Fake News on Social Media and Adolescent’s Cognition

Berita Palsu di Media Sosial dan Kognisi Remaja

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Abstract

This research aims to determine the extent to which teenagers distinguish true news from fake news and how these fake news affect adolescents’ cognition. A lot of hoax information has sprung up on social media, especially during the 2019 Indonesian presidential election. The ability to check on the information spread in online media is influenced by each individual’s cognitive abilities. A person’s cognitive ability is to think rationally, including aspects of knowledge, understanding, application, analysis, synthesis, and evaluation. This study used an explanatory survey method with a quantitative positivistic paradigm. The results showed that the most influencing X variable to the Y variable was the Satire variable, which is positive and unidirectional. The Hoax variable has the most influence on cognitive abilities, even though the value is negative and not unidirectional. This means, the lower the understanding of Hoax, the higher the level of cognitive abilities.

Keywords: Cognitive abilities; Digital media; Fake news; Hoax; Social learning

Abstrak


Kata Kunci: Media digital; Hoax; Fake news; Kemampuan kognitif; Social learning

Article History: Received November 10, 2020; Revised January 1, 2021; Accepted January 7, 2021
Introduction

The phenomenon of fake news and misinformation is getting more prevalent in Indonesia. Everyone has the chance to write and express their thought. The spread of fake news has now led to the spread of hoaxes. This phenomenon is getting more critical toward the election year, where campaigns are raised massively in social media, and often results in negative news reports in politics. Hoaxes could ruin Indonesia’s Unity values (*Kebhinekaan Indonesia*) and causes disunity and hatred among people with different political beliefs. Research conducted by Parani questions Indonesia’s Unity values (*Kebhinekaan*) under the influence of hoaxes and fake news among citizens (Parani et al., 2018).

Hoaxes spread in the political world, as studied in these researches, which questions whether post-truth is politic (Montgomery, 2017), about post-truth, Brexit, and triumph (Rose, 2017). Hoaxes also spread widely in the community under the guise of religion, culture, and social economy (Ayu Candraningrum, Widayatmoko, 2018; Binti Ida Umaya, 2017; Rahayu & Sensusiyati, 2020; Ulya, 2018).

Research on hoaxes was also carried out by several studies, such as the Impact of Hoax Information on Social Media on the Level of Conflict and Attitudes among Adolescents (Lokananta & Herlina, 2018); (Herlina & Jati, 2018); the impact on the community (Ferdiawan et al., 2019); perceptions of hoaxes (Setyawan, 2019);. Meanwhile, this study focuses on the influence of fake news, hoaxes, and others on the youth’s cognitive ability. This study uses the bandura theory, which shows cognitive processes in youth towards the stimuli they receive.

Not only characterized by hoaxes spreading in social media, but the post-truth era is also marked by media and journalists’ dilemma in facing false statements from politicians. From the American presidential Election 2016, it can be seen that the more often the media spreads misinformation about Donald Trump, the more popular his name became, and the wider his lies were spread in public (Remotivi.or.id, n.d.)

Fake news or hoaxes negatively impacts the victims; even those who are not directly related to the news could be harmed by the hoaxes generated by irresponsible parties. Some of the negative impacts from fake news or hoaxes are (1) Time consuming (2) Triggering conflicts (3) Deteriorating the reputation of the affected party (4) Favoring certain parties (5) Causing facts to be hardly believable (Laksamahardikeningrat 2017, Hoax dan Ujaran Kebencian Jadi Bisnis, Ini 5 dampak paling mengerikan, brilio.net, accessed on 11 October 2018, https://www.brilio.net/serius/hoax-dan-ujaran-kebencian-jadi-bisnis-ini-5-dampak-paling-mengerikan-170825g.html#).

Fake news (hoaxes) in online media portals and social media apps such as Facebook, Twitter, Instagram, Whatsapp, Line, and many others often have a direct impact in real life, like triggering conflicts between groups or causing deterioration in the image and reputation of a person or institution, for instance, the post-truth condition in the case of the 2019 election quick count. Millions of people do not believe in the quick count result from survey institutions. The truth they believe is not from survey experts but based on their emotion instead (Nainggolan, n.d.).

