

# The Influences of Personality and Motivation on the Sharing of Misinformation on Social Media

Xinran Chen<sup>1</sup>

<sup>1</sup>Nanyang Technological University

## Abstract

Social media, featuring rich user-generated information, is becoming an important component of daily life. It has also become a fertile ground for misinformation (inaccurate information) due to lack of quality control mechanisms. This study proposed and directly tested three predictor categories – personality, motivation, and perceived characteristic of information – to understand users' misinformation sharing on social media. A survey was conducted with 171 university students. The findings showed that user-intrinsic factors and three motivation factors played influential roles in the sharing behavior. We thus concluded that people's sharing of misinformation on social media is mainly influenced by their personalities or specific motivations. The action of sharing, rather than the perceived accuracy and characteristics of the information being shared, is what matters most. In light of the findings, besides teaching information evaluating skills, professionals responsible for information literacy training may also want to address the non-informational motivations that propel misinformation sharing.

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**Contact:** chen0872@ntu.edu.sg.

## 1 Introduction

Social media is increasingly being examined and used as an important information source. For example, as an instant information exchange platform during crises (Oh, Agrawal, & Rao, 2013; Starbird, Maddock, Orand, Achterman, & Mason, 2014); or as a rich information pool for knowledge creation (Kim, Decker, & Breslin, 2009). On the other hand, misinformation (inaccurate information) is widespread on it. The World Economic Forum has considered the rapid spread of misinformation online as one of the top ten trends to which the world needs to pay attention (World Economic Forum, 2014). Misinformation may appear on social media in various forms, including rumors, urban legends, factoids, etc.; however, the essence is that it is inaccurate (Karlova & Fisher, 2013). Spreading such misinformation can not only cause misunderstanding, negative emotions, or even online criminal activities that are harmful to users, but also impede effective utilization of accurate informational content on social media (Budak, Agrawal, & Abbadi, 2011). There is an urgent need to better understand the spread of misinformation and proactively deal with this negative side of social media.

Disparate strains of research have touched on aspects of misinformation on social media. Among social media literature, a number of studies that focused on information sharing on social media were conducted with personality traits as predictors (Amichai-Hamburger & Vinitzky, 2010; Correa, Hinsley, & de Zúñiga, 2010; Ross et al., 2009). The motivational approach has also been frequently used in social media research; many studies in this line of research were based on the uses and gratifications (U&G) theory (Lee & Ma, 2012; Park, Kee, & Valenzuela, 2009; Shao, 2009). These studies, however, did not focus specifically on the spread of misinformation. Another related research strain is known as rumor research, which mainly discussed from psychological points of view, including, for example, how rumors could help people to cope with ambiguous and anxious situations (Allport & Postman, 1947; DiFonzo & Bordia, 2007); but these studies did not focus specifically on social media, nor is rumor equivalent to misinformation. In recent years, a number of studies from computer science and information system examined the diffusion of misinformation by analyzing and predicting data patterns on social media (Budak et al., 2011; Ratkiewicz et al., 2011; Starbird et al., 2014). Nonetheless, these studies mainly focused on detection, not on the personal factors that lead to the spread of such misinformation.

In summary, very few research studies have closely examined the influence of user-intrinsic factors (e.g., personality and motivation) that contribute to an individual spreading misinformation on social media. In light of the research gap, this study proposes and tests three main predictor categories to understand users' sharing of misinformation on social media: personality, motivation, and perceived characteristic of information. Additionally, perceived accuracy of misinformation was included as a control

variable to control for potential individual differences in the respondents' skills in recognizing misinformation. Specifically, the study explores three research questions (RQs): 1) *What motivations are related to the sharing of misinformation on social media among college students in Singapore?* 2) *What perceived characteristics of information are related to the sharing of misinformation on social media among college students in Singapore?* 3) *How do gender, personality, motivation, perceived characteristic of information, and perceived accuracy of misinformation together influence the sharing of misinformation on social media among college students in Singapore?*

The study is an initial study that integrates factors from multiple research areas to investigate their influence on users' misinformation sharing on social media. The findings allow better understanding of the spread of misinformation with respect to individual differences in personality and motivation, as well as information characteristics. The study provides an essential and critical outline of the issue and lead to further research in the field. Although some of the proposed factors (e.g., personality) might not be easily changed, social media providers and information professionals can make use of such findings to tailor-make products and trainings that are sensitive to individual personality differences.

