increase their response to hoax information via WhatsApp; (2) Further research with qualitative methods should be done to obtain more in-depth information about reasons and factors that can increase MIL and their response to hoax information on WhatsApp; (3) Further research with multiple linear regressions should be conducted to determine the influence of gender, age, education and MIL on the response to hoax information via WhatsApp.

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