In some research, it is mentioned that the ability to conduct facts and information checking or investigation on information found online is influenced by each individual’s cognitive abilities. Cognitive ability is a person’s ability to rationally think, which includes the aspect of knowledge, understanding, application, analysis, synthesis, and evaluation. Besides, cognition is also defined as the process of thinking, which includes
someone’s belief in something that he gains from thinking about someone or something. The process is to gain knowledge and manipulate the knowledge through the activity of remembering, analyzing, understanding, judging, reasoning, imagining, and talking (Frederick, 2005; Rusdiana, 2018; Yanuardianto, 2019).

People in this globalization era use the internet as the media to look for all kinds of information. Modern people worldwide can get connected through the internet (Kotler et al., 2017). Research about social media has been conducted, for example, by Stald (2008). Other research include mobile communication social media (Thackery et al., 2012); social media and youth (Basarah, 2018); social media and society (Jyoti Suraj Harchekar, 2017); social media shapes youth (Mansur, 2019); students’ perceptions of social media (vlog) content (Kholisoh, 2018); Social Media Platforms as Information Dissemination Media (Arisanty et al., 2020); Social Communications Model for teenager through Twitter (Nurhadi, 2017). These research study about the information published in digital media, specifically social media, and are related to the criteria of real news or fake news.

Furthermore, there are several studies on hoaxes. The topics include hoax and banality (Binti Ida Umaya, 2017); the behavior of social media user (Rahadi, 2017); social media literacy and hoax (Gumgum et al., 2017); the phenomena of hoax in various media (Pakpahan, 2017); the effect of hoax in cyber media (Septanto, 2018); and hoaxes discovered by Kominfo (Indonesia’s Ministry of Communication and Information) (Andhika Akbarayansyah/detik.com, 2019).

The theory about social learning was first proposed by Albert Bandura (Bandura, 2017), who said that every individual would learn from observation of behavior, the attitude they saw around them. Most human behaviors are created from modeling, observing around, and forming an idea of how new behavior is formed, or on other occasions, it can be transformed into information that leads to a certain behavior. It can also be said as a process of imitating what he sees and feels. Social learning theory (Fadillah, 2012) explains that human behavior is formed by continuous reciprocal interaction between cognition, behavior, and environment.

Humans, as social creatures, always interact with each other. Through these interactions, humans get learning experiences in their life. Based on Bandura’s theory, the cognitive factor is the internal factor, and the environment is the external factor of the learning process for modifying behavior; and human behavior is included in their social interaction. Humans interact with communicating with fellow humans (Bandura, 2001; LESILOLO, 2019; Tarsono, 2018).

Nowadays, adolescent of the millennial generation has more interaction and communication on digital media, especially social media. They communicate while learning from social media every day.

Social media (A. M. Kaplan & Haenlein, 2010) is defined as an internet application built based on the fundamental ideology and web technology 2.0, which allows the creation and exchange of user-generated content. The term web 2.0 was first used in 2004 to describe a new technique in which software developer and users start using the application WorldWideWeb (www). This app is a new platform in which the application is no longer created and published by a person but modified continuously by its users (Delerue et al., 2012; A. Kaplan & Mazurek, 2018). Social media spread both positive and negative messages. Negative messages are more likely to be received by adolescents. Negative messages can be misinformation, fake news, hoaxes, and others.

Generally, the flow of fake news spread can be classified into four: (1) Depth,
which can be seen from the number of retweets jumps counted from its original tweet, (2) Size, which can be seen from the number of users involved in the flow of the news, (3) Maximum breadth, which can be seen from the number of users involved in the news flow in a wider scope, and (4) Viral structurality, which can be seen from the content spread through one massive broadcast and then getting spread again across another massive broadcast (Rusdiana, 2018).

The most distinct impact of fake news spread (Baran & Davis, 2011; Peters, 2017b) is the emergence of conflict. Fake news causes a decline in the young generation’s productivity, as the youth spend most of the time seeing detailed information content, prioritizing article content than browsing to the source. The youth also got less education on media literacy about fake news. (Peters, 2017a).

Fake news (Rochlin, 2017) often aimed to harm a party yet unfairly benefiting another party. The existence of fake news can also be a threat to facts; they seem hardly believable. People will be confused about which fact they should trust. At this stage, people will experience the “information bias”, and tend to spread the information only based on their blind belief (Rusdiana, 2018).

According to the result of research conducted by Dedi Rianto Rahadi (Rahadi, 2017), there are some types of hoaxes: 1) Fake news: News that is written to replace the real news. This news is aimed at fake or imprint lies to the news. The author of this news often adds untrue statements and conspiring theories – The weirder, the better. Fake news is not a humorous commentary to the news. 2) Clickbait: the trapping link. A link is placed strategically in a site to attract people to the site. This link’s content is based on facts, yet its title is exaggerated; images are also often used to attract readers. 3) Confirmation bias: They tend to interpret an event that just happened and regard it as equal to the confirmed fact. 4) Misinformation: false or inaccurate information, mainly created as a tool to deceive. 5) Satire: writing that uses humor, irony, and exaggerated comment about hot issues. Satire can be seen in the television shows such as “Saturday Night Live” and “This Hour has 22 Minutes”. 6) Post-truth: the situation in which emotion plays a greater role to shape public opinion instead of the facts. 7) Propaganda: the activity of spreading information, facts, arguments, gossip, half-truth, or even lies to shape public opinion.

The cognitive ability of fake news readers can be examined from three elements—first, concept transformation. The concept is the representation of mental, which in its simplest form, can be expressed in a word, such as plant-animal, life-death, table-chair, and so on (Carey, 2009). A concept can be understood as ideas that can be described in several words, although each individual’s use of language is affected by a complex variable represented in structures.

Zirbel (2009) mentions, in cognitive science, the shaping of a concept involves thinking and understanding processes. The concept is understood as a deep understanding of something. Deep understanding encourages an individual to connect representatively. The oldest theory that has the most influence in a concept transformation is the principle of association. The association principle said that concept learning results from (1) strengthening the right pair from a stimulus with a response that identifies it as a concept, and (2) non-strengthening pair that is not right from a stimulus with the response to identify it as a concept.

Second. Logic. O’Sullivan (2017) stated that thinking is a general process to determine an issue in mind, while logic is the science of thinking. Thinking and logic have been a subject of speculation for a long time. Aristotle introduced a system of
reasoning or argument validation called a syllogism. A syllogism has three steps: a major premise, a minor premise, and a conclusion. A conclusion is achieved when syllogistic reasoning is validated or justified if the premises are accurate in the correct form.

An interesting characteristic of using syllogistic logic in cognitive research is the ability to evaluate or validate a justification from the thinking process according to the form. The conclusion drawn from the reasoning process is called deductive reasoning, a logical method in which the conclusion is drawn from more basic principles (Nowell, 2012).

Third, decision making. In psychology, Reed (2012) stated that decision-making is considered a cognitive process that results in selecting a belief or action among several possible alternatives. Each decision-making process results in the last choice, which might or might not encourage action. Decision making is the identification and alternative selection process based on values, preference, and the decision-maker’s belief. Decision-making can be considered a problem-solving activity that ends with an optimal solution or a satisfying solution. Therefore, it is the process that can be more or less rational or not rational and can be based on either explicit knowledge or belief or secretly (Frederick, 2005).

In cognitive psychology (Bandura, 2001; Frederick, 2005; Liñán, 2008), decision-making can be considered a continuous process that is integrated into the interaction with the environment. The main part of this decision making includes the analysis of several alternatives, including (1) formulating objective, (2) classifying objectives and sort them according to the order of the priority, (3) developing alternative action, (4) evaluating alternatives in line with the objectives, (5) determining tentative decisions, (6) evaluating tentative decision on the possibility of greater consequence, (7) deciding on action, and (8) deciding on additional action as a counter of harmful consequences. In a situation of conflict, role-playing can help to predict a decision that is going to be made by the party involved.

This research analyzes the attitude of fake news readers in online media from the perspective of cognitive psychology, as cognition is a part of an individual mental state manifested in mental activity and is closely related to the thinking process and concept arrangement. The researcher formulated the research question as “To what extent do fake news and hoaxes affect the cognition of the young generation in SMKN 57 Jakarta during the Post Truth era?”