## 2 Literature Review

### 2.1 Misinformation on Social Media

Misinformation is not new online (Fitzgerald, 1997; Floridi, 1996); however, its spread is reaching new and unprecedented heights as a result of social media. Social media is a group of Internet-based applications built on Web 2.0 that allow the creation and exchange of user-generated contents, such as social networking sites, blogs, and content communities (Kaplan & Haenlein, 2010). While social media has improved communication and information exchange with its user-generated content and well-developed interaction features, it has also raised misinformation. Instead of providing current and useful information, the spread of misinformation on social media could rapidly reach large scale, causing unnecessary confusion and anxiety among the public (Budak et al., 2011). For example, after the Boston Marathon bombing in 2013, related false rumors were spread instantly on Twitter; although clarifications were available within hours, one of the rumors was spread from 40 tweets to more than 4,000 in 10 minutes (Starbird et al., 2014). Likewise, misinformation can take the form of "factoids", which is more likely to be related to everyday life. As such misinformation is less likely to be event-specific, it can persistently circulate on social media and emerge repeatedly whenever the conditions are right, thereby continuously creating misunderstandings (Friggeri, Adamic, Eckles, & Cheng, 2014; Frost, 2002); the study focuses on this kind of misinformation.

Additionally, the concept of misinformation is often related to rumor, which has been a serious research area in psychology since the 1940s (Allport & Postman, 1947). Misinformation (in this study) can be differentiated from rumor in that rumor is unverified information but could be considered true and relevant (DiFonzo & Bordia, 2007), while misinformation is defined inaccurate. On the other hand, rumor may share some elements with misinformation in the sense that false rumor is a kind of misinformation. Three main motivations for rumor transmission have been suggested, including fact-finding, relationship enhancement, and self-enhancement (DiFonzo & Bordia, 2007); which is to some extent consistent with the motivational approach discussed in later section.

As discussed, the diffusion of misinformation on social media is gaining attention in computer and information sciences. Interestingly, when Ratkiewicz et al. (2011) investigated how misinformation was spread to create the appearance of widespread support for political purposes and tried to detect the patterns, they found that although the misinformation was intentionally created and spread, many of the users involved in a "successful spread" might in fact be legitimate users who were unwittingly complicit in the deception. This phenomenon led to the focus of the current study, that is, the influence of individual differences on the spread of misinformation on social media, which has not yet been well documented. The study is concerned with misinformation in the general sense and its spread by users without malevolent intent, but not with its presentation (e.g., urban legends or news stories) or intention.

In this study, theories and concepts from multiple disciplines were integrated to develop predictors for an effective interpretation of users' sharing of misinformation on social media, including (1) personality, (2) motivation, and (3) perceived characteristics of information; discussed below respectively.

### 2.2 Personality: The Five-factor Model of Personality

Personality has been considered a salient predictor in Internet use (Amiel & Sargent, 2004; Hamburger & Ben-Artzi, 2000; McElroy, Hendrickson, Townsend, & DeMarie, 2007); and now is increasingly important in social media studies. Social media and information behavior research have frequently employed the

five-factor model of personality (FFM), also known as the “Big Five” (John, Donahue, & Kentle, 1991) to predict human behaviors (e.g. Heinström, 2003, 2010). FFM is a set of five personality traits’ dimensions that includes extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (McCrae & John, 1992; McElroy et al., 2007). Most of the studies found strong links between the FFM predictors and social media use (e.g. Correa et al., 2010; Moore & McElroy, 2012; Ryan & Xenos, 2011). Considering users’ misinformation sharing can also be seen as a kind of social media activities, we contended that personality might also be a salient predictor.

