# Examining the antecedents of everyday rumor retransmission

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## Abstract

**Purpose** – This study investigates factors that motivate social media users to retransmit rumors. We focus on everyday rumors rather than catastrophic rumors and develop a model of everyday rumor retransmission based on the uses and gratification theory, the rumor retransmission model, and the basic law of rumor.

**Design/methodology/approach** – An Internet survey is conducted to collect data and test the proposed model. This study's hypotheses are tested through partial least squares regression analysis.

**Findings** – The results show that socializing, information seeking and status seeking increase the intention to retransmit rumors. Perceived rumor credibility has a moderating effect on the impacts of socializing and status seeking on retransmission intention.

**Originality/value** – Our research model provides a theoretical foundation for future studies that want to explore motivations or values that determine rumor-sharing intention on social media. The findings can help government agencies and businesses to manage rumor retransmission on social media.

**Keywords** Rumor, Social media, Uses and gratification theory, Basic law of rumor, Rumor retransmission model

**Paper type** Research paper

## 1. Introduction

In recent years, social media have provided many platforms on which to share news and information with friends. They have facilitated information flow via users' friend circles, allowing a wide variety of information to be spread quickly. Some prior studies have focused on information diffusion and have used the concept of "tie strength" to explain how social bonds speed up the flow of information (Bakshy *et al.*, 2012; Granovetter, 1973). From the tie strength perspective, a strong tie refers to a friendship with a person with whom one has a greater time commitment, and a weak tie refers to a relationship with the friends of one's friends (Granovetter, 1973). Strong ties increase the speed at which a rumor spreads within one's inner circle, while weak ties cause the information to diffuse more broadly through one's outer circle.

As a form of social exchange, rumors are often compared with gossip. Gossip is defined as "the exchange of personal information (positive or negative) in an evaluative way (positive or negative) about absent third parties" (Foster, 2004). Distinct from gossip, rumors are focused more on an event than on people who share a common history (Rosnow and Foster, 2005). Scholars have defined rumors as "distorted, exaggerated, irrational and inauthentic

information" (Miller, 1992). This kind of rumor mainly indicates some sort of social crisis or disaster and may create chaos and anxiety among people at that time. Another definition refers to rumor as "a message that is currently unsubstantiated by a message receiver" (Kapferer, 2013). This last definition is more suitable for this study because we focus on everyday sorts of misinformation rumors that are more widespread on social media than are those which are about disasters. Despite not knowing whether the information in this kind of factoid rumor is true, people sometimes choose to spread it anyway.

In general, prior studies have focused on rumors regarding catastrophes (Allport and Postman, 1947; Oh *et al.*, 2013; Liu *et al.*, 2014; Tanaka *et al.*, 2014) but have rarely investigated the everyday rumors that are more commonly spread. Wang *et al.* (2018) conducted a lab experiment to understand how a user's rumor transmission behavior and belief in a given rumor are impacted by arguments among members of an online forum's user group. They found that argument volume increases the user's belief in the rumor and can induce changes in those beliefs, and argument consistency increases the likelihood that the users' belief will change. Both the belief in the rumor and this argument-induced belief change have a positive influence on users' intentions to spread the rumor. Although prior studies have investigated the factors that facilitate rumor transmission, they have not explained why people want to spread rumors. We have little understanding of people's motivations for retransmitting rumors via social media.

The purpose of this study is to determine what kinds of gratifications affect people's intention to retransmit a rumor, and whether the information to be transmitted will, itself, moderate the relationship between these gratifications and the intention to retransmit. This study adopts three theories to explain how rumor retransmission intention will be affected. The first is the uses and gratification theory (U&G theory), which we employ to explore the kinds of gratification people get when retransmitting the rumor via social media, allowing us to investigate why people retransmit rumors. Secondly, the rumor retransmission model looks at the actual information that is being transmitted. This theory examines the rumor characteristics. The final theory on which we base this study is the basic law of rumor, which focuses on the feelings brought about by the rumor. We assume that the receiver's personal involvement will moderate the relationship between the gratification incentives and retransmission intention.

## 2. Theoretical background and hypothesis development

### 2.1 Uses and gratification theory

Uses and gratification (U&G) theory serves as a method by which to investigate why people use certain communication media and what kind of gratification they get from using that media (Katz *et al.*, 1973). It assumes that people use specific media, depending on their purposes and in seeking to fulfill their needs. Researchers have used this theory to investigate traditional media sources such as newspapers, radio and television.

The popularity of the internet as a communication medium has opened a new research field for studying the gratifications that lead to the usage of the internet and related services. Leung (2003) adopted the U&G theory to explain what kinds of gratification the Net Generation gets from Internet usage and to predict what activities will be popular among this generation. The theory has also been applied to help understand social network site (SNS) usage (Xu *et al.*, 2012; Huang and Chen, 2018).

Prior studies on information sharing have also drawn on the U&G theory. Social media allows users to create, edit, share and seek content with friends. To determine the underlying motivations, Lee and Ma (2012) used the concepts of information seeking, socializing, entertainment, and status seeking to predict the intention to share news over social media. As mentioned before, a rumor is a kind of message or information, and therefore, news sharing and rumor sharing behaviors may be similar on social media. For finding out what motivates SNS users to retransmit rumors, this study draws on U&G theory to determine whether

information seeking, socializing, entertainment, and status seeking also affect rumor retransmission intention.

*2.1.1 Socializing.* Socializing refers to the extent to which rumor retransmission helps to develop and maintain relationships with acquaintances on social media (Lee and Ma, 2012). It serves as a motivation for retransmitting rumors on social media. According to Papacharissi and Rubin (2000), users choose the internet as an alternative channel to fulfill their interpersonal needs. Furthermore, Park *et al.* (2009a) indicated that people used Facebook to communicate with others and get peer support. Other researchers found that socializing is an important motivation that drives the sharing of news via SNSs (Lee and Ma, 2012). This study proposes that socializing is a key motivation for rumor retransmission. People may retransmit rumors in order to keep in touch with their friends and fulfill their need to socialize. Retransmitting a rumor can start a conversation topic, allowing the receiver to interact with friends and maintain those social relationships. As such, we propose the following hypothesis.

*H1.* Socializing is positively associated with the receiver's intention to retransmit a rumor.

*2.1.2 Entertainment.* Entertainment refers to the extent to which retransmitting rumors on social media serves as a leisure time activity or form of entertainment (Lee and Ma, 2012). It is one way that users can be pleasantly distracted and escape from the pressures of daily life. Papacharissi and Rubin (2000) found that some people who use email to communicate with others are seeking amusement or enjoyment. Also, research regarding people sharing content via mobile applications has found that leisure activity or entertainment are important motivations to contribute or retrieve content (Chua *et al.*, 2012). Other researchers have found that entertainment is one of the main motivations for people to share misinformation because it allows them to become more relaxed and enjoy the SNSs (Chen *et al.*, 2015).

With these perspectives in mind, we expect entertainment to enhance the receiver's intention to retransmit the rumor because retransmitting rumors over social media is an enjoyable and exciting activity that can help pass the time.

*H2.* Entertainment is positively associated with the receiver's intention to retransmit a rumor.

*2.1.3 Information seeking.* Information seeking refers to the extent to which rumors retransmitted on social media can provide relevant and timely information (Lee and Ma, 2012). Prior studies have shown that information seeking is a key motivating factor for using SNSs (Park *et al.*, 2009b; Kim *et al.*, 2011). To fulfill information needs, people can take advantage of their social network as a useful resource for information. Information seeking is also a key driver for sharing news on social media (Lee and Ma, 2012). On social media, every friend in your friend circle can see what you post. In other words, social media can be a platform on which all of your friends can respond to your posts. An SNS user may share information in order to get their friends' opinions regarding that information.

As mentioned above, a rumor is factoid information. When an SNS user posts a rumor on social media, his or her friends may comment on it and point out whether the rumor is true or not, and the user can obtain information related to the rumor. Hence, this study posits that information seeking will enhance the receiver's intention to retransmit the rumor because he or she wants to seek related information from their friends through social media.

*H3.* Information seeking is positively associated with the receiver's intention to retransmit a rumor.

*2.1.4 Status seeking.* Status seeking refers to gaining respect from others and obtaining a certain position within the group (Lee and Ma, 2012). Nardi *et al.* (2004) found that getting their commentary out where others can see it is one motivation for bloggers to blog. In other

words, bloggers want their friends to read their opinion, thereby gaining special status among those friends. Park *et al.* (2009a) found that the status seeking gratification affects college students' intention to join a Facebook group. Lee and Ma (2012) indicated that sharing content with the community enhances the sharer's reputation.

Another study found that Internet users maintain their popularity by sharing information and participating in the online community (Park *et al.*, 2009a). Namely, people discover a rumor and retransmit it, with the expectation that if they are the first to post the rumor, they will earn a special reputation among their friends. Hence, this study assumes that status seeking enhances the rumor receiver's intention to retransmit the rumor because the user wants to get or maintain his or her status in the social network.

> *H4.* Status seeking is positively associated with the receiver's intention to retransmit a rumor.

### 2.2 Rumor retransmission model

Oh *et al.* (2013) introduced a model to explain rumor transmission on Twitter during a social crisis. This model identified five antecedents of rumor transmission: anxiety, source ambiguity, content ambiguity, personal involvement, and social ties. Their findings showed that anxiety, source ambiguity, and personal involvement are major rumor-causing factors on Twitter in social crisis situations.

Liu *et al.* (2014) extended Oh *et al.*'s work by explaining the second stage of rumor spreading: rumor retransmission on social media during disasters. Their model of rumor retransmission was further combined with the elaboration likelihood model (ELM). The ELM postulates that people may change their attitudes via two different paths: the central and peripheral routes (Petty and Cacioppo, 1986). People who have the motivation and ability to think about the merits of the information content change their attitudes via a central route. Personal attitudes may be changed via a peripheral route, as a result of some simple cues in the persuasion context and without careful and thoughtful consideration. Liu and colleagues removed source ambiguity and social ties because these two constructs are related to the original rumor sender instead of the receiver who is retransmitting the rumor. They added "sender's credibility" and "rumor message attractiveness" to their ELM-based model. As our study also focuses on rumor retransmission, our research model primarily draws on Liu *et al.*'s model.

Liu *et al.*'s model highlights the impact of rumor credibility based on the ELM. Rumors are more likely to be adopted if they seem truthful. Content ambiguity represents the quality of the message content that can persuade the receiver via a central route. The sender's credibility and the attractiveness of the rumor message are typical cues in the peripheral route that can enhance the credibility or persuasiveness of rumors. In our study, in addition to argument quality, sender credibility, and rumor attractiveness, we consider the impact of social media's credibility on rumor credibility since media credibility can determine the credibility of information transmitted on social media (Li and Suh, 2015). Moreover, Liu *et al.*'s model considers receiver characteristics, i.e. anxiety and personal involvement. Disasters or crises are accompanied by collective anxiety. Anxious people retransmit rumors in order to soothe their tensions. Receivers also tend to retransmit a rumor if they perceive the rumor to be relevant and important. Since our study focuses on everyday rumors instead of rumors regarding catastrophes, we have removed anxiety from our model. We posit that people retransmit everyday rumors in order to fulfill their needs, i.e. socializing, entertainment, information seeking, and status seeking. Rumor credibility and personal involvement may moderate the relationships between the various kinds of gratifications and the intention to retransmit rumors.

*2.2.1 Argument quality.* Argument quality refers to the rumor receiver's perception of the strength of the information within a rumor (Ha and Ahn, 2011). Oh *et al.* (2013) proposed that

argument ambiguity enhances the need for information, so people tend to propagate the rumor within their community. Liu's model of rumor retransmission used the concept of content ambiguity because the rumor type on which the study focused was related to a big issue or a disaster, and these kinds of rumors are unclear to the receivers. Thus, the model assumes that the more ambiguous the rumor, the greater the chance that it will be transmitted (Liu *et al.*, 2014). However, the big issue and disaster rumors examined by those studies are not suitable to this study because we focus on the common, everyday sorts of rumors seen on social media. Our study considers argument quality instead of argument ambiguity. Prior studies have argued that argument quality or strength determines the receiver's perceptions of information credibility (Li and Suh, 2015; Thomas *et al.*, 2019) and usefulness (Ha and Ahn, 2011; Xiao and Li, 2019). We posit that an everyday rumor that has a definite, complete, and accurate argument but is still factoid information will be more persuasive and more likely to be perceived as trustworthy by the receiver. Hence, the greater the rumor's level of argument quality, the greater its perceived credibility, according to the receiver.

*H5.* Argument quality is positively associated with the perceived credibility of the rumor.

*2.2.2 Sender credibility.* Sender credibility refers to the rumor receiver's perception of the rumor sender's expertise and trustworthiness (Ha and Ahn, 2011). The sender's credibility is one antecedent of information credibility (Thomas *et al.*, 2019; Yin *et al.*, 2018). Liu *et al.* (2014) proposed that people would accept a rumor from a credible sender because the perceptions of a sender's credibility can support inferences about the probable validity and reliability of the rumor. Hence, we posit that the higher the sender's credibility, the higher the perceived credibility of the rumor.

*H6.* Sender's credibility is positively associated with the perceived credibility of the rumor.

*2.2.3 Social media credibility.* Social media credibility refers to the rumor receiver's perception regarding the believability of social media (Li and Suh, 2015; Kang, 2010). Johnson and Kaye (2010) found that people perceived online media as more credible than offline media. When individual users rely more on social media for information and perceive such media to have a higher level of interactivity and transparency, they consider it to be more credible than other media. An individual who perceives a high level of media credibility is more likely to consider the information from that medium to be credible (Li and Suh, 2015; Yin *et al.*, 2018). We, therefore, posit that if social media has high credibility, that credibility will have a positive effect on the receiver's change of attitude toward the rumor, i.e. the perceived credibility of the rumor will be higher.

*H7.* Social media's credibility is positively associated with the perceived credibility of the rumor.

*2.2.4 Attractiveness.* Rumor attractiveness refers to the extent to which the rumor contains visual aids, e.g. video and pictures. A rumor with attractive visual aids can not only arouse the receiver's attention and interest but also convey more meaning and emotions (Liu *et al.*, 2014). Visual aids make the message seem more trustworthy (Qiu and Benbasat, 2005). Prior studies have found that the perceived visual attractiveness of a website can increase the perceived usefulness (Van Der Heijden, 2003) and credibility (Allport and Pendley, 2010) of the information presented on the website. We assume that if a picture supports the rumor, or if the social media platform or website is pleasing to the receiver's eye, the rumor will be more convincing to the receiver. Hence, attractiveness will make the rumor more persuasive and enhance the perceived credibility of the rumor.

*H8.* Attractiveness is positively associated with the perceived credibility of the rumor.

*2.2.5 Perceived credibility of rumor.* Perceived credibility refers to the degree to which one perceives a rumor to be believable (Chesney and Su, 2010; Li and Suh, 2015). Prior studies have found that trust in a message sender contributes to the receivers' perceptions of the quality of the relationship with the sender (Palmer and Bejou, 1994; Pullins *et al.*, 2011). When SNS users perceive the information from other members as useful, caring and helpful, the frequent sharing of supportive information is also likely to enhance friendships among members (Liang *et al.*, 2011). Prior studies also confirm that the credibility of messages in an online community can act as a cue for the trustworthiness of the source (Bianchi *et al.*, 2017; Corritore *et al.*, 2003), the credibility of messages on an SNS is important to establish trusting relationships for the SNS users. We posit that the perceived credibility of a rumor will have a moderating effect on the relationship between socializing and the intention to retransmit the rumor. People may retransmit rumors on an SNS in order to develop and maintain relationships with acquaintances. Retransmitting a credible rumor can maintain the sender's trustworthiness and facilitate the development of the trusting relationship between the sender and the receiver; therefore, the credibility of the rumor increases the impact of socializing on rumor retransmission.

*H9a.* The perceived credibility of the rumor positively moderates the relationship between socializing and the intention to retransmit the rumor.

The credibility of the sender and the persuasiveness of the arguments determine the sender's reputation (Ye and Ki, 2018). Prior studies on knowledge sharing have also argued that the expectation of building a reputation is one of the major factors determining sharing behavior. Users in an online community are motivated to share valuable knowledge in order to gain reputation and status in the profession (Wasko and Faraj, 2005; Chennamaneni *et al.*, 2012). Prior studies also find that online review credibility can improve consumers' attitudes toward the message source (Chih *et al.*, 2013, 2020; Filieri *et al.*, 2020). We, therefore, hypothesize that if a rumor is perceived as more credible, the receiver will have a greater intention to retransmit the rumor in order to seek status because a credible rumor can help build a reputation.

*H9b.* The perceived credibility of the rumor positively moderates the relationship between status seeking and the intention to retransmit the rumor.

### 2.3 Personal involvement

Allport and Postman's (1947) basic law of rumor postulates that there are two essential elements for rumor transmission: importance and ambiguity. The former indicates whether the person is associated with the rumor, and the latter relates to the rumored content. Personal involvement refers to a rumor regarding an event or information that involves the receiver personally or to which the receiver is either committed or has some relationship (Liu *et al.*, 2014). It is derived from importance, one of the factors of the basic law of rumor. Rosnow (1991) replaced the important factor with "outcome-relevant involvement," which put greater emphasis on the feelings of caring and involvement aroused by the rumor. Oh *et al.* (2013) accepted Rosnow's (1991) opinion but used personal involvement (rather than outcome-relevant involvement) to represent importance. Liu *et al.* (2014) also used personal involvement as a variable to predict rumor retransmission. They proposed that when a rumor evokes a receiver's sense of involvement, the receiver will retransmit the rumor because people will not spread a rumor that is unrelated to them.

This study expects personal involvement to play a moderating role because we assume that the retransmission of everyday rumors is driven by the receiver's needs, and rumor credibility and personal involvement can enhance the impacts of these needs on rumor retransmission. We assume that the more people get involved in a rumor, the greater the

likelihood that the need for socializing and information-seeking will determine retransmission intention.

SNSs have become an important source of social support by communicating emotional and informational messages that are intended to care for, respond to, and help members in a social group (Chen and Shen, 2015). Social support on SNSs can enhance relationship quality (Liang *et al.*, 2011) and relationship commitment (Chen and Shen, 2015). In terms of socializing, a rumor receiver may retransmit the rumor that is perceived to be important because the receiver may believe the message is useful to others, and the retransmission can maintain or enhance the relationships with others. The following hypothesis is proposed.

*H10a.* Personal involvement positively moderates the relationship between socializing and the intention to retransmit a rumor.

People with a high level of involvement in a given issue engage in extensive information seeking because they enjoy such activity or they are more keen to confirm or disconfirm their views about the issue (Park and Go, 2016; Balabanis and Chatzopoulou, 2019). As such, people will be more likely to retransmit the rumor because they want to understand more information about the rumor as it relates to them. We hypothesize that people with more personal involvement in the rumor will be more motivated to seek information via rumor retransmission.

*H10b.* Personal involvement positively moderates the relationship between information seeking and the intention to retransmit the rumor.

## 3. Research model and methodology

In accordance with the literature, this study develops a model of everyday rumor retransmission (shown in Figure 1) based on uses and gratification theory, the rumor
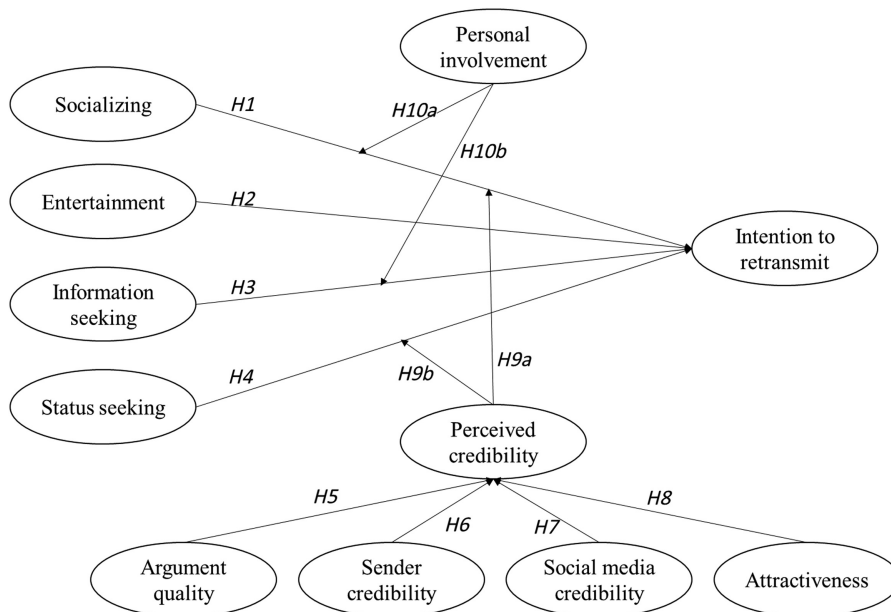


**Figure 1.**
Model of everyday
rumor retransmission

retransmission model, and the basic law of rumor to explain how SNS users decide to retransmit everyday rumors. The need for socializing, entertainment, information seeking, and status seeking drive SNS users to retransmit rumors. The perceived credibility of the rumor increases rumor receivers' motivation to retransmit the rumor for socializing and status-seeking purposes. Personal involvement increases the motivation to retransmit the rumor for socializing and information-seeking purposes. In addition, our research model incorporates two control variables: gender and age.

### 3.1 Measures

The literature review allowed us to define our constructs clearly. To develop the scales for each construct in our model, we adopted well-developed and valid measures from previously published studies to suit our research context. Table 1 shows the operational definitions and items we adopted. This study used the Likert scale, allowing the participants to choose one of seven levels of agreement with anchors ranging from 1 (strongly disagree) to 7 (strongly agree).

After the draft was designed, in order to clarify any ambiguities, we conducted a pilot test with 50 undergraduate students who had recently seen a rumor posted on social media. Based on the respondents' feedback, the questionnaire was revised to improve its readability and the accuracy of the wording.

### 3.2 Sampling and data collection

We conducted an Internet survey. To recruit SNS users who had seen rumors posted by other users, we posted an announcement with a hyperlink to the online survey on PTT (ptt.cc), the largest and most well-known bulletin board system in Taiwan.

| Construct | Definitions | Instrument |
|---|---|---|
| Personal involvement | A rumor that expresses an event the receiver is personally involved in, committed to, or to which the receiver has some relationship | 8-item scale adapted from Zaichkowsky (1994) |
| Argument quality | Rumor receiver's perception of the strength of a received rumor | 3-item scale adapted from Ha and Ahn (2011) |
| Sender credibility | Rumor receiver's perception of the trustworthiness of the rumor sender | 4-item scale adapted from Kang (2010) |
| Social media credibility | Rumor receiver's perception of the trustworthiness of the social media | 4-item scale adapted from Kang (2010) |
| Attractiveness | Rumor receiver's perception of the visual aids such as video, pictures, etc., in the rumor message | 3-item scale adapted from Braddy *et al.* (2008) |
| Perceived credibility toward the rumor | Rumor receiver's perception of the believability of the rumor | 5-item scale adapted from Chesney and Su (2010) |
| Socializing | The extent to which rumor retransmitting helps to develop and maintain relationships with acquaintances on social media | 4-item scale adapted from Lin and Lu (2011) |
| Entertainment | The extent to which retransmitting rumors via SNSs serves as a means for entertainment and leisure purposes | 4-item scale adapted from Lin and Lu (2011) |
| Information seeking | The extent to which rumors retransmitted via social media can provide users with relevant and timely information | 4-item scale adapted from Lin and Lu (2011) |
| Status seeking | The extent to which retransmitting rumors via SNSs helps one to attain status among peers | 4-item scale adapted from Lin and Lu (2011) |
| Intention to retransmit rumor | The degree of the rumor recipient's belief that he/she will engage in a rumor-sharing act involving the received rumor | 3-item scale adapted from Ha and Ahn (2011) |

**Table 1.**
Operational definition and item source

On the first page of our questionnaire, we explained the study goal and stated we would ensure the respondents' privacy. The respondents were informed that the questions referred to the most recent factoid message (a message that the respondent cannot tell whether it is fake or not) viewed by the respondent on social media. In total, we received 556 responses to the online questionnaire. After we discarded responses with missing or invalid values, the total number of the effective sample size was 540. The demographic information is shown in Table 2. The sample comprised 54.3% male and 45.7% female participants. Seventy-three percent of the respondents were under 25 years old. Up to 87% of our respondents had a bachelor's degree or higher. In addition, 63.9% of respondents received less than five factoid rumors per day. However, 94.4% of them retransmitted less than three factoid rumors per day.

## 4. Data analysis and results

### 4.1 Measurement model

We eliminated one item of personal involvement (PI4: the message is interesting) because its factor loading was less than 0.7. As Table 3 indicates, all the values of composite reliability (CR) are greater than 0.7, all Cronbach's alpha values are greater than 0.7, and all values of the

| Attribute | Category | Frequency | Percentage |
|---|---|---|---|
| Gender | Male | 293 | 54.3% |
| | Female | 247 | 45.7% |
| Age | 20 or under 20 | 185 | 34.3% |
| | 21–25 | 209 | 38.7% |
| | 26–30 | 98 | 18.1% |
| | 31–35 | 28 | 5.2% |
| | 36–40 | 13 | 2.4% |
| | 41–45 | 6 | 1.1% |
| | 46–50 | 1 | 0.2% |
| | Greater than 50 | 0 | 0.0% |
| Education | High school | 70 | 13.0% |
| | Bachelor's degree | 387 | 71.7% |
| | Master's degree | 79 | 14.6% |
| | Doctorate | 4 | 0.7% |
| Duration of using social media | Under 1 year | 1 | 0.2% |
| | 1–3 years | 42 | 7.8% |
| | 3–5 years | 181 | 33.5% |
| | 5–7 years | 190 | 35.2% |
| | More than 7 years | 126 | 23.3% |
| Amount of time using social media per day | Under 1 h | 44 | 8.1% |
| | 1–3 h | 240 | 44.4% |
| | 3–5 h | 154 | 28.5% |
| | 5–7 h | 66 | 12.2% |
| | More than 7 h | 36 | 6.7% |
| Frequency of receiving factoid messages per day | Under 5 times | 345 | 63.9% |
| | 5–10 times | 146 | 27.0% |
| | 10–15 times | 31 | 5.7% |
| | More than 15 times | 18 | 3.3% |
| Frequency of retransmitting factoid messages per day | Under 3 times | 510 | 94.4% |
| | 3–5 times | 21 | 3.9% |
| | 5–7 times | 4 | 0.7% |
| | More than 7 times | 5 | 0.9% |

Table 2.
Sample demographic

average variance extracted (AVE) of the constructs are higher than 0.5, so the reliability is good. The factor loadings of all items are greater than 0.7, and all item-total correlations (ITC) are greater than 0.3, so the convergent validity is good.

In the correlation matrix (Table 4), the diagonal line of the correlation matrix represents the square roots of the AVE, which are greater than the interconstruct correlation coefficients. In addition, the heterotrait-monotrait (HTMT) ratio of correlations is shown in Table 5. The HTMT values of our measurements are all below 0.9 (Henseler *et al.*, 2015). The results suggest that the desired discriminant validity is also assured. Because some correlations are higher than 0.8, we have to test whether the variance inflation factors (VIF) still fit the criteria. Chatterjee and Price (1991) suggest that the VIF should be lower than 10. According to Table 6, all VIF values are lower than 10, which implies that collinearity is not a serious issue in this study.

### 4.2 Common method variance

Common method variance (CMV) might have been a concern in this study because both independent and dependent variables were collected simultaneously from the same respondents. CMV refers to the variance that is contributed to by the measurement method rather than the measurement itself (Podsakoff *et al.*, 2003). There may be systematic errors that inflate or deflate the relationship between independent and dependent variables and cause an incorrect result.

We used the marker variable approach to diagnose and control for CMV (Lindell and Whitney, 2001). A marker variable is theoretically assumed as related to at least one variable in the study (Malhotra *et al.*, 2006). We used social desirability (Crowne and Marlowe, 1960) as our marker variable that is unrelated to the main research model. The marker variable was added into the model as an exogenous variable predicting each endogenous variable. We compared the model with the marker variable to the baseline model and found that no significant path in the baseline model changes to insignificant in the marker variable model. Hence, the results prove that CMV does not affect this study.

### 4.3 Testing of the research model and hypotheses

This study's hypotheses were tested through partial least squares (PLS) regression analysis by SmartPLS with a bootstrapping algorithm (number of resamples = 5,000). We used the $R^2$ value to evaluate the explanatory power of the structural model and assessed the *t*-statistics of the standardized path coefficients to determine whether each hypothesis is supported. The results are shown in Figure 2.

According to the results above, socializing ($\beta = 0.176$, $p < 0.001$), information seeking ($\beta = 0.196$, $p < 0.001$), and status seeking ($\beta = 0.372$, $p < 0.001$) have a significant impact on the intention to retransmit the rumor. Namely, Hypotheses 1, 3, and 4 are supported. However, the relationship between entertainment and intention to retransmit is not significant ($\beta = 0.055$, $p > 0.1$). Hypothesis 2 is not supported. Argument quality ($\beta = 0.320$, $p < 0.001$), sender's credibility ($\beta = 0.267$, $p < 0.001$), social media credibility ($\beta = 0.368$, $p < 0.001$), and attractiveness ($\beta = 0.044$, $p < 0.05$) all positively affect the perceived credibility of the rumor. Hence, Hypotheses 5, 6, 7 and 8 are supported.

Perceived credibility plays a positive moderating role in the relationship between socializing and intention to retransmit ($\beta = 0.165$, $p < 0.01$), but a negative moderating role on the relationship between status seeking and intention to retransmit ($\beta = -0.108$, $p < 0.05$). Therefore, Hypothesis 9a is supported, but Hypothesis 9b is not supported. Regarding personal involvement, the moderating effect on the impact of socializing on the intention to retransmit the rumor is not significant ($\beta = -0.006$, $p > 0.1$). This means that Hypothesis 10a is not supported. The moderating effect on the relationship between information seeking and

| Construct | Item | | Factor loading | Item total correlation |
|---|---|---|---|---|
| *Argument quality*<br>CR = 0.95 | 1 | I think that the statement of this message is well-defined | 0.92 | 0.83 |
| Cronbach's $\alpha$ = 0.92 | 2 | I think that the statement of this message is complete | 0.93 | 0.85 |
| AVE = 0.86 | 3 | I think that the statement of this message is accurate | 0.93 | 0.83 |
| *Sender credibility*<br>CR = 0.97 | 1 | I think that the sender of this message is an expert | 0.93 | 0.88 |
| Cronbach's $\alpha$ = 0.95<br>AVE = 0.87 | 2 | I think that the sender of this message is knowledgeable | 0.92 | 0.87 |
| | 3 | I think that the sender of this message is trustworthy | 0.94 | 0.90 |
| | 4 | I think that the sender of this message is reliable | 0.94 | 0.89 |
| *Social media credibility* CR = 0.97 | 1 | I think that the social medium on which this message was posted has a reputation of expertise | 0.93 | 0.88 |
| Cronbach's $\alpha$ = 0.96<br>AVE = 0.89 | 2 | I think that the social medium on which this message was posted is knowledgeable | 0.92 | 0.87 |
| | 3 | I think that the social medium on which this message was posted is trustworthy | 0.96 | 0.92 |
| | 4 | I think that the social medium on which this message was posted is reliable | 0.96 | 0.92 |
| *Attractiveness*<br>CR = 0.89 | 1 | The color of the message website was really appealing | 0.90 | 0.70 |
| Cronbach's $\alpha$ = 0.82<br>AVE = 0.73 | 2 | The layout of the message website was really appealing | 0.92 | 0.77 |
| | 3 | The picture on the message website properly matched the content | 0.75 | 0.55 |
| *Perceived credibility* | 1 | I think this message is believable | 0.92 | 0.87 |
| | 2 | I think this message is accurate | 0.94 | 0.90 |
| CR = 0.96 | 3 | I think this message is trustworthy | 0.95 | 0.91 |
| Cronbach's $\alpha$ = 0.94 | | | | |
| AVE = 0.81 | 4 | I think this message is unbiased | 0.83 | 0.74 |
| | 5 | I think this message is complete | 0.88 | 0.81 |
| *Personal involvement* | 1 | This message is relevant | 0.71 | 0.64 |
| | 2 | This message is appealing | 0.81 | 0.74 |
| CR = 0.94 | 3 | This message is fascinating | 0.78 | 0.70 |
| Cronbach's $\alpha$ = 0.92 | 5 | This message means a lot to me | 0.86 | 0.81 |
| AVE = 0.69 | 6 | This message is valuable | 0.87 | 0.81 |
| | 7 | This message is involving | 0.88 | 0.81 |
| | 8 | This message is needed | 0.88 | 0.83 |
| *Socializing*<br>CR = 0.94 | 1 | Sharing this kind of message helps me interact with people | 0.89 | 0.81 |
| Cronbach's $\alpha$ = 0.92<br>AVE = 0.81 | 2 | Sharing this kind of message helps me keep in touch with friends | 0.92 | 0.84 |
| | 3 | Sharing this kind of message is a culture, and I share like others do | 0.85 | 0.74 |
| | 4 | Sharing this kind of message helps me enhance interpersonal relationships | 0.93 | 0.86 |
| *Entertainment*<br>CR = 0.95 | 1 | Sharing this kind of message is good for keeping boredom away | 0.87 | 0.81 |
| Cronbach's $\alpha$ = 0.93<br>AVE = 0.82 | 2 | I enjoy sharing this kind of message | 0.92 | 0.82 |

**Table 3.**
(*continued*) Factor analysis results

**Table 3.**

| Construct | Item | | Factor loading | Item total correlation |
|---|---|---|---|---|
| | 3 | Sharing this kind of message is a good way to relax | 0.94 | 0.87 |
| | 4 | Sharing this kind of message is a good way to kill time | 0.87 | 0.80 |
| *Information seeking* CR = 0.93 Cronbach's $\alpha$ = 0.90 AVE = 0.77 | 1 | Sharing this kind of message on my social media and interacting with friends can help me bookmark useful information | 0.88 | 0.74 |
| | 2 | Sharing this kind of message on my social media and interacting with friends can help me keep updated on the latest happenings | 0.93 | 0.85 |
| | 3 | Sharing this kind of message on my social media and interacting with friends can help me get other related information | 0.92 | 0.87 |
| | 4 | Sharing this kind of message on my social media and interacting with friends can help me get other people's opinions regarding the information/ event | 0.76 | 0.66 |
| *Status seeking* CR = 0.93 Cronbach's $\alpha$ = 0.90 AVE = 0.78 | 1 | Sharing this kind of message makes me feel influential | 0.90 | 0.82 |
| | 2 | Sharing this kind of message makes me look good to others | 0.92 | 0.85 |
| | 3 | I can express my opinion by sharing this kind of message | 0.82 | 0.69 |
| | 4 | I want to be the first one among others to share | 0.88 | 0.77 |
| *Intention to retransmit* CR = 0.97 Cronbach's $\alpha$ = 0.95 AVE = 0.91 | 1 | I intend to share the message in social media in the future | 0.95 | 0.89 |
| | 2 | I expect to share the message contributed by other users | 0.95 | 0.89 |
| | 3 | I plan to share this message in social media regularly | 0.96 | 0.92 |

| Construct | Mean | S.D. | AQ | AT | ET | IR | IS | PC | PI | SC | SMC | SS | SZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AQ | 3.40 | 1.45 | *0.93* | | | | | | | | | | |
| AT | 4.01 | 1.26 | 0.38 | *0.86* | | | | | | | | | |
| ET | 3.63 | 1.51 | 0.39 | 0.40 | *0.90* | | | | | | | | |
| IR | 3.08 | 1.56 | 0.57 | 0.35 | 0.52 | *0.96* | | | | | | | |
| IS | 4.15 | 1.33 | 0.52 | 0.42 | 0.52 | 0.67 | *0.88* | | | | | | |
| PC | 3.22 | 1.34 | 0.80 | 0.43 | 0.42 | 0.63 | 0.62 | *0.90* | | | | | |
| PI | 3.51 | 1.40 | 0.63 | 0.41 | 0.41 | 0.55 | 0.60 | 0.63 | *0.83* | | | | |
| SC | 3.02 | 1.47 | 0.76 | 0.37 | 0.41 | 0.58 | 0.52 | 0.82 | 0.64 | *0.93* | | | |
| SMC | 3.24 | 1.45 | 0.71 | 0.44 | 0.44 | 0.62 | 0.56 | 0.82 | 0.62 | 0.79 | *0.94* | | |
| SS | 2.99 | 1.34 | 0.59 | 0.37 | 0.54 | 0.69 | 0.66 | 0.61 | 0.63 | 0.61 | *0.88* | | |
| SZ | 3.23 | 1.36 | 0.49 | 0.39 | 0.56 | 0.71 | 0.63 | 0.57 | 0.55 | 0.52 | 0.54 | 0.79 | *0.90* |

**Note(s)**: AQ: Argument Quality, AT: Attractiveness, ET: Entertainment, IR: Intention to Retransmit, IS: Information Seeking, PC: Perceived Credibility, PI: Personal Involvement, SC: Sender Credibility, SMC: Social Media Credibility, SS: Status Seeking, SZ: Socializing; The diagonal line of the correlation matrix (in italics) represents the square root of AVE

**Table 4.**
Descriptive statistics and correlation matrix

| Construct | AQ | AT | ET | IR | IS | PC | PI | SC | SMC | SS | SZ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AQ | | | | | | | | | | | |
| AT | 0.432 | | | | | | | | | | |
| ET | 0.409 | 0.452 | | | | | | | | | |
| IR | 0.602 | 0.390 | 0.534 | | | | | | | | |
| IS | 0.563 | 0.491 | 0.556 | 0.700 | | | | | | | |
| PC | 0.857 | 0.483 | 0.433 | 0.668 | 0.653 | | | | | | |
| PI | 0.677 | 0.463 | 0.418 | 0.584 | 0.642 | 0.670 | | | | | |
| SC | 0.806 | 0.409 | 0.415 | 0.613 | 0.542 | 0.861 | 0.674 | | | | |
| SMC | 0.750 | 0.490 | 0.454 | 0.646 | 0.590 | 0.866 | 0.653 | 0.825 | | | |
| SS | 0.643 | 0.424 | 0.579 | 0.835 | 0.753 | 0.712 | 0.660 | 0.675 | 0.654 | | |
| SZ | 0.531 | 0.441 | 0.595 | 0.756 | 0.686 | 0.607 | 0.593 | 0.557 | 0.576 | 0.862 | |

**Note(s)**: AQ: Argument Quality, AT: Attractiveness, ET: Entertainment, IR: Intention to Retransmit, IS: Information Seeking, PC: Perceived Credibility, PI: Personal Involvement, SC: Sender Credibility, SMC: Social Media Credibility, SS: Status Seeking, SZ: Socializing

**Table 5.**
HTMT values

| Construct | VIF |
|---|---|
| Personal involvement | 2.191 |
| Argument quality | 3.151 |
| Sender credibility | 3.898 |
| Social media credibility | 3.735 |
| Attractiveness | 1.385 |
| Perceived credibility | 5.265 |
| Socializing | 2.878 |
| Entertainment | 1.608 |
| Information seeking | 2.329 |
| Status seeking | 3.589 |

**Note(s)**: Dependent Variable: Intention to Retransmit

**Table 6.**
Variance inflation factors

intention to retransmit the rumor is also not significant ($\beta = 0.062$, $p > 0.1$). Thus, Hypothesis 10b is not supported. Moreover, the control variables, gender and age, have no impact on the intention to retransmit the rumor.

## 5. Discussion
This study enhances our understanding of the factors that drive social media users to retransmit everyday rumors. Most of the hypotheses are confirmed, which indicates that the desire to attain certain gratifications (i.e. socializing, information seeking, and status seeking) can induce users to retransmit a rumor. Argument quality, attractiveness, sender credibility and social media credibility are salient predictors of perceived rumor credibility that can moderate the impacts of socializing and status seeking on the intention to retransmit.

We found that entertainment gratification is not a salient predictor of the intention to retransmit a rumor. This finding is consistent with Lee and Ma (2012), who also found that entertainment gratification is not a salient antecedent of the intention to share news on social media. We agree with their perspective that social media have many features that can offer funnier and more entertaining experiences, such as games, videos and shopping. Hence, people tend to use these other features to meet their entertainment needs rather than
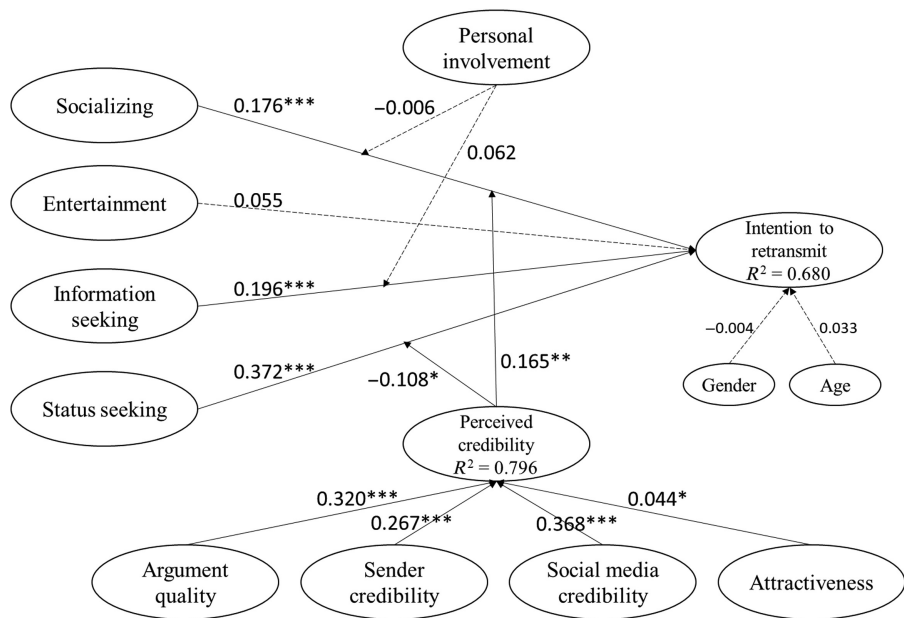
**Figure 2.**
PLS analysis of
research model

Note(s): *$P < 0.05$, **$P < 0.01$, ***$P < 0.001$

retransmit a rumor. The users retransmit rumors via social media for socializing, information seeking, and status seeking, but not for fun.

According to the analysis results, personal involvement has no significant effect, which indicates that personal involvement with the rumor will not affect the relationships between the gratifications (socializing and information seeking) and the intention to retransmit the rumor. One possible explanation is that relationship factors (e.g. identification and commitment) are more influential than involvement in regard to message retransmission on social media (Park *et al.*, 2016). The recipients' sense of belonging and relationship stability with their friends may influence the impacts of the gratifications on rumor retransmission. Another possible reason is that the impact of personal involvement is determined by altruism. Prior study has found that the effect of involvement on the willingness to share is low for high altruists but high for less altruistic persons (Schreiner *et al.*, 2018). The participants might have a high level of altruism, which mitigated the effect of personal involvement.

The rumor's perceived credibility has significant moderating impacts on the relationships between both socializing and status seeking and the intention to retransmit. Figure 3 shows that if the perceived credibility is low, a greater level of socializing gratification increases the intention to retransmit to a lesser extent. On the other hand, if the perceived credibility is high, a greater level of socializing gratification can increase the intention to a greater extent. A likely explanation is that people do not want to be seen posting a fake message that could risk harming their relationship with their friends.

Figure 4 shows that when rumor credibility is perceived as low, retransmission intention is influenced more by the status-seeking gratification than when the rumor credibility is perceived as high. The possible reason is that when people perceive a factoid message as credible, they can hardly tell if it is fake or not and will hesitate to forward it to friends for
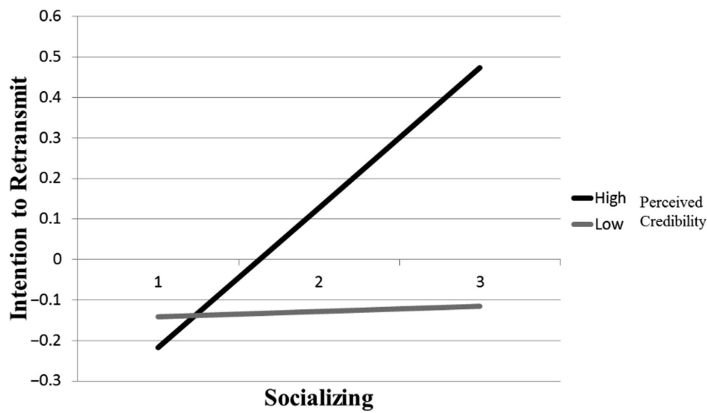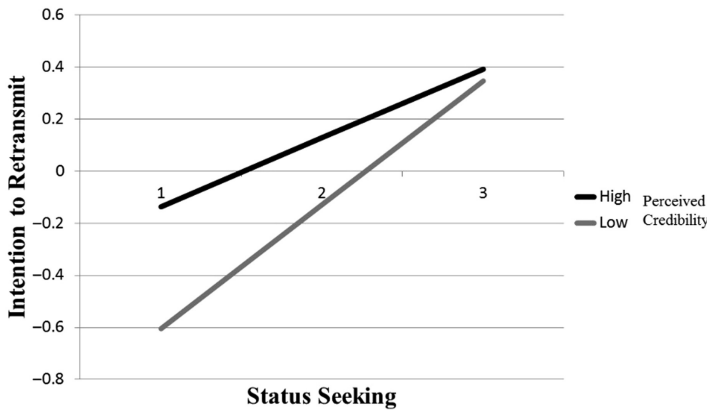
status-seeking purposes. In contrast, when people perceive a factoid message as not credible, they tend to retransmit it to tell their friends how fake it is in order to increase their reputation.

## 6. Conclusion

Our study contributes to rumor research in several ways. First, we develop a conceptual model based on U&G theory to investigate the antecedents of rumor retransmission intention via social media. U&G theory explains the motivations that drive social media users to retransmit rumors. Hence, our research model provides a theoretical foundation for future studies that want to explore motivations or values that determine rumor-sharing intention on social media.

Second, our model also highlights the importance of perceived rumor credibility based on Liu *et al.* (2014) model of rumor retransmission. Perceived credibility can increase the impact of socializing on retransmission intention but decreases the impact of status seeking on that intention. Both the argument quality and the peripheral cues (i.e. the attractiveness of the rumor message, the sender's credibility, and social media's credibility) determine the perceived credibility of the rumor.

Third, we found that personal involvement has nothing to do with the retransmission of everyday rumors, unlike rumors regarding catastrophes. Social media users forward a rumor when they consider it helpful for socializing, information seeking or status seeking. Whether or not the rumor message is valuable to them is not a major determinant or moderator. Future studies may benefit from investigating how factors such as social relationships with friends and perceived importance to friends impact rumor retransmission.

This study proposes some practical implications for organizations such as government agencies and businesses who want to control rumor retransmission on social media. Organizations should provide fact-checking services that allow social media users to quickly determine if the received rumor message is true or false, which can fulfill their information seeking needs. Such fact check services should enable rumor receivers to easily share the true message with their friends on social media to fulfill their socializing and status seeking needs. Organizations should pay more attention to rumors that are attractive, sent by credible senders, or appear on credible social media since the rumors are perceived as credible, which may facilitate rumor retransmission. Social media platforms are supposed to proactively check rumors and remove false rumors. Their recommendation algorithms should be able to detect and block rumors. For social media users, we must educate ourselves to stop spreading a message that we cannot tell whether it is fake or not. We can choose other alternatives to satisfy our needs for socializing, information seeking, and status seeking; for example, seeking to verify factual information on fact-checking sites to fulfill the need for information seeking, and sharing replacement facts to fulfill the socializing and status seeking needs. If these basic needs for using social media can be fulfilled by desirable alternatives the undesirable behavior, e.g. rumor retransmission, can be replaced.

There are some limitations to this study. First, the majority of our respondents were under 30 years old from Taiwan. This may reduce the generalizability of our findings. Older adults are less able to identify rumors and may easily become rumor spreaders (Xiong and Zuo, 2019). Moreover, older adults are less familiar with the use of social media. The gratifications that induce older adults to retransmit a rumor may be different. Second, we did not consider rumor categories. Different rumor message topics may have different levels of impact on retransmission intention. Third, in addition to rumor retransmission, socializing, information seeking, and status seeking are basic needs for using social media (Huang and Chang, 2020). They can also explain why users retransmit other types of messages on social media. The distinct gratifications that motivate users in retransmitting rumors rather than other messages are worthy of future investigation. Finally, this study considered retransmission intention rather than actual behavior. High retransmission intention may not lead to retransmission behavior. Further research is certainly required for a better understanding of the determinants of rumor retransmission behavior.

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