Method

This research uses the explanatory quantitative survey method with the positivistic paradigm. A questionnaire was used as the data collection method. According to Bungin (2005), the population can be divided into a limited population and an unlimited population. The limited population is a population that has a definite data source in quantitative research. This research used limited population, and the subjects are young generation/students studying and living in Jakarta, particularly in SMKN 57 Jakarta and aged between 15-18 years. According to data, the total number of SMKN 57 students is 1308 students (www.smkn57jkt.sch.id). After calculating using the Slovin formula with a sampling error of 10%, 99 students were needed to become the respondent. Then, the researcher rounded the number up to 100 respondents as the sample. This research uses the purposive sampling technique. The size of the sample is counted directly and purposively because it is unclear in the population.
Table 1. Operationalization of the concept

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dimension</th>
<th>Indicator</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fake News</td>
<td></td>
<td>• Try to replace the original news</td>
<td>interval</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Added more attempt at dispute; the stranger, the better</td>
<td></td>
</tr>
<tr>
<td>Clickbait</td>
<td></td>
<td>• Links made to lure the user into entering the site/news article</td>
<td>interval</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Exaggerated headline and or misleading visual or photo</td>
<td></td>
</tr>
<tr>
<td>Misinformation</td>
<td></td>
<td>Incorrect or inaccurate information; intended to be deceptive</td>
<td>Interval</td>
</tr>
<tr>
<td>Hoax</td>
<td>Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satire</td>
<td></td>
<td>Writing composes of humor, irony, and or exaggeration to comment on certain events</td>
<td>Interval</td>
</tr>
<tr>
<td>Post-truth</td>
<td></td>
<td>Issues where emotions play more role than facts to shape public opinion</td>
<td>Interval</td>
</tr>
<tr>
<td>Propaganda</td>
<td></td>
<td>The distribution of information, facts, arguments, gossip, half-truths, or even lies to influence public opinion.</td>
<td>Interval</td>
</tr>
<tr>
<td>Cognitive</td>
<td>Conceptualize</td>
<td>• Understand the concept</td>
<td>Interval</td>
</tr>
<tr>
<td>level</td>
<td></td>
<td>• Apprehend the concept</td>
<td></td>
</tr>
<tr>
<td>Logic</td>
<td></td>
<td>• Thinking process to justify or validate arguments</td>
<td>Interval</td>
</tr>
<tr>
<td>Decision</td>
<td>Making</td>
<td>• Set goals</td>
<td>Interval</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Classify goals and priority</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Develop alternative measures</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Evaluate alternatives according to objectives</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine and evaluate alternative decisions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine the action</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine additional measures towards the potential risk</td>
<td></td>
</tr>
</tbody>
</table>

To collect the data, a questionnaire was distributed. Then, to analyze the data, hypothesis testing is done using inferential statistic test with Pearson Correlation test and Simple Regression test. In detail, the hypothesis of this research are:

H₀: Fake news does not influence adolescent’s cognition in the post-truth era
H₁: Fake news influence adolescent’s cognition in the post-truth era
**Results and Discussion**

The result of the research on variable X about the respondent’s understanding of the concept of digital media in the post-truth era can be seen in Table 1 below.

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Correct f</th>
<th>Incorrect f</th>
<th>No Answer f</th>
<th>No Clue f</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hoax</td>
<td>5</td>
<td>95</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Fake News</td>
<td>36</td>
<td>64</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>Miss Information</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Post Truth</td>
<td>82</td>
<td>0</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>Propaganda</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>Satire</td>
<td>18</td>
<td>52</td>
<td>21</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td>Click Bait</td>
<td>1</td>
<td>95</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

Based on Table 1 above, the majority of the respondents give incorrect answers about Hoax (95%). This means that the SMKN 57 Jakarta students are the millennial generation who lack an understanding of the concept of a hoax that people are talking about.

Based on the table above, more than half of the respondents misunderstood the meaning of Fakenews (64%). Meanwhile, those who answer correctly were only 36%. This proves that the respondents have not yet understood the concept of fake news. Unfortunately, they do not understand fake news, even though they used the term a lot in their daily conversation.

Based on the table above, all the respondents understand the meaning of misinformation (100%). Students of SMKN 57 Jakarta understand the concept of false information and acknowledge if they received false information. According to the table above, the majority of respondents know the meaning of Post Truth (82%).

According to the table above, the majority of respondents understand the meaning of Propaganda (100%). Based on the table above, half of the respondents misunderstand the concept of Satire (52%). Respondents who answer correctly and understand Satire is 18%, while 21% do not answer.

Not all of the respondents understand satire, a writing composed of humor, irony, and exaggerations regarding a certain issue. Adolescent responses to humor are usually only used as inside jokes for their friends to laugh about, without understanding the meaning of the message in question.

Based on the table above, the majority of respondents misunderstand the meaning of clickbait (95%). Meanwhile, 4% do not answer, and those who answer correctly were only 1%. Respondents do not comprehend the concept of clickbait, which is an exaggerated headline to lure the user into clicking the article. Most teenagers are usually interested in the title alone without reading the news content and then directly sharing it with others.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. An error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.569</td>
<td>.324</td>
<td>.288</td>
<td>3.882</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), CLICKBAIT, POST TRUTH, FAKE NEWS, SATIRE, HOAX
According to the table above, the relation between understanding the concept of fake news/hoax with cognitive ability is 0.569. It shows that the respondent’s understanding is related significantly to the cognitive ability to interact with others.

The Understanding variable toward the information of fake news etc. contributes to the cognitive ability as much as 32.4%. Meanwhile, 73.6% is influenced by other factors that are not investigated in this research.

Table 3. ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>678.542</td>
<td>5</td>
<td>135.708</td>
<td>9.007</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>1416.368</td>
<td>94</td>
<td>15.068</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2094.910</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: VARIABELY
b. Predictors: (Constant), CLICKBAIT, POST TRUTH, FAKE NEWS, SATIRE, HOAX

Based on the calculation, it is found that the value of F-count is 9.007, and the significance value (sig 0.000). If the significance value (sig) is compared with the alpha value (α = 0.05), then the significance value is less than the alpha value. It shows that fake news/hoax etc. influences cognitive ability. Next, the researcher conducted a hypothesis test by F testing, with the condition as follow:

- If F-count > F-table, then H₀ is denied, and Hₐ is accepted, which means there is a significant influence between the variable fake news/hoax etc. on the cognitive ability.
- If F-count < F-table, then H₀ and Hₐ are both denied, which means that there are no significant influence of the variable fake news/hoax on the cognitive ability.

Based on the condition above, it is found that F-count is 9.007, and the free-degree (n-k-1) or 100-2-1 equals 94, and the number of the F-table is 3.159 while F-count is 9.007. Therefore F-count > F-table. That means that H₀ is denied and Hₐ is accepted. It means that there is a significant influence of the variable fake news/hoax on cognitive ability.

Table 4. Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>78.919</td>
<td>4.250</td>
<td>18.567</td>
<td>.000</td>
</tr>
<tr>
<td>HOAX</td>
<td>-4.627</td>
<td>2.240</td>
<td>-.220</td>
<td>.026</td>
</tr>
<tr>
<td>FAKE NEWS</td>
<td>-.354</td>
<td>.894</td>
<td>-.037</td>
<td>.396</td>
</tr>
<tr>
<td>POST TRUTH</td>
<td>-3.610</td>
<td>.744</td>
<td>-.524</td>
<td>.853</td>
</tr>
<tr>
<td>SATIRE</td>
<td>2.909</td>
<td>.548</td>
<td>.542</td>
<td>.531</td>
</tr>
<tr>
<td>CLICKBAIT</td>
<td>-1.720</td>
<td>2.170</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Dependent Variable: VARIABELY

Based on the measurement result on the regression analysis table, the equation of double linear regression is obtained as follow:

\[ Y = 78.919 + 4.627X_1 + 0.353X_2 + 3.610X_3 + 2.909X_4 + 1.720X_5 + e \]

The regression coefficient’s value on the independent variables shows that if the estimated independent variable increases one unit and the other independent variable
value is estimated to be constant or equal to zero, the dependent variable can increase or decrease based on the coefficient symbol of its independent variable.

The regression coefficient’s value on the independent variable shows the direction of the relation from variables related to cognitive ability. The regression coefficient shows negative values in independent variables X, namely Hoax (X1), Fakenews (X2), Post Truth (X3), and Clickbait (X5), on the Cognitive Ability variable (Y). Meanwhile, Satire (X4) shows a positive relationship that is unidirectional between satire and cognitive ability.

Based on the table above, the most influential X variable to Variable Y is Satire Variable (X4). The value is positive and unidirectional. Meanwhile, from the numbers, it can be seen that the variable Hoax is the most influential to cognitive ability, even though the value is negative, which means that the influence is not unidirectional. The lower the understanding of Hoax, the higher the cognitive ability is.

Based on the analysis, the hypothesis proposed is proven to be valid. Understanding the concepts in social media like a hoax, fake news, and others influence the cognitive level. The effective contribution of understanding social media concepts such as hoaxes, fake news, etc. to cognitive abilities was 32.4%. Meanwhile, 73.6% were influenced by other things that were not examined in this study.

This research is about fake news on social media and adolescent cognitive abilities in the post-truth era. This study’s results are in line with several studies that have been conducted by several researchers, such as research conducted on hoaxes on Twitter (Suraya, Suraya, Franciskus, 2019), Fakes news or truth? (Rubin et al., 2016), hoaxes and crimes (Binti Ida Umaya, 2017), the behavior of users of hoax information (Rahadi, 2017); (Ritonga & Syahputra, 2019).

The cognitive abilities referred to in this research are concept formation, logic, decision making. Respondents who read information related to hoaxes, fake news, and others on social media will receive this information. Receiving this information begins with the formation of a concept. The research specifically on understanding each concept of information on social media illustrates that the respondents understand the concepts of misinformation and propaganda (100%). However, the majority of the respondent lack understanding of the concepts of Hoax, Fakenews, and clickbait.

The Hoax variable that is the most influential on cognitive abilities, even though the value is negative, has a unidirectional effect. This means that the lower the understanding of hoax, the higher the level of cognitive abilities. These teenagers have positive cognitive abilities. This shows that if they do not trust hoaxes or understand which news contains hoaxes, their cognitive understanding of the case will be high.

The result is in accordance with the research on cognition and hoaxes (Rusdiana, 2018; Naweed, 2019), anxiety about hoaxes (Febyani, 2015), cognition and misinformation (Acerbi, 2019).

**Conclusion**

The relation between understanding fake news/hoax with cognitive ability is as much as 0.569. The research shows that the respondents’ understanding is quite significant to the cognitive ability in the interaction with other people. The effective contribution of understanding social media concepts such as hoaxes, fake news, etc. to cognitive abilities was 32.4%. Meanwhile, 73.6% were influenced by other things that were not examined in this study.

The regression independent variable’s coefficient value shows the direction of the
relationship between variables related to cognitive ability. The regression coefficient for the independent variable X with Cognitive Ability (Y) is negative for Hoax (X1), Fakenews (X2), Post Truth (X3), and Clickbait (X5). Meanwhile, satire (X4) shows the positive unidirectional relation between understanding satire and the cognitive ability.

Based on data, the most influential variable X to variable Y is Variable Satire (X4), which is positively and unidirectionally influencing the variable Y. The Hoax variable is the most influential on cognitive abilities, even though the value is negative and unidirectional. This implies, the lower the understanding of hoax, the higher the level of cognitive abilities. Thus, these teenagers have positive cognitive abilities. This shows that if they do not trust hoaxes or understand which news contains hoaxes, their cognitive understanding of the case will be high. Based on this research, it is suggested that any information received should be processed first with cognitive abilities to underlie someone’s attitude and behavior.

Acknowledgements
This research is the result of a research collaboration between Mercu Buana University and Moestopo Beragama University. Therefore, we would like to thank the Chancellor of Mercu Buana University and Moestopo Beragama University, Director of Research, Technology, Publication, and Domestic Cooperation as well as the Head of the Research Center at Mercu Buana University. They have provided both material and moral support.

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