Extraverts (being sociable, cheerful, and optimistic) were found more likely to use most features on Facebook (Ryan & Xenos, 2011); as well as to welcome information of new perspectives on academic tasks (Heinström, 2003). Since they preferred face-to-face social interactions, they tended to go online for other instrumental purposes, for example, leisure activities (Hamburger 2000) or self-expression (Amiel & Sargent, 2004). Also, (Golkar Amnieh & Kaedi, 2015) suggested that extraverts would face new message eagerly and be more likely to forward it on Twitter. We thus proposed extraverts would be more likely to share misinformation.

Previous studies did not show agreeableness to be a strong predictor of social media use. Nonetheless, agreeable people (being sympathetic, good-natured, cooperative, and forgiving) were found more likely to engage in self-generated posting on Facebook (Moore & McElroy, 2012). For comprehensiveness, it was included to examine the extent of its influence.

Conscientious people (being self-disciplined, strong-willed, deliberate, and reliable) were found to spend more time in academic than leisure activities when online (McElroy et al., 2007); they were also less likely to upload photos and write posts on Facebook (Moore & McElroy, 2012). When seeking for information, they were willing to make effort and preferred acknowledged sources (Heinström, 2003). Due to the leisure nature and falsity content of misinformation sharing, we proposed conscientious people would be less likely to share misinformation.

Neurotic people tended to spend more time on social media (Moore & McElroy, 2012); but tended not to use information-related features online, such as informational use of the Internet (Hamburger 2000) or upload photos on Facebook (Ross et al., 2009). They were likely to avoid communication as they were afraid of producing negative outcomes; thus, they tended to control information exchange when using social media (Amiel & Sargent, 2004; Ross et al., 2009). Accordingly, we proposed neurotic people would be less likely to share misinformation.

Open people (being curious and willing to explore new ideas) were found to feel more comfortable with unusual means (Ross et al., 2009); they also tended to use news and information features (Ryan & Xenos, 2011) and personal information features on Facebook (Amichai-Hamburger & Vinitzky, 2010). Also, they were more invitational towards new ideas and unexpected information as well as were more prepared to question authorities (Heinström, 2003). Thus, we proposed that open people would be more willing to share misinformation for its “unconventional ideas”, regardless of the information’s arguable validity or if it departed from more “traditional views.”

In addition, there were studies that suggested gender differences might be related to personalities and users’ online activities, which might also be the case for misinformation sharing. For instance, women’s Internet use of social services was negatively related to extraversion and positively related to neuroticism; while for men both personality traits were related to informational ones (Hamburger & Ben-Artzi, 2000). Men’s use of social media is positively related to neuroticism (Correa). While women’s photo posting on Facebook is related to agreeableness (Amichai-Hamburger & Vinitzky, 2010).

### 2.3 Motivation: Uses and Gratification (U&G) Approach

Motivation has often been used to understand social media use. For examples, Lee, Goh, Chua, and Ang (2010) observed perceived gratification factors (entertainment, socialization, and relationship maintenance) in the use of mobile information sharing and gaming applications. Kim, Kim, and Nam (2010) classified social motivations (communication with family and friends) and nonsocial motivations (entertainment, self-expression, professional advancement, and passing time) in Facebook use. Nov, Naaman, and Ye (2009) identified intrinsic (enjoyment and commitment) and extrinsic (self-development and reputation) motivations in Flickr photo sharing. A significant amount of research was based on the U&G theory, which is one of the most effective approaches in understanding individuals’ needs related to media use (Park et al., 2009; Shao, 2009). It studies the social and psychological needs that motivate audiences/users in choosing media channels and content, as well as the subsequent effects on attitude and behavior (Ruggiero, 2000). The following four main motivations of U&G theory were summarized in related studies: entertainment, socializing, information seeking, and status seeking (Lee & Ma, 2012; Park

et al., 2009). Considering the generally significant results of motivation on social media use, the study proposed to examine the sharing of misinformation on social media with the U&G approach.

Entertainment has been an important motivation on social media use (Dunne, Lawlor, & Rowley, 2010; Shao, 2009). The motivations of entertainment and passing time were found to be positive related to time spent on Facebook (Nov et al., 2009); researchers also observed users' growing need of high-speed entertainment on social media (Shao, 2009). Moreover, it was found that when sharing photo on Flickr, people enjoyed the process itself rather than the consequence (Nov et al., 2009). We proposed that users would share misinformation for entertaining purposes.

Social motivations were proposed as the cause underlying the popularity of social media (Kim et al., 2010). Besides general usage, socializing was also a salient motivation for news sharing on social media, since forwarding news with a few clicks is an easy way that allowed users to connect and converse with others (Lee & Ma, 2012). Similarly, YouTube users interacted with (e.g., share, comment) the content to enhance social connections and develop online community (Shao, 2009). Hence, misinformation sharing might also be driven by the socializing motivation.

Information seeking is increasingly a motivation for both academic and everyday life tasks on social media (Kim, Sin, & Yoo-Lee, 2014; Sin & Kim, 2013). Information seeking was a significant motivation of news sharing on social media (Lee & Ma, 2012). While misinformation itself is inaccurate, it is possible that users might share it to seek for related information or clarification from their friends.

The influences of status-seeking-related motivations were documented in social media studies, e.g., self-expression and Facebook use (Kim et al., 2010); self-development and reputation and Flickr photo sharing (Nov et al., 2009). Self-expression might also be implicit (e.g., in choices of topics and words) when comes to issues that people could not openly discuss (Shao, 2009). Furthermore, individuals shared news on social media to enable others to access the content and to attain status in communities (Lee & Ma, 2012). Thus, we hypothesized that users' misinformation sharing might be driven by status seeking motivation.

## 2.4 Perceived Information Characteristic

Information can be categorized according to a wide variety of characteristics. Some characteristics help explain how different information satisfies different needs arising from different personalities or motivation factors in the context of social media use. For example, novel information that is perceived as interesting may be able to satisfy the curiosity of highly open individuals, while current information that is perceived as useful is more likely to be used for informational purposes. Other characteristics, such as credibility and reliability, describe information quality and are often related to the issue of misinformation (Castillo, Mendoza, & Poblete, 2011; Frost, 2002). Studies of rumors have described rumors as information that helps sense making in particular situations; people tended to spread rumors that were consistent with their beliefs or involved higher levels of threat (Allport & Postman, 1947; DiFonzo & Bordia, 2007; Rosnow, 1991). Conversely, Guerin and Miyazaki (2006) considered rumors and other related terms are often used synonymously in daily life; therefore, they suggested that these were all merely different forms of information that function as conversational topics in daily life.

Research in library and information science has investigated the criteria of information quality on the Internet. Yang, Cai, Zhou, and Zhou (2005) evaluated web service with several information quality measurements, including content usefulness, information adequacy, and system quality, all of which were significantly related to user satisfaction. Similarly, Rieh (2002) studied people's judgments of information when searching the Internet. She defined the following five facets to represent information quality: good, accurate, current, useful, and important. She also suggested the following six facets of cognitive authority: trustworthy, credible, reliable, scholarly, official, and authoritative. On the other hand, Mintz (2012) found that people tended to consider information that "a friend told me" to be reliable enough to pass on through social media. Collectively, the perceived characteristic of information was included in this study in order to better understand the sharing of misinformation on social media.

## 3 Method

### 3.1 Research Method and Instrument

A questionnaire survey was conducted for the study. A survey was useful for the current study because a) it is suitable for collecting self-reported behavior and attitudes, and b) is also effective for collecting data for many variables, which facilitate multivariate testing of relationships among factors (Neuman, 2011).

In this study, misinformation was defined as inaccurate information. To give respondents a better sense of what misinformation means, six concrete examples of misinformation were provided. Examples

were arbitrarily selected from the Internet and were scientifically proven inaccurate (e.g. “put a cactus in front of your computer, it offers some protection from electromagnetic fields”; and “Russian journalists cooked an egg with their mobile phones microwave radiation.”) The examples were used to show a realistic scenario of misinformation flow on social media, rather than developing a comprehensive taxonomy of misinformation. In addition, considering emphasizing the falsity of misinformation may impede respondents’ willingness to admit having shared misinformation, the word “misinformation” was not directly quoted in the questionnaire, but was referred to as “pieces of information like the examples.” Respondents indicated how frequent they share misinformation on a 7-point scale (1 being ‘never shared’ and 7 being ‘always share’). They also rated the accuracy of each example on a 5-point scale (1 being ‘very false’ and 5 being ‘very true’). Both 5-point and 7-point scales were used in the study, depending on the level of precision desired.

Personality was measured by the 44-item personality test of the Big Five Inventory (BFI) (John et al., 1991). The BFI has been increasingly used in research in recent years; as John, Naumann, and Soto (2008) pointed out, it is most effective when participants’ time is an important consideration (as was the case in the present study). The BFI measures all five of the FFM personality traits, including extraversion, neuroticism, agreeableness, conscientiousness, and openness to experiences (McCrae & John, 1992).

Motivation of users’ misinformation sharing was assessed with the U&G theory. The U&G theory has been recognized as one of the most effective approaches to understand individuals’ needs of social media use (Park et al., 2009; Shao, 2009). It includes the following four motivation factors: entertainment (measures how misinformation sharing on social media satisfied users’ entertaining needs); socializing (measures how misinformation sharing on social media helped users build and maintain interpersonal relationships); information seeking (measures how misinformation sharing on social media satisfied users’ informational needs); and status seeking (measures how misinformation sharing on social media helped users gain reputation among others) (Lee & Ma, 2012). A 16-item 7-point Likert scale was developed to measure the four motivation categories, with four items for each category (1 as ‘strongly disagree’ and 7 as ‘strongly agree’; examples of social media such as Facebook and Twitter were listed for reference).

To measure information characteristics that might influence users’ misinformation sharing, multiple aspects were combined to develop a 13-item 7-point Likert scale. First, criteria from information quality studies were employed to represent the good characteristics (Rieh, 2002). Similarly, the source of information was included (Mintz, 2012; Rieh, 2002). Furthermore, relevant characteristics from rumor research were included (DiFonzo & Bordia, 2007). Lastly, several statements were developed through a focus group to represent the amusement aspects of information.

### 3.2 Sampling and Data Collection

The study population was comprised of students from two public universities in Singapore who were social media users. Singapore is known for having a very high percentage of social media users and social media has become an essential part of the citizens’ new lifestyle (Firefly Millward Brown, 2010). The respondents’ age range was set as young adults (18–29 years old), which is comparable with other social media research that used college samples (e.g. Correa et al., 2010). Also, prior experience with social media was required. Social media usage and age factors were controlled in order to obtain a more suitable sample with similar backgrounds that could reduce the impact of confounding factors.

Using convenience sampling technique, the questionnaire was sent out to students in two universities through personal networks. A total of 200 copies of questionnaire were distributed and 171 completed responses were obtained and included in the data analysis, with a response rate of 85.5%.

### 3.3 Limitations

This exploratory research study has several limitations, one is the use of convenience sampling, a non-probability sampling technique. The study aimed at proposing and testing hypotheses with regards to the relationships among variables, instead of generating a representative sample that enables population generalization of the findings. Further studies with larger sample sizes and different population groups are encouraged to verify the findings. The use of a survey as a research instrument may have drawbacks due to its self-reporting nature. Similar to all studies that involve human participants, respondents’ subjectivity and reactivity are potential limitations that both researchers and readers should recognize. Further studies can include other data collection methods for triangulation. For example, usage data logged by information systems can more closely reflect reality; the combination of such data with a user survey can provide additional insights. Lastly, as mentioned, the misinformation examples were arbitrarily selected, which could not represent all kinds of misinformation on social media. Further testing with various categories of misinformation, e.g. categorized according to topic field or level of accuracy, is needed.

## 4 Findings

### 4.1 Overview of Respondents

There were more female respondents ( $n = 98$ ) than male respondents ( $n = 73$ ). Respondents' average age was 24 years,  $SD = 2.1$ . Their nationalities included Singaporean, Chinese, Malaysian, Indian, etc. All respondents ( $N = 171$ ) had accounts on social media; 81.3% of them were using social media every day.

The score of perceived accuracy of misinformation was computed from the means of perceived accuracy of all the misinformation examples; the items showed high internal consistency, with Cronbach's alpha = .78 (Cronbach, 1951). Respondents doubted about the accuracy of the misinformation examples, as the mean was 2.72 ( $SD = 0.87$ ), merely over half on a five-point scale.

### 4.2 RQ1: Motivations of Misinformation Sharing on Social Media

The motivation factors underlying misinformation sharing on social media were extracted by using principal component analysis with Varimax rotation (Table 1), a commonly utilized option of factor analysis (Huck, 2011). Four factors (including entertainment, socializing, information seeking, and status seeking) were generated from 16 items; together they accounted for 72.55% of the total variance. This four-factor solution was selected based on Kaiser's criterion with Eigenvalue  $> 1$ . The appropriateness of factor analysis was supported by the Kaiser-Meyer-Olkin measure of sampling adequacy (.88) and Bartlett's test of sphericity,  $\chi^2 (120, N = 171) = 1742.06, p = .000$  (Dziuban & Shirkey, 1974). The four groups of items underwent reliability analysis with high Cronbach's alpha scores. The empirical grouping patterns were mainly consistent with the categories based on the U&G theory.

Motivation of sharing misinformation	Factor				M	SD
	1	2	3	4		
Sharing helps me get other people's opinions regarding the information or event.		.73			5.02	1.46
I can express my opinion by sharing that information.		.68			4.95	1.44
Sharing helps me interact with people.			.83		4.89	1.37
Sharing helps me keep updated on latest happenings.		.68			4.83	1.61
Sharing helps me keep in touch with friends.			.89		4.75	1.53
Sharing helps me get other related information.		.75			4.75	1.57
Sharing helps me bookmark useful information.		.76			4.69	1.73
Sharing is good for keeping boredom away.	.78				4.50	1.67
I feel enjoyment while sharing.	.73				4.39	1.51
Sharing is a good way to relax.	.83				4.25	1.62
Sharing is a culture and I share like others do.			.51		4.24	1.61
Sharing is a good way of killing time.	.82				4.23	1.74
Sharing helps me enhance interpersonal relations.			.55		4.12	1.57
Sharing makes me feel influential.				.79	3.74	1.57
Sharing makes me look good to others.				.73	3.48	1.58
I want to be the first one among others to share.				.74	3.37	1.78
Eigenvalue	3.52	3.06	2.62	2.41		
Variance explained	22.0	19.1	16.4	15.0		
Cronbach's Alpha	.90	.84	.87	.77		

Note. Factor 1: Entertainment; 2: Information seeking; 3: Socializing; 4: Status seeking.

Table 1. Motivations of Misinformation Sharing

### 4.3 RQ2: Perceived Characteristics of Misinformation Shared on Social Media

Similar to research question 1, factors representing perceived characteristics of information were extracted by using principal component analysis with Varimax rotation (Table 2). The appropriateness of factor analysis was supported by the Kaiser-Meyer-Olkin measure of sampling adequacy (.86) and Bartlett's test of sphericity,  $\chi^2 (78, N = 171) = 1181.74, p = .000$  (Dziuban & Shirkey, 1974). Three main factors were extracted based on Kaiser's criterion with Eigenvalue  $> 1$  and together they accounted for 68% of the total variance. However, the items in Group 3 were not theoretically related, nor did they have strong internal statistical consistency (Cronbach's alpha = .64) (Cronbach, 1951). Group 3 also accounted for the lowest variance (14.28%) among the three factors. Hence, it was excluded for further analysis. In

this way, the following two perceived characteristics of information were developed and named based on their items: good quality (useful, accurate, important, current, from authoritative sources, and consistent with the user's beliefs), and entertaining (fun, interesting, new and eye-catching, and a good topic for conversation).

Perceived characteristic of misinformation	Factor			M	SD
	1	2	3		
It can be a good topic for conversation.		.69		5.25	1.34
It is interesting.		.85		5.13	1.31
It is new and eye-catching.		.79		5.03	1.38
It is fun.		.84		4.87	1.46
It is current.	.57			4.74	1.46
It provides understanding of particular event or situation.				4.74	1.29
It seems useful.	.78			4.71	1.42
It seems important.	.87			4.25	1.54
It comes from my close friends or family.			.74	4.09	1.47
It is consistent with my belief or assumption.	.69			4.09	1.60
It seems accurate.	.90			4.01	1.60
It comes from authoritative sources.	.77			3.58	1.62
It looks frightening.			.85	3.22	1.47
Eigenvalue	3.89	3.10	1.86		
Variance explained	29.9	23.8	14.3		
Cronbach's Alpha	.89	.84	.64		

Table 2. Perceived Characteristic of Misinformation

#### 4.4 RQ3: The influences of Gender, Personality, Motivation, Perceived Characteristic of Information, and Perceived Accuracy of Misinformation on the Sharing of Misinformation

A multiple regression was conducted to examine the influence of gender, personality, motivation, perceived characteristic, and perceived accuracy on the sharing of misinformation (Table 3).

Variables	Unstandardized coefficients		Standardized coefficients
	B	Standard Error	Beta
Gender (Female)	.31	.21	.10
Perceived Accuracy of Misinformation	.55	.13	.30***
<i>Personality</i>			
Extraversion	-.13	.18	-.05
Agreeableness	.02	.21	.01
Conscientiousness	-.07	.19	-.02
Neuroticism	-.50	.18	-.19**
Openness to experience	.44	.20	.14**
<i>Motivation</i>			
Entertainment	.53	.12	.33***
Information Seeking	.11	.12	.07
Socializing	.29	.10	.18**
Status Seeking	.48	.11	.30***
<i>Perceived Characteristic of Information</i>			
Good Quality	.11	.11	.07
Entertaining	-.10	.13	-.06

$R^2 = .46$

Note. \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

Table 3. The Influences of 13 Variables on the Sharing of Misinformation

The model was significant,  $F(13,153) = 9.85$ ,  $p < .000$ . The 13 predictors accounted for just under half of the variance in test scores ( $R^2 = .46$ ). Six predictors demonstrated significant effects on the

sharing of misinformation on social media, including perceived accuracy of misinformation ( $\beta = .30, p = .000$ ); two personality traits: neuroticism ( $\beta = -.19, p = .007$ ) and openness ( $\beta = .14, p = .028$ ); and three motivation factors: entertainment ( $\beta = .33, p < .000$ ), socializing ( $\beta = .18, p = .006$ ), and status seeking ( $\beta = .30, p < .000$ ).

## 5 Discussion

The significant influence of perceived accuracy of misinformation on the sharing of misinformation ( $\beta = .30$ ) indicates that users are more likely to share information that they consider accurate. However, it was not the only significant predictor; in fact, it ranked third among six, with the other being personality traits and motivation factors. Also, the mean score of perceived accuracy of the sample messages ( $M = 2.72$ ) were only over the middle line, showing that respondents doubted the accuracy of the examples of misinformation. An interpretation can be that users may actually be aware of the flawed nature of the misinformation they share. However, they still share it for purposes other than accuracy or informational value, thus contribute to the spread of misinformation on social media. This suggests that misinformation sharing on social media may be similar to other aspects of human information behavior where knowledge does not always translate into action, such as the selection of information sources (Kim & Sin, 2011).

Personality demonstrated an influential role in the sharing of misinformation. Neuroticism had a significant but negative influence on the sharing of misinformation ( $\beta = -.19$ ). Ross et al. (2009) suggested that neurotic people tended to control information they shared on social media; they favored features that allows limiting extraneous information presented and disliked ones that inadvertently convey information. This explanation may especially be the case for sharing doubtful information (i.e., misinformation) on social media, which is more likely to lead to uncertain or negative consequences that increase anxious and apprehensive feelings. Therefore, neurotic users would share less misinformation. On the other hand, openness to experience had a positive influence on users' sharing ( $\beta = .14$ ). As open people have wider interests and are more willing to use unusual means, it is possible that they would share more misinformation to explore its "novel ideas" (e.g. share to ask for more information from others), even despite it contradicts the scientific views. This is in line with Heinström (2003)'s findings that open people tended to welcome new and challenging information. Also, openness was found related to sociability function use on Facebook (Ross et al., 2009). It is possible that open people may share misinformation to interact with their friends (e.g. start conversation in the comment section under the posting).

Another predictor category, motivation, also had an important impact on the sharing behavior on social media. Three motivation factors were found to be significant: entertainment ( $\beta = .33$ ), socializing ( $\beta = .18$ ), and status seeking ( $\beta = .30$ ). Entertainment had the highest impact on misinformation sharing among the six significant factors and status seeking ranked second. This demonstrates the effectiveness of motivation on influencing misinformation sharing. The motivation model (based on the U&G theory) was therefore demonstrated to be useful for understanding users' misinformation sharing on social media. Social media users may share misinformation for entertainment purposes, as misinformation usually appears fun and novel and in the "snack food" form that can be readily enjoyed (Shao, 2009). They may also share for relationship building and enhancement; since the sharing process is extremely convenient with just a few clicks, and it allows users to interact with the whole networks (e.g. share with comment that asks for friends' participation). Furthermore, users may share misinformation to attain self-status; for example, to get more "Likes" and attention from others by sharing amusing or bizarre misinformation.

Surprisingly, information seeking was the only exception from the list of motivation factors. Similarly, the two perceived characteristic of information factors were not significant. The results can be interpreted as that users may not regard the pieces of misinformation as "information" that are used to satisfy informational needs. They may care little about the content of the particular piece of information they are sharing; but are satisfied from the sharing process itself (Nov et al., 2009). Moreover, this (to some extent) explains why users who are aware of the falseness of misinformation may still share it – they actually accept it based on values other than informational ones. Although the accuracy of misinformation is in doubt, users' sharing is driven by non-informational motivations. As Karlova and Fisher (2013) commented on the diffusion of misinformation and disinformation: "Although they may not believe such information themselves, they take pleasure in disseminating it through their social networks."

Given the interesting observation that social media users satisfy their needs by the action of sharing rather than the information value per se, they seem not to pay enough attention or exercise sufficient judgment when evaluating what they share. This underscores the importance of information literacy (IL) in the age of social media. Misinformation, in all its various forms, is still false information whose rapid spread can lead to serious negative outcomes. Users should develop correct attitudes toward misinformation and refrain themselves from spreading it. Furthermore, information professionals

need to be aware that users nowadays do not always lack the knowledge to evaluate information, and thus, IL classes cannot focus solely on a checklist of misinformation recognition. More personalized IL training is needed, in which non-informational motivations and the negative consequences of misinformation spreading should be covered. Lastly, social media applications can use such findings to design services that not only attract more users but also help control the spread of misinformation.

## 6 Conclusion

The study found that individuals' sharing of misinformation through social media is mainly based on their personality traits or specific motivations. The action of sharing per se, rather than the accuracy of the information being shared, is what really matters to them. However, this is not an ideal way to use social media, for the resultant spread of misinformation can lead to many negative outcomes. More research in this area has to be conducted to better understand the phenomenon with respect to user-intrinsic factors, so that effective training and interventions to refrain users from further spreading can be designed.

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