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#### Abstract

Drawing on uses and gratifications theory, the current research investigates how social media users exploit different media affordances to satisfy their motives, and how such motives are shaped by their personalities. A cross-sectional survey among college students (N = 190) was conducted to examine their most frequently used social media platforms, use motives, and perceived media affordances. Their personalities were also assessed along the Big Five and narcissism. An exploratory factor analysis yielded five broad categories of social media use motives. Structural equation modelling results revealed that social media use motives were differentially associated with affordances and that personalities play an influential role in shaping individuals' use motives and affordance preferences. The findings are discussed in relation to the theoretical contributions to the U&G approach as well as the practical implications to social media platform design and development.

67.07

Keywords: social media, affordances, use motives, personality, SEM

Social media is now an important part of people's lives. In 2020, there are 3.81 billion active users of social media around the world, with a yearly increase of 9.2% (Kemp, 2020). On average, each person has an account on 8 different social media platforms and spends 2.5 hours daily on social media (Omnicore, 2020). In particular, young adults are the most active social media users (Pew Research Center, 2021). The exponential increase of social media users is not only related to the widening of platform choice, but also down to the specialization of each platform (Khajeheian, 2013). For example, Twitter was initially designed as a text-based platform, covering a conglomeration of news, links, and other written communications, whereas Instagram is an image-based platform designed primarily for sharing visual content (Wally & Koshy, 2014).

Abundant research has examined the motives behind social media use under the uses and gratifications framework. For example, Luchman and his colleagues extensively studied young Americans' use of 19 social media websites and revealed two major motive dimensions: content-specific and fun-related (Luchman et al., 2014). Similar studies have been carried out in the context of Facebook (e.g., Cramer et al., 2016; Reinecke et al., 2014), Instagram (e.g., Lee et al., 2015), and even cross-platform comparisons (Alhabash & Ma, 2017; Bossetta, 2018). While studying the central platforms is essential, exclusively focusing on the idiosyncratic features of a certain site may limit the generalizability of the findings.

The social media landscape is constantly evolving, with new platforms like TikTok having attracted a large number of users. Against this backdrop, established providers are adopting new features brought by market challengers. Facebook and Instagram's adoption of the disappearing-messages and self-documenting "stories" functions developed by Snapchat provides a good example on this front. Simply studying the motives for each fleeting platform

and feature may bring "the moving-target problem", which makes the results less enduring (Gosling & Mason 2015; Valkenburg et al. 2016). Therefore, researchers have been calling for a more robust approach to tackle this problem (Bayer et al., 2020). The current study responds to this call by taking an affordances approach. Yet, instead of focusing on a single platform, we advance a theoretical perspective that foregrounds the dynamic interplay between users' motives and social media affordances. Besides, as suggested by prior research on the associations between personality traits and social media use (e.g. Liu & Campbell, 2017), the second goal is to investigate how social media use motives are shaped by personality traits.

This article proceeds with a review of previous research on the motives behind media use as well as the affordances literature, and then turns to the body of research on personality traits. The review informs our advancement of a model that unpacks how people seek different social media affordances based on their motives and how this process is affected by their personality traits. The theoretical and practical implications of the findings are also discussed.

# Social Media Use through U&G

Social media is broadly defined as "Internet-based, disentrained, and persistent channels of mass-personal communication facilitating perceptions of interactions among users, deriving value primarily from user-generated content" (Carr & Hayes, 2015, p. 49). It provides a platform where people create a personal profile, interact with online friends, and share information and images (Bayer et al., 2020). People use different platform as part of their communication repertoire, and this behavior can be better understood through the lens of uses & gratifications theory.

Uses and gratifications theory (U&G) explains how people's media selection and consumption are motivated by their different needs (Rubin & Perse, 1987). It assumes that

people actively select and consume media to satisfy their psychological and social needs, such as entertainment and relaxation, information obtaining, social interaction, etc. (Katz et al., 1973).

U&G has been extensively used as a framework to understand people's selection of different media channels (e.g., Mairaru et al., 2019; Shin, 2011) and content (e.g., Hussai & Shabir, 2020).

Along with the growing diversity and pervasiveness of information and communication technologies (ICTs), research on social media has advanced the U&G approach to encompass a larger set of motives behind new media consumption. A cross-site comparative study suggests that information sharing/seeking and entertainment are the common motives of various social media use (Alhabash & Ma, 2017). Each platform deviates from the similarity when inspecting other motives. For example, Facebook is used for relationship maintenance (Park & Lee, 2014), self-presentation, and belonging needs (Nadkarni & Hofmann, 2012); The primary motives for Instagram include self-expression, archiving, escapism, and surveillance about others (Lee et al., 2015; Sheldon & Bryant, 2016).

## An Affordance Approach

The fast-changing nature of social media challenges our existing knowledge of each individual platform. For example, the emergence (e.g., TikTok), synthesis (Facebook's adoption of Snapchat-specific features), and acquisition (e.g., acquisition of Instagram by Facebook) across different platforms make it difficult to provide a static description of user motives.

Therefore, it is critical to understand social media use motives from a theoretical level that transcends specific platforms or features.

An affordances approach was proposed in an attempt to synthesize findings across studies, time periods, and specific platforms (Bayer et al., 2020). Affordance refers to "the mutuality of actor intentions and technology capabilities that provide the potential for a

particular action" (Majchrzak et al., 2013, *p.* 39; for a review, see Nagy & Neff, 2015). Rather than focusing on technical features or specific platforms, the affordances approach provides a flexible way of studying high-level attributes that can be applied across contexts (Ellison & boyd, 2013). For example, affordances such as personalization and persistence would remain relevant regardless of the emergence and diminishment of various platforms like Facebook and MySpace. Such high-level theorizing provides us with a more nuanced and durable understanding of the social media use.

There exist different ways to conceptualize affordances in the literature (Evans et al., 2017). Some treated the affordances as objective characteristics of the technologies and examined their effects on people's perceptions and behavioral intentions (e.g., Mao & DeAndrea, 2019). By contrast, others viewed it as a relational construct between technology capabilities and human agency (e.g., Ledbetter & Meisner, 2021; Zhou, 2021). Considering users may react to affordances differently, we conceptualize it as users' perceived affordances in this paper.

Fox and McEwan (2017) outlined ten perceived affordances with relative consistency across social media as described below. We categorize these ten affordances along three dimensions: self-profile, communicating with others, and content sharing, and further argue that people's social media use motives are differentially satisfied by media affordances, rather than the platforms or technologies per se. Therefore, this study aims to associate people's social media use motives with this high-level attribute: affordances.

The self-profile dimension relates to one's online self-identity management and includes privacy and anonymity affordances. Privacy refers to the degree to which one's information and communication on social media are visible to others (Treem & Leonardi, 2013). One may view sending information to specific recipients as more private than posting it on a public profile.

Anonymity refers to the degree to which users feel their real identities can be hidden or concealed (Resnick, 2001). Features like identity verification request may make a platform like Twitter less anonymity afforded.

Communicating-with-others dimension encompasses such affordances related to the connections with others like network association, conversation control, social presence, and personalization. The network association refers to the media's capability for identifying and connecting potential contacts (Fox & McEwan, 2017). Intelligent algorithms can correctly identify and recommend potential "friends" through a common node or shared network.

Conversation control refers to how the media amplify or attenuate the users' ability to regulate an interaction, such as managing turn-taking or terminating a conversation (Feaster, 2010). A related affordance, social presence, refers to users' subjective feelings of communicators being close by and sharing the same experience together. An asynchronous conversation with lags between message transmission, receipt and response can minimize feelings of social presence (Bradner et al., 1999; Rice & Steinfield, 1994). Personalization is the ability to send messages directly to a specific individual (Wellman et al., 2003). One may perceive a one-to-one interaction is more personalized than a one-to-many communication.

The last dimension focuses on content sharing on social media and includes affordances like bandwidth, persistence, editability, and accessibility. Bandwidth describes the breadth of social cues potentially communicated on a media platform (Wellman et al., 2003). In mediated communication where nonverbal cues are absent, some structural features provided by social media like emojis and graphic icons can enrich the bandwidth of communication (Hayes et al., 2016). Persistence refers to the relative permanence or ephemerality of content (boyd & Ellison, 2007; Treem & Leonardi, 2013). A platform archiving one's record long time after the initial

communication is perceived as high persistence, whereas the disappearing message feature of Snapchat makes this platform less persistent. Editability, tapping the micro-level control, refers to the capacity to revise the message content before sharing (Rice, 1987; Walther, 1996). Note the trade-off relationship between editability and social presence, as editing and revising messages can prolong the response time, which undermines social presence feelings.

Accessibility of a platform refers to the extent of achieving communication, regardless of time, place, structural limitations, technological literacy, or any other constraints (Fox & Moreland, 2015). Mobile phone-based platforms like Instagram and Snapchat are perceived as easier and more convenient to use by young people. Since most, if not all, platforms have a phone-based app which is easy and convenient to use, this affordance is not investigated in the current study.

Linking Motives with Affordances. We propose that people seek different social media affordances to meet various use motives. Our thorough examination of the past literature encompasses seven motives of social media use: social interaction, self-documentation, self-expression, peeking, information seeking and sharing, escapism and relaxation, and norm and trend following. Below we present a brief overview of the seven motives, as well as the hypothesized associations with the media affordances.

Social interaction motive suggests that people use social media to interact and communicate with others (Caplan, 2003). As social interaction largely involves the open and free transmission of information and emotions, users with such a motive are expected to prefer platforms which afford network association, conversation control, social presence, personalization, bandwidth, and editability (H1a). On the contrary, users seeking social

interactions may prefer platforms with less privacy affordance, as the invisibility of information may hinder free communication (H1b).

Self-expression motive refers to using social media to present one's personality, tastes, and lifestyle (Lee et al., 2015). Users with such purposes are thus likely to select platforms with high bandwidth and editability (H2), as all these affordances are essential to facilitate one's online self-presentation (Lee & Borah, 2020). Unlike self-expression, the self-documentation motive indicates the use of social media to create and store the online documentary of one's life for themselves (Lee et al., 2015). Users with this motive prefer platforms which highly afford persistence and privacy, as they expect the content to remain over time and this self-recording behavior implies avoiding being disturbed by others (H3).

Peeking is defined as a harmless yet guilty pleasure of observing others' apparently real and unguarded lives and accessing private details (Calvert, 2000; Metzl, 2004). It has recently been identified as a key gratification for social media use (Doster, 2014). People may enjoy the pleasure of secretly peeking into someone's life particularly on social media without violating the owners' privacy because the content on social media page is intentionally exposed by the owner to anonymous visitors (Jung et al., 2012). These "active" observers do not often engage in direct interactions with the profile owner, but tend to hide their identities. Previous research revealed perceived anonymity may facilitate lurking and peeking activities (Jung et al., 2012; Preece et al., 2004). Furthermore, people with the pleasure from peeking expect to easily access to others' personal life, thus would appreciate the information was persistently and publicly presented online. Lastly, people are more curious about their friends' online profile rather than total strangers (Jung et al., 2012), thus would value platforms which afford strong network association. Research showed that people who enjoy peeking others' life tend to keep Facebook

friends (Wang, 2015). To sum up, we expect that peeking motive is positively correlated with anonymity, network association, persistence (H4a), but negatively correlated with privacy (H4b).

Information seeking motive suggests people use social media for information and education purposes. Unlike social interaction, this motive does not involve a particular person, and refers to seeking out information in general. People with such intention intentionally seek media which affords persistence for sustaining and creating knowledge in organizational settings (Treem & Leonardi, 2013) and for communicatory utility in relational settings (Atkin, 1973; Walther et al., 2010). Additionally, relevant research showed that consumers seeking product information preferred richer channels for a large volume of information (Maity et al., 2018). Thus, users with this motive would prefer platforms with high bandwidth and persistence for the richness and reviewability of information (H5).

The motive of escapism and relaxation refers to using social media to relax and relieve stress (Palmgreen & Rayburn, 1979). Media with broader bandwidth rapidly exchange large amount of information in various forms, which leads to great sensory immersion and physiological arousal. Users seeking relaxation from reality may particularly appreciate this fast escape into the immersive experiences brought by the vivid information transmission. In addition, the desire to flee from the reality may hinder this type of users from presenting their true identities in their media consumption activities. The anonymity affordance may be preferred by these users. Taken together, the escapism and relaxation motive is positively associated with bandwidth and anonymity affordances (H6).

Norm and trend following recently has been identified as a social media use motive. It is characterized by the desire to stay up to date, and is highly relevant to the phenomenon of fear of missing out (Przybylski et al., 2013). People with such a motive use social media to stay "in the

loop" and informed of the trends. Therefore, the persistence affordance is particularly valued by users with such a motive (H7).

## Linking Personality Traits with Social Media Affordances and Use Motives

The second goal of the current study is to explain social media users' motives from a personality perspective. Extensive research has established a link between personality traits and social media use. One line of research asked the question how personalities predict the social media use intensity (e.g., Correa et al., 2010; Kircaburun et al., 2020); the other strand looked into how personalities are associated with specific activities given a particular platform (e.g., YouTube, Klobas et al., 2018; Facebook, Carpenter et al., 2011; Seidman, 2013). There is a scarcity of research examining the impact of personality traits on social media use motives and affordance choice. This study also aims to fill in this gap.

The Five-factor Model of Personality is a well-established framework to describe and measure people's personality traits, encompassing five stable and distinct dimensions of personality trait: extraversion, openness, agreeableness, conscientiousness, and neuroticism (John & Srivastava, 1999; McCrae & Costa, 1997)

Extraversion is manifested through one's sociable and outgoing attributes, and often associated with attention-seeking and social gregariousness behaviors (Ashton et al., 1999). When it comes to online communication, prior research found that extraverted individuals tend to join large size social networks (Ross et al., 2009), maintain an up-to-date profile (Gosling et al., 2011), and engage in frequent self-disclosure behaviors (Eşkisu et al., 2017; Seidman, 2013). Therefore, we hypothesize that extraverted people are more likely to seek social media with network associations, conversation control, bandwidth, and these relationships are mediated by social interaction and self-expression (H8). Research also found that compared with extraverted

people, introverted ones tended to keep a personal blog (Li & Chignell, 2010) and document hidden self-information (Amichai-Hamburger et al., 2002). In this light, we hypothesize that introverted people intentionally prefer social media with great persistence, which is mediated by self-documentation (H9).

Openness reflects people's preference for intellectualism, creativity, and educational experiences. Previous research found that people of this quality are more attracted to novel information and experiences, and more curious about others' lives (Carpenter et al., 2011). It was also found that open people tend to use a wider variety of Facebook features (Amichai-Hamburger & Vinitzky, 2010) to seek information (McElroy et al., 2007). Therefore, we hypothesize that openness is positively correlated with bandwidth and persistence affordances, mediated by peeking, information seeking and sharing, and norm and trend following motives (H10).

Agreeableness refers to a person's attribute to be considerate, kind, and cooperative (Costa & McCrae, 1992). Agreeable individuals often report close offline friendships (Asendorpf & Wilpers, 1998). Social media research found that agreeableness is positively associated with open communication (Seidman, 2013) and page viewing (Gosling et al., 2011). In addition, due to their orientation towards others, agreeable people are less likely to have attention-seeking behaviors (Seidman, 2013). Linking with motives, agreeableness is positively correlated with social interaction and peeking (H11).

Conscientiousness refers to the degree of a person being reliable, organized, and persistent in pursuit of goals, and is often associated with staying cautious. A negative correlation was found between conscientiousness and general social media use, probably because these people may perceive social media as a distraction from other goals (Ryan & Xenos, 2011)

or stay cautious when presenting their information online. In this light, we expect that conscientiousness is negatively correlated with motives of escapism and relaxation, as well as norm and trend following (H12a). Interestingly, it was found that conscientious individuals are more likely to engage in information-seeking behaviors on Twitter (Moore & McElroy, 2012). Thus, we hypothesize that conscientious people would appreciate the persistence and information richness affordance for more information, which is mediated by information seeking and sharing (H12b).

Neurotic people often experience negative emotions like anxiety, worry, and loneliness, and tend to report poor self-esteem (Judge et al., 2002) and high sensitivity (Malone et al., 2012). To compensate the expression needs in real-life, neurotic people rely on social media to present themselves and passively learn about others (Seidman, 2013). Besides, past research showed that neurotic people tend to escape from the reality by excessively using social media (Kircaburun et al., 2020). We expect that neuroticism is positively associated with motives of social interaction, escapism and relaxation, and peeking (H13).

Besides the five factors, another important individual characteristic that may play a role in social media use is narcissism. Narcissistic individuals report strong feelings of entitlement and self-focus, and lack of considering others (Foster & Campbell, 2007). A number of studies have shown that narcissism, as a dark personality trait, differentially affects use motives on Facebook and Twitter (Davenport et al., 2013), and Instagram (Sheldon & Bryant, 2016). Previous research indicated a positive correlation between narcissism personality and self-presentation on social media (e.g., Leung, 2011). Due to the nature of self-focus and lack of regard for others, we expect narcissistic people prefer great bandwidth and editability for better exhibition, and this relationship is mediated by self-expression motive (H14).

#### Method

# **Participants and Procedure**

Given that the young adults exhibit similar social media use behaviors with the general population (Przybylski et al., 2013), we followed previous research practice (e.g., Sheldon & Bryant, 2016) to use college students as a representation of the general population. Data were collected from three universities from Europe, UK, and the United States, respectively. The initial sample consists of 224 undergraduate students, who participated in the research voluntarily. Twenty-nine participants were removed for not completing the survey, and five were identified for not taking the survey seriously. The final sample included 58 men and 132 women, ranging in age from 17 to 35 (M = 23.91; SD = 4.45). Approximately 54.2% of the participants were self-identified as Caucasian, 4.2% African American, 7.9% Hispanic, 28.4% Asian, and 5.3% Others. Following Institutional Review Board approval, participants completed the survey using Qualtrics.

## Measures

Unless indicated, all scales used in this study were in 7-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree".

**Social Media Use.** The participants were first asked to indicate the frequency of using each of the five popular social media platforms (Facebook, Twitter, Instagram, Snapchat, and TikTok). Then, they were asked to indicate the approximate time length spent on those platforms each time. Afterward, they were asked to identify the most frequently used platform, which the following questions were based on.

**Big-five Personality Traits and Narcissism.** Big-five Personality Traits were assessed using the 15-item Big Five Inventory–2-XS. The BFI–2-XS measures personality in a

hierarchical way with three facets for each dimension. Narcissism was assessed using the 8-item Narcissistic Admiration and Rivalry Questionnaire Short Scale (NARQ-S) (Leckelt et al., 2018). A complete list of media affordances measures is presented in Table 1.

Motives of Social Media Use. A comprehensive literature review was conducted to encompass possible social media motives. Items were gathered from previous research to assess participants' social media use for social interaction (e.g., *I use the platform to get updates on friends and family*), self-documentation (e.g., *I use the platform to record what I do in life*), self-expression (e.g., *I use the platform to show my personality*), peeking (e.g., *I use the platform to browse photos related to my interests*), information seeking and sharing (e.g. *I use the platform to share information*), escapism and relaxation (e.g., *I use the platform to forget about school, work, or other things*), and norm and trend following (e.g., *I use the platform because everybody is using it*). The items are shown in Table 2.

**Media Affordances.** The Perceived Affordances for Communication Channels Scale (Fox & McEwan, 2017) was implemented to assess various perceived media affordances. This scale tapped on nine affordances, including network association, bandwidth, social presence, privacy, personalization, conversation control, persistence, editability, and anonymity. A complete list of media affordances measures is presented in Table 3.

**Demographics.** The survey also assessed participants' demographic data, including age, gender, ethnicity, and education level.

## Data Analysis.

We first performed exploratory factor analysis (EFA) with maximum likelihood to extract a manageable number of factors representing personalities, social media use motives and affordances, respectively. Then as suggested by Anderson and Gerbing (1988), we followed the

two-step approach to conducting structural equation modeling (SEM). First, we performed confirmatory factor analysis to verify the measurement model. Afterward, the SEM was conducted to investigate the associations among the latent variables. Finally, following Bollen's (1989) recommendations, we examined multiple indices of the goodness of fit using several statistics including chi-square, the root-mean-square error of approximation (RMSEA), the comparative fit index (CFI), and goodness-of-fit index (GFI). All analyses were conducted using SPSS and AMOS software.

# Results

# **Exploratory Factor Analysis (EFA)**

First, Kaiser-Meyer-Olkin measure of the sampling adequacy (KMO) and Bartlett's test of the sphericity were conducted to determine the sampling adequacy. The result of the KMO measure was 0.794 which is higher than the threshold value of 0.6. Bartlett's test of sphericity was significant ( $\chi^2(2701) = 9455.83$ , p < .05), confirming that factor analysis could be performed on the data collected using the research instrument.

In the EFA, we removed the items that had low loading values (p<0.40), that were redundant, that cross-loaded on multiple factors, and/or that had low communalities. As shown in Table 1, the EFA of personalities revealed 6 factors accounting for 67.84% of the variances. The six factors are consistent with the Big-five Personality Traits and Narcissism measures. The first five factors represent the extraversion ( $\alpha$ = 0.81), conscientiousness ( $\alpha$ = 0.86), openness ( $\alpha$ = 0.80), neuroticism ( $\alpha$ = 0.67), and agreeableness ( $\alpha$ = 0.67) personalities, respectively accounting for 22.23%, 13.67%, 11.69%, 7.96%, and 7.14% of the variances. The eight Narcissism items neatly loaded on the last factor, accounting for 5.13% of the variance ( $\alpha$ = 0.81).

[Table 1 near here]

For use motives, 4 items were discarded, yielding 5 factors accounting for 63.60% of the variance. As shown in Table 2, the first factor encompasses the self-expression and self-documentation items. The seven items showed a reliable scale ( $\alpha$ = 0.93), accounting for 39.62% of the variance. As these seven items did not fully reflect the self-documentation meaning, we abandoned this construct, and labeled it "expression and exhibition" (EE). The second factor, "information seeking and sharing" (ISS), comprised of four items, and explained 10.03% of the variance ( $\alpha$ = 0.81). The third factor, "social-interaction", accounted for 6.60% of the variance, and the scale with three items was found to be reliable ( $\alpha$ = 0.85). The fourth factor, "escapism and relaxation", included three items ( $\alpha$ = 0.85) and explained 3.70% of the variance. Finally, the fifth component, "norm and trend following" with three items, accounted for 3.70% of the variance ( $\alpha$ = 0.74). The low loadings on the self-documentation and peeking motives rendered H3, H4, H9, as well as part of H10, H11, and H13 invalid.

# [Table 2 near here]

For affordances, 11 items were discarded, yielding 6 factors accounting for 54.87% of the variance. As shown in Table 3, the first factor, labeled "information richness", explained 12.68% of the variance, and the scale with five items was found to be reliable ( $\alpha$ = 0.83). It contained two factors from the original scale: bandwidth and social presence. The second factor, "communication regulation", consisted of four items, and accounted for 20.13% of the variance ( $\alpha$ = 0.73). It contains items from three dimensions in the original scale: conversational control, personalization, and editability. The third factor, "persistence", explained 8.97% of the variance, and the scale with three items was found to be reliable ( $\alpha$ = 0.87). The fourth factor, "network association", included three items ( $\alpha$ = 0.80) and explained 5.65% of the variance. The fifth component, "anonymity" with three items, explained for 4.15% of the variance ( $\alpha$ = 0.74). The

last component, "privacy" with two items, explained 3.29% of the variance ( $\alpha$ = 0.77). The correlations among the studied variables were shown in Table 3.

[Table 3 near here]

[Table 4 near here]

## **Confirmatory Factor Analysis (CFA)**

Confirmatory factor analysis (CFA) was performed to test the measurement model for the three sets of scales. The latent factors were allowed to correlate. Various model fit indices, including RMSEA, CFI, and TLI, were consulted. A model was evaluated to have a good fit if its RMSEA was  $\leq$ .06 and CFI was  $\geq$ .95 (Hu & Bentler, 1999). The criterion for an acceptable fit was RMSEA  $\leq$ .08, CFI  $\geq$ .90 (Browne & Cudeck, 1992; Hu & Bentler, 1999). The initial measurement model of personalities (Extraversion, Conscientiousness, Neuroticism, Agreeableