A model for understanding new media literacy: Epistemological beliefs and social media use

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ABSTRACT

New media literacy (NML) skills are regarded as crucial for the 21st century. However, there is limited research on the factors affecting NML skills. A robust model was built for exploring the antecedents of NML. The model incorporated epistemological beliefs and social media use purposes. Individuals` purposes of social media use were found to have an effect on beliefs about information. Further, interactional and communicational use of social media makes epistemological beliefs more sophisticated. However, it is more likely to have naïve beliefs with the use of social media for making new friends. Also, the purposes of social media use and epistemological beliefs affect NML skills. Accordingly, interactional use of social media might contribute to justifying information, in turn, increasing NML skills. This study indicates that knowledge of social media use and epistemological beliefs enables us to largely understand the NML skills.

1. Introduction

New media technologies, that emerged in the early 21st century, are defined as socio-cultural digital platforms in which users can share any content. New media offer numerous opportunities as individuals both consume and create content on these technologies. However, new media requires some skills from users. These skills are regarded as new media literacy, and involve not only technical (e.g., creating a user account) but also critical thinking skills (e.g., judging accuracy of media content) (Lin, Li, Deng, & Lee, 2013). Despite the importance of new media literacy skills for the 21st century, there is limited research on the factors affecting these skills.

Social media sites (e.g., Twitter, Facebook, YouTube) are examples of new media technologies. People use social media for various purposes (Akturk, Emlek, & Celik, 2017; Dindar & Yaman, 2018). These purposes include behaviors both consuming and prosuming media content (Koc & Barut, 2016). Therefore, revealing the relationships between the purposes of social media use and new media literacy can help to predict individuals' new media literacy levels. Also, social media platforms are utilized as sources of information (Cooke, 2017). In other words, people use social media for information-seeking in different fields (Kim, Sin, & Yoo-Lee, 2014). The main challenge in this regard is to decide on the trustworthiness, objectivity, and accuracy of the information (Chiu,

Tsai, & Liang, 2015; Reisoglu, Toksoy, & Erenler, 2020). For example, the COVID-19 pandemic caused a considerable challenge to global human well-being, and misinformation about COVID-19 has proliferated on social media (Rovetta & Bhagavathula, 2020). In order to overcome this challenge, users should have a rational and critical approach to information (Chiu et al., 2015; Warner-Søderholm et al., 2018). This approach concerns epistemological beliefs, which are judging the accuracy and certainty of information (Celik, 2020). The role of epistemological beliefs might be crucial in the evaluation of social media-based information. The questioning source of information is a skill expected from new media literate individuals and, thus, individuals` epistemological beliefs can give an idea about new media literacy (Lin et al., 2013). Therefore, it is important to analyze the relationships between new media literacy and epistemological beliefs.

1.1. Problem statement

New media have led to novel challenges for society with one example of this being an increase in the amount of misinformation (Rosenberg, Syed, & Rezaie, 2020). One reason for this is that new media gives users the ability to create and share content. The ways to combat misinformation remain unclear (Jeong, Cho, & Hwang, 2012; Vraga & Bode, 2017). In the post-truth age, personal beliefs, anecdotes, and popular

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views are more powerful than facts and objective evidence in constructing public opinion (Cooke, 2017). Therefore, gaining new media literacy skills can allow the public to distinguish manipulative news and misinformation. Several studies empirically evidenced that individuals with greater media literacy are better at recognizing misinformation (Damico, Baildon, & Panos, 2018; Jeong et al., 2012; Jones-Jang, Mortensen, & Liu, 2019; Lee, 2018). Understanding the antecedents of new media literacy can give insight into solid ways to be employed for promoting new media literacy skills. In other words, considering these factors are important to develop strategies for combating misinformation. This study aimed to build a robust model exploring the antecedents of new media literacy. This model incorporated epistemological beliefs and social media use purposes. The current study has the potential to make some contributions to the literature. Firstly, previous studies indicated that epistemological beliefs may vary to specific social media (Bråten, Brandmo, & Kammerer, 2019; Bråten, Strømsø, & Samuelstuen, 2005; Celik, 2020). To the best of our knowledge, no study examined the role of social-media specific epistemological beliefs in explaining media literacy. Therefore, it was analyzed to what extent individuals` beliefs about social media-based information explained new media literacy skills. Secondly, previous research generally aimed at developing scales to measure new media literacy and its components (Chen, Li, Lin, Lee, & Ye, 2014; Kara et al., 2018; Koc & Barut, 2016; Lee, Chen, Li, & Lin, 2015; Luan, Liang, Chai, Lin, & Dong, 2020; Young, 2015). Because of the increasing demand for skills in new media, it has become a necessity to investigate factors affecting new media literacy (Young, 2015). In this way, the current study provides empirical results for a better understanding of new media literacy skills.

2. Theoretical underpinning

The research model of the current study was built using two distinct theoretical frameworks, namely new media literacy and epistemological beliefs (Hofer & Pintrich, 1997; Lin et al., 2013). In addition to these frameworks, the effect of individuals` purposes to use social media was analyzed.

2.1. New media literacy

Media literacy is generally a concept which describes how individuals access several media, understand the media content, and create their own messages (Buckingham et al., 2005). Traditional media literacy has focused on the proper use and consumption of media content. Further, it aims to ensure that users become conscious media consumers (Literat, 2014). Traditional media literacy enables people to follow the media well; however, it is limited to actively producing and sharing media content (Kara et al., 2018). In this context, different from classical literacy types (e.g., classic, audiovisual, digital), new media literacy emphasizes the production of media contents rather than only consumption (Luan et al., 2020).

Considering the technical and socio-cultural characteristics of the new media technologies, Lin et al. (2013) established a new theoretical framework for the new media literacy. People mostly are considered as consumers in Web 1.0 environments. On the other hand, individuals are both consumers and producers using Web 2.0 platforms such as social media applications (Lin et al., 2013). Therefore, Lin et al. (2013) emphasized the participatory culture that emerged with Web 2.0 in their framework. Based on new media literacy (NML) framework, the new media literacy skills are represented by 10 indicators as follows: *Consuming skills (1)* and *understanding (2)* include technical skills and grasping abilities when an individual consumes media content (Lin et al., 2013). *Analysis (3)* and *synthesis (4)* consist of skills to deconstruct, reconstruct, and remix media content with incorporating various viewpoints (Lin et al., 2013). *Evaluation (5)* indicates the ability to query, criticize, and judge the trustworthiness of media contents (Lin et al., 2013). *Prosuming skills (6), distribution (7), and production (8)*

address technical skills to produce, disseminate, and duplicate media content (Lin et al., 2013). *Participation (9)* shows the ability to contribute proactively and critically to new media platforms (Lin et al., 2013). *Creation (10)* comprises skills to produce media content with a critical consideration of socio-cultural values and ideologies (Lin et al., 2013).

2.2. Social media-specific epistemological beliefs

According to Schommer (1990), epistemological beliefs refer to the perception about knowledge and learning. In addition, epistemological beliefs cover how knowing and learning occur. Hofer (2004) argued that four dimensions, namely, *certainty (1), simplicity (2), source of knowledge (3)*, and *justification for knowing (4)* establish personal epistemology. This study was based on the theoretical dimensions of the personal epistemology developed by Hofer and Pintrich (1997). Bråten et al. (2005) argue that the internet provides novel ways for introducing knowledge and knowing, therefore, personal epistemological beliefs may vary specific to the internet.

As a specific form of the internet, social media platforms do not have editorial gatekeeping and the information on these platforms is heterogeneous (Davidovitch & Belichenko, 2018). Social media users can follow experts' profiles from various fields and are notified by experts' posts. Using social media, individuals contribute to the dissemination of information posted by experts previously (Manca & Ranieri, 2016). In social media, the perception of information shared by an expert and liked by a massive number of users may differ from the perception of the same information in traditional print media (Celik, 2020). Due to the unique, community-based characteristics of social media, perception of information may diversify specific to social media environments (Kaplan & Haenlein, 2010). Therefore, this study investigated the effect of social media-specific epistemological beliefs on new media literacy skills. Drawing on the Hofer and Pintrich (1997) framework, Celik (2020) revealed three dimensions of epistemological beliefs specific to social media: simplicity and certainty of social media-based knowledge; source of knowledge; and justification for knowing. Dimensions of social media-specific epistemological beliefs and the descriptions of naïve and sophisticated beliefs are presented in Table 1.

2.3. Social media usage purposes

In the literature, various purposes of social media use are seen (Lockyer & Patterson, 2008). For instance, Dindar and Yaman (2018) found out individuals use Twitter mainly for self-expression, escapism, and social interaction. Moreover, Mazman and Usluel (2010) stated that Facebook has three main purposes of use as socializing, work-basis, and leisure. The socializing involves behaviors such as making new friends, maintaining contact with existing friends, and joining social groups, while the work-basis use is more related to professional and academic activities (accessing information, sharing projects, materials, resources, homework, etc.). Also, the purposes of leisure use may include wasting

Table 1
Dimensions of social media-specific epistemological beliefs.

Naive beliefs about knowledge	Dimensions	Sophisticated beliefs about knowledge
"a collection of certain facts and details" "true, accurate, and certain"	simplicity and certainty of social-media based knowledge	"complex concepts and principled knowledge" "tentative and evolving"
"conveyed by external authorities"	source of knowledge	"created by the self"
justified by means of "intuitions/ observations or an authority"	justification for knowing	justified through "rationale or examination of further basis of information."

time, having fun, or playing games. In recent years, the educational social media use has attracted the interest of many researchers (Akçayır, 2017; Guraya, 2016). With the promises of Web 2.0, social media are considered as an educational relevant tool for teachers and students (Sendurur, Sendurur, & Yilmaz, 2015). Karal and Kokoç (2010), explored three aspects for social media use purposes, namely, making new friends, communicational/interactional use, and educational use.

3. Method

3.1. Research model and hypothesis development

Based on the theoretical foundations described above, six hypotheses were formulated to develop a model to assess the interplay of the purposes of social media use, epistemological beliefs, and new media literacy (see Fig. 1). Purposes of social media use comprise three dimensions: communication and interaction (1), education (2), and knowing-recognizing (3). Similarly, social media-specific epistemological beliefs include three dimensions: simplicity and certainty of social media-based knowledge (1), source of knowledge (2), and justification for knowing (3). Each of these dimensions in the research model and hypotheses are detailed below.

3.1.1. Effect of social media use purposes

Individuals can learn more about others` ideas or obtain information from different sources by using social media for interaction and communication. This may increase the critical perception of the information shared by any expert or authority on social media (Torres, Gerhart, & Negahban, 2018). Furthermore, the study by Park and Lim (2012) indicated that individuals who scarcely prefer online communication perceive knowledge as a concept transferred by an authority. Users deal with information more critically while watching any video on YouTube and reading comments about it (Lee & Jang, 2010). Therefore, the following is hypothesized:

H1a. Social media use for communication and interaction is related to the source of knowledge.

Some research in the relevant literature has revealed a positive relationship between the source of internet-based knowledge and justification for knowing (Bråten et al., 2005; Chiu, Liang, & Tsai, 2016; Lee, Chiu, Liang, & Tsai, 2014; Tsai, Tsai, & Hwang, 2011). Also, Bråten et al. (2019) defined three ways to justify the information on the internet as follows: questioning the authoritativeness of the source; utilizing prior knowledge; and checking different sources for accuracy. Therefore, students who communicate with friends and contribute to the content by commenting and using their prior knowledge can more justify the information on social media (Chiu et al., 2016; Lee et al., 2014). Considering this, it is assumed the following:

H1b. Social media use for communication and interaction is related to the justification for knowing.

The relevant literature shows that individuals with sophisticated, epistemological beliefs tend to use social media more constructively (Park & Lim, 2012). For example, results from a study by Clayton et al. (2020) showed that false information is perceived as less certain when users obtain a general message about deceptive social media-based information or when they see specific headlines with tags such as "disputed" or "rated false". Hence, it can be expected that when users receive warnings from their friends about the accuracy of any information, their beliefs about the certainty of knowledge will be more sophisticated. Thus, the following is proposed that:

H1c. Social media use for communication and interaction is related to the simplicity and certainty of social media-based knowledge.

In social media, individuals engage in analysis and evaluation processes by communicating with other users while commenting on their posts (Koc & Barut, 2016). In new media environments, it is expected that individuals who evaluate the media content of other users will gain a critical point of view over time, thus developing new media literacy skills (Lee et al., 2015). Today's individuals usually contact each other by both consuming and creating media content (Koc & Barut, 2016). Given that people produce and consume more media messages by using social media for communication, this may improve new media literacy. Yildiz Durak and Saritepeci (2019) emphasized that social media
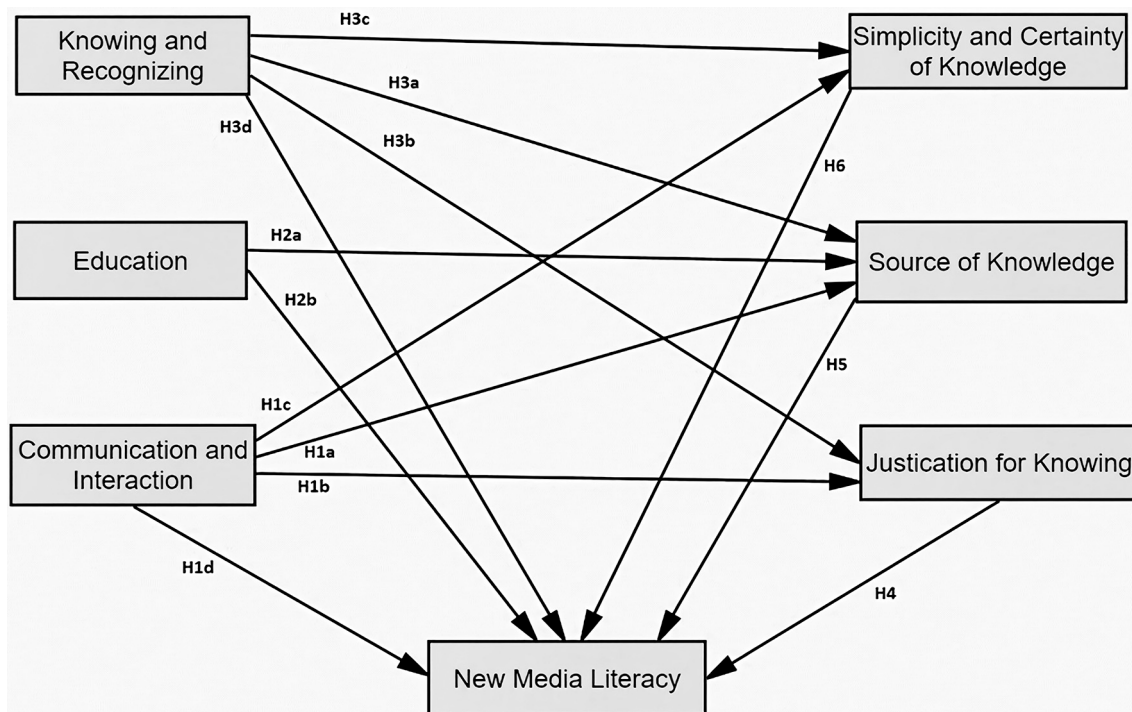

Fig. 1. The research model.

environments have a high potential for using individuals to develop new media literacy skills. Based on this, the following hypothesis is proposed:

H1d. Social media use for communication and interaction is related to new media literacy skills.

Some studies in the literature found a negative relationship between academic information searching and internet specific-epistemological beliefs (Bråten et al., 2005; Strømsø & Bråten, 2010). It may be less likely for people who perceive social media as an authoritative source of facts to notice the countless obstacles of dealing with information pollution (Bråten et al., 2019; Rouet, Jegou, Metta, & Limam, 2003).

Subsequently, they may perceive the social media search as relatively uncomplicated and overrate information they access, which may hinder their progress in becoming effective online searchers (Bråten & Strømsø, 2006). Therefore, it is suggested the following:

H2a. Social media use for education is related to the source of knowledge.

Social media offers many opportunities for educational use (Ajjan & Hartshorne, 2008; Mazman & Usluel, 2010). For instance, a systematic review evidenced Twitter was most frequently utilized for communication and assessment purposes (Tang & Hew, 2017). When learners use social media platforms, they benefit from together Web 1.0 and Web 2.0 features including socio-technical systems (Lambton-Howard, Kiaer, & Kharrufa, 2020). In this regard, it is likely that the educational usage of social media will promote individuals` new media literacy skills. Buck (2012), in her research, revealed that students' use of social networks increased their digital literacy practices. Given this, it is assumed the following:

H2b. Social media use for education is related to the new media literacy skills.

Characteristics of the profiles such as a number of followers (or friends) or educational degrees may be priorities in making friends on social media platforms. Similarly, users can pay more attention to a person accepted as an "expert" by others on Twitter (Celik, 2020). Also, when people introduce themselves on social media, they consider the recognition level of the audience. Considering this, the following is hypothesized:

H3a. Social media use for knowing-recognizing is related to the source of knowledge.

During making friends through social media, individuals have to deal with some challenges such as obscurity, ambiguity, and confusion related to other users (Dindar & Akbulut, 2014; Rapp, Beitelspacher, Grewal, & Hughes, 2013). For this reason, individuals may tend to check if a user profile is fake from various social media platforms. Further, it is also possible to get information about a person from other sources (Gibson & Trnka, 2020). This process is about the justification for knowing on social media platforms. Therefore, it is proposed the following:

H3b. Social media use for knowing-recognizing is related to the justification for knowing.

The previous research has pointed out that people in social media had a strong motivation for building a virtual friendship based on similar interests (Kim & Kim, 2020). Building friendship processes on social media consists of decision-making on some features such as integrity, pleasure, reliance, and closeness of others (Su, Mariadoss, & Reynolds, 2015). Thus, the decision process of making a friend requires consideration of these issues. Also, individuals are willing to use social media platforms for sharing personal information, experiences, and emotions to make friendships with other users (Chambers, 2013; Su et al., 2015). In building friendships, the way people perceive other users` personal information may include certainty and simplicity. For this reason, it is hypothesized the following:

H3c. Social media use for knowing-recognizing is related to the simplicity and certainty of social media-based knowledge.

Many people use social network platforms to make new friends and disclose their personal identity by creating a public profile (Boyd & Ellison, 2007). Starting a new friendship through social media is regarded as a critical interpersonal characteristic (Vallor, 2012). This is because social media rely on user-user interaction. Meanwhile, social media platforms provide users with particular tools, such as creating a personal space, sharing of interests, and exposure of self-information, which help the users to promote individuals digital skills (Kim & Kim, 2020). New media literacy requires a set of technical abilities essential to consume and produce media content. Thus, the following can be assumed:

H3d. Social media use for knowing-recognizing is related to the new media literacy skills.

3.1.2. Effect of social media-specific epistemological beliefs

It is expected that individuals should evaluate media content while they interact with the presented media. Social media users can attain numerous critical perspectives by interacting with heterogeneous media contributors and posts (van Deursen & van Dijk, 2011). In this regard, they can advance the ability to critique media content considering different views and ideologies (Tugtekin & Koc, 2020). For new media literate people, it is a requirement to justify any information on social media from various sources (Chen et al., 2014). The perception of social media-based information may play an important role in promoting new media literacy skills. Given this, it is proposed the following:

H4. Justification for knowing is related to new media literacy skills.

Social media offers an environment for experts to promptly transmit true information about hazards; this opportunity is used by experts to combat misinformation (Malecki, Keating, & Safdar, 2020; Vraga & Bode, 2017). Although experts have commonly reached a consensus about the triggers of a disease and its consequences, there might be some conflicting explanations on unprecedented diseases such as COVID-19 among experts (Vraga & Bode, 2017). Besides information shared by users, individuals with many followers (or friends) might be perceived as more credible compared to those having fewer followers. In these situations, it is expected from individuals to consider any information with a critical perspective, even if this information is shared by experts. This critical approach to sources of knowledge in social media platforms may contribute to people's new media literacy skills. Thus, it is hypothesized:

H5. Source of knowledge is related to new media literacy skills.

Perceiving the information as simple and certain is one of the naïve belief characteristics. On the other hand, individuals with sophisticated beliefs perceive information as tentative and evolving (Bråten et al., 2019). Skills such as questioning the source of information and developing a critical approach to information are important in terms of combating misinformation (Jeong et al., 2012). These skills are elements of new media literacy. Several studies empirically evidenced that individuals with greater media literacy are better at recognizing misinformation (Damico et al., 2018; Jones-Jang et al., 2019; Lee, 2018). Considering that people should have critical thinking information skills, it might be assumed that beliefs about simplicity and certainty can give an idea about new media literacy. Thus, it is proposed:

H6. Simplicity and certainty of social media-based knowledge is related to new media literacy skills.

3.2. Participants

A convenience sampling technique was performed in the current study to recruit participants. Six hundred undergraduates were sampled

from about 1000 participants at a public university in Turkey, and 432 students filled out the data collection tools. The students participated in the current study voluntarily. The participant characteristics can be seen in Table 2.

3.3. Data collection tools

In order to test and validate the research model, an online survey was conducted. This survey consisted of the following data collection tools.

3.3.1. New media literacy scale (NMLS)

Koc and Barut (2016) developed the NMLS to measure university students' new media literacy levels based on Lin et al. (2013) framework. This scale has three factors and 35 five-point Likert type items ranged from "1 = strongly disagree" to "5 = strongly agree". Koc and Barut (2016) performed a second-level factor analysis in the development of the NMLS and stated that the scale score could be calculated from the sum of all items. Although there are several instruments in the literature, NMLS is also suitable for measuring NML as one-dimensional. In this study, NML is addressed as one-dimensional. The scale score is obtained by summing the scores of items and high scores indicate that the new media literacy level is high. The cronbach alpha internal consistency coefficient of the scale was calculated as 0.93.

3.3.2. Social media-specific epistemological beliefs scale

Celik (2020) developed this scale to determine how individuals perceive knowledge in social media. The dimensions of social media-specific epistemological beliefs scale were developed based on the theoretical structure by Hofer and Pintrich (1997). As a result of exploratory factor analysis, 15 items as a five-point Likert type were grouped under three factors as follows: Simplicity and certainty of social media-based knowledge, justification for knowing. The options of the scale range from "1 = strongly disagree" to "5 = strongly agree" and higher scores from each subscale indicate that epistemological beliefs specific to social media are sophisticated. Cronbach's alpha coefficients were found to be 0.74 for the simplicity and certainty of social media-based knowledge, 0.78 for the source of knowledge, and 0.84 for the justification for knowing. Also, the internal consistency coefficient calculated was 0.80 for the whole social media-specific epistemological beliefs scale.

3.3.3. Purposes of social media use scale

The scale was developed by Karal and Kokoç (2010) to determine

Table 2
The participant characteristics.

Variables	Categories	f	%
Gender	Female	332	74.5
	Male	110	25.5
Reported Grade Point Average (GPA)	0.00 < 2.00	7	1.6
	2.00–2.50	74	17.1
	2.51–3.00	154	35.6
	3.01–3.50	167	38.7
	3.51–4.00	30	6.9
Daily internet use hours	< 1 h	18	4.2
	1–3 h	134	31.0
	3–5 h	162	37.5
	> 5 h	118	27.3
Daily social media (Facebook, Twitter, Instagram etc.) use hours	< 1 h	73	16.9
	1–3 h	170	39.4
	3–5 h	134	31.0
	> 5 h	55	12.7
Weekly online information searching hours	0–7	234	54.4
	8–15	145	33.3
	15 and above	53	12.3

university students' purposes for social media use. The scale is in the form of a five-point Likert, the options ranged from "1 = strongly disagree" to "5 = strongly. agree". This scale includes 14 items with three factors as social interaction and communication, knowing and recognizing and education. The cronbach alpha internal consistency coefficient was calculated to be 0.808 for social interaction/communication, 0.742 for knowing-recognizing, 0.661 for education, and 0.830 for the overall scale. The test-retest reliability of the purposes of social networks use scale was found to be 0.930.

3.4. Data analysis

In the current study, the structural equation modeling (SEM) approach was employed to reveal the interplays that exist among the seven variables of the research model. SEM analysis is a statistical approach to reveal the causal relationships among the variables (Shumacker & Lomax, 2004). In this study, the predictor relationships among social media-specific epistemological beliefs (simplicity and certainty of social media-based knowledge, source of knowledge, justification for knowing), the purposes of social media use (social interaction/communication, knowing and recognizing, education), and new media literacy were analyzed based on SEM through maximum likelihood estimation. In the SEM analysis, endogenous (dependent) and exogenous (independent) variables were used to estimate an equation. Together direct and indirect effects of exogenous variables on the endogenous variables were calculated. Prior to the SEM analysis, assumptions were controlled. Skewness and kurtosis coefficients were observed to be as an acceptable for meeting the normality assumption. No outliers and missing data were observed. In order to test the research model, the path coefficients, namely, the standardized regression values (betas) were calculated. Statistical analyses were performed by means of SPSS 22.0 and AMOS 18.0 software.

4. Findings

The structural equation analysis was performed to test the relationships among the research variables: knowing-recognizing, education, communication and interaction, simplicity and certainty of knowledge, source of knowledge, justification for knowing, and new media literacy.

The model was found to be acceptable, which the results indicated a robust fit: $\chi^2/df = 1.25$; GFI = 0.995; AGFI = 0.978; CFI = 0.998; TLI = 0.993; NFI = 0.991; RMSEA = 0.024 (for good and acceptable fit indices please see: Hu & Bentler, 1999; Jöreskog & Sörbom, 1984; Tanaka & Huba, 1985).

As depicted in Fig. 2, the research model includes three exogenous variables (communication and interaction, knowing-recognizing, and education) and four endogenous variables (source of knowledge, simplicity and certainty of knowledge, justification for knowing, and new media literacy). Communication and interaction ($\beta = 0.17$; H1c supported) was found to positively affect simplicity and certainty of knowledge, while knowing-recognizing ($\beta = -0.25$; H3c supported) affects the simplicity and certainty of knowledge negatively. Also, according to the research model, knowing-recognizing ($\beta = -0.38$; H3a supported) and education ($\beta = -0.15$; H2a supported) have a negative effect on the source of knowledge. However, the usage of communication and interaction ($\beta = 0.21$; H1a supported) has a positive effect on the source of knowledge. Knowing-recognizing negatively affects ($\beta = -0.26$; H3b supported) justification for knowing, whereas it was observed that communication and interaction use ($\beta = 0.39$; H1b supported) has a positive effect on justification for knowing. The research model indicated that justification for knowing ($\beta = 0.44$; H4 supported), and communication and interaction ($\beta = 0.36$; H1d supported) affect new media literacy positively (H2b, H4d, H5 and H6 rejected). Together, the usage of communication and interaction and knowing-recognizing explained 24% of simplicity and certainty of knowledge. Knowing-recognizing and education combined with communication and
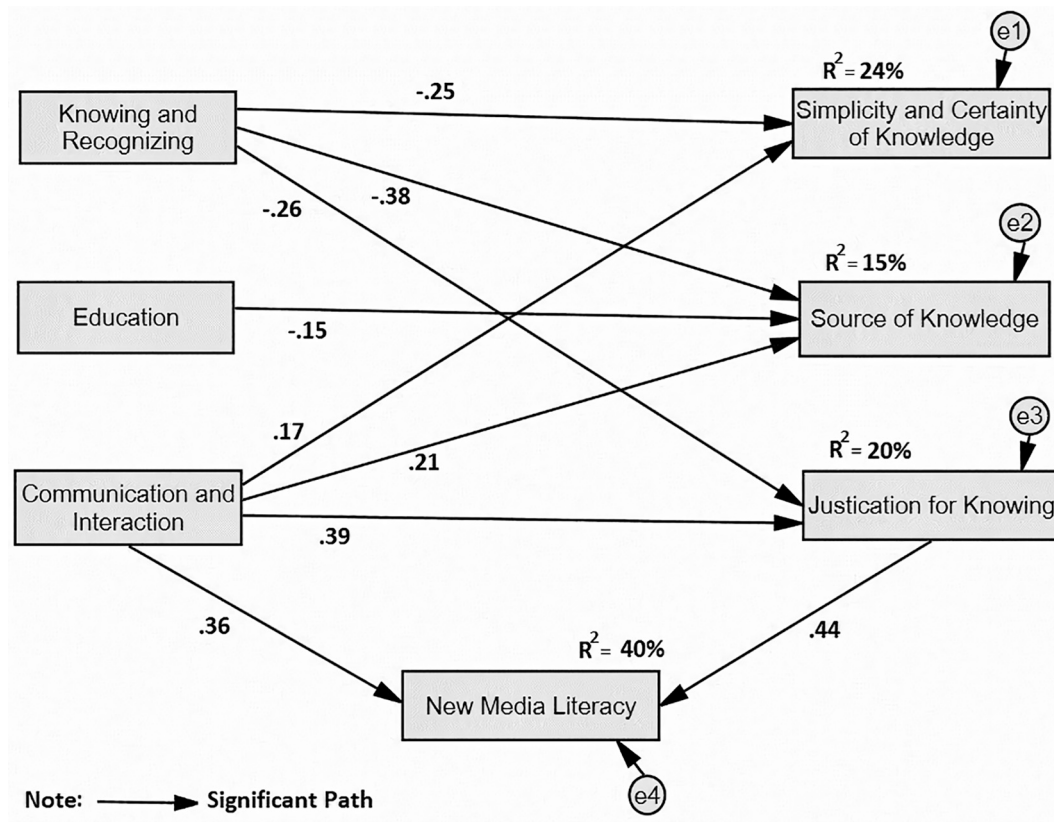
Fig. 2. The research model with standardized estimates.

interaction to explain 15% of the source of knowledge. Also, knowing-recognizing together with communication and interaction explained 20% of justification for knowing. In aggregate, communication and interaction, and justification for knowing explained 40% of new media literacy.

5. Discussion

The research model revealed that communication and interaction could lead to an increase in both source of knowledge (H1a) and justification for knowing (H1b). Accordingly, individuals who use social media for communication are more likely to question the source of information. Further, the use with the purpose of communication and interaction can enable people to check other sources in justifying information. Supporting the current study's findings, Tandoc and Lee (2020), found out social media users would offer a correction for the misinformation while they communicate with close friends or family members. A study conducted during the COVID-19 pandemic revealed that science-based evidence or fact-checking posts on Twitter were more retweeted compared to those having false information (Pulido, Villarejo-Carballido, Redondo-Sama, & Gómez, 2020). As seen from the current study, using social media for maintaining communication and sharing thoughts with others may lead to verifying information from different sources. This usage may function as fact-checking for individuals.

Users are able to realize different ideas through interacting with their friends and the content of social media (Himelboim, McCreery, & Smith, 2013). This interaction can transform beliefs from naïve to sophisticated, in which there might be multiple correct answers to a certain problem (Kammerer, Gottschling, & Bråten, 2020). Ku et al. (2019) reported that interactive use of social media contributed to the critical processing of information. They observed a positive relationship between people's exposure to ideologically diverse information including heterogeneous viewpoints and engagement with social media (Min &

Wohn, 2018). In line with such results, it was found that communication and interaction contributed to sophisticated beliefs about simplicity and certainty of knowledge (H1c). Similarly, Khan (2017) explored individuals who use YouTube for social interaction. This study revealed that such individuals search and upload more information on YouTube compared to those using entertainment. Web 2.0 environments such as social media have ill-structured problems that may include more than a single solution (Park & Lim, 2012). Thus, individuals contacting others may realize that there is more than one true answer to any problem discussed in social media. From the results of the current study, it is suggested that individuals can follow, update, and interact with the information. Consequently, they can be aware that there is no certain information on a specific topic. Due to the timeline function, social media allows the users to understand how the certainty of information changes over time.

The SEM analysis yielded a positive relationship between communication and interaction, and new media literacy (H1d). That means individuals who use social media for sharing their thoughts and maintaining contact with existing friends are more likely to become new media literate. Consistent with this result, previous studies indicated that new media literacy positively associated with communication and interactional use of social media (Kara, Geçer, & Sahin, 2020; Vraga & Tully, 2019). Many people use social media for sharing news with friends, reading recent updates, commenting on any content, and asking questions about various issues. These usages include accessing, analyzing, evaluating, and creating media content, thus, advancing new media literacy skills (Livingstone, 2014).

Interestingly, a significant negative relationship was found between education and source of knowledge (H2a). This finding shows that individuals using social media for searching academic information are more likely to consider information as transferred from an external authority. Anspach and Carlson (2020) found information on social media is disseminated among users that establish common interests. In

an educational online community, people may be more trusting of the information and not need to verify the accuracy of information. Therefore, the educational use of social media may negatively affect sophisticated beliefs on the source of knowledge. More research is needed on this topic.

The research model in this study indicated that knowing and recognizing negatively predicted both the source of knowledge (H3a) and the justification for knowing (H3b). The social network usage for knowing and recognizing could lead to a decrease in simplicity and certainty of knowledge (H3c). It can be concluded that individuals who use social media for making friends might be less media literate. This is because they are less likely to justify and question social media-based information. Also, these individuals may have naïve beliefs about simplicity and certainty of information. Therefore, interventions aiming at promoting new media literacy skills can focus on people who use social media for commonly making friends. Prior research supports this, with findings Chang, Liu, and Shen (2017) explored that using social media with the intention of socialization positively associated with fake news dissemination. It was also reported that socialization positively related to the sharing of false information in social media (Apuke & Omar, 2021).

The current study showed that justification for knowing serves to increase new media literacy skills (H4). That is, as long as individuals justify the information on social media by drawing on prior knowledge or reasoning, new media literacy skills are more likely to increase. In previous studies, checking multiple information sources through social media was also explored to be a positive predictor of new media literacy (Koc & Barut, 2016; Stanley & Lawson, 2020). In fact, Rosenberg et al. (2020) recommended proactively participating in a conversation and contributing to the discussion about conflicting topics. They argue that discovering diverse views might be an effective way of avoiding misinformation and having a critical approach. Therefore, it should be emphasized that individuals with sophisticated beliefs about justification for knowing on social media are better at recognizing misinformation.

5.1. Limitations and suggestions for future research

Although the results of the current work are encouraging, it has limitations, by default. This study has two important limitations. First, the cross-sectional method was used in the research. It is suggested that a longitudinal research approach in future studies may analyze relations and causes between the new media literacy and other variables. Second, the data of the current study are collected through the self-report of participants. Future work may also involve a qualitative research approach for in-depth data. In this study, new media literacy has been addressed in one dimension. Future studies may examine which variables affect the components of new media literacy. In addition, the participants in this study are university students. With participants from different age groups future research can determine which factors influence new media literacy levels. In this study, NML addressed one-dimensional for the broader perspective. However, this is also a limitation of the current study. Future research can investigate 10 indicators separately for a better understanding of NML.

6. Conclusion

Individuals` purposes of social media usage play a role in how they perceive information. Namely, interactional and communicational use of social media has potential to make epistemological beliefs more sophisticated. On the other hand, it is more likely people may have naïve beliefs when social media is used for making new friends. Also, social media use and perception of social-media based information are related to new media literacy skills. Accordingly, interactional use of social media contributes to justifying information, in turn, increasing new media literacy skills. This can serve as a strategy to combat misinformation on social media. The implications of the research model can be utilized to foster individuals` new media literacy. The current study indicates that knowledge of social media use and epistemological beliefs enables us to largely understand the new media literacy skills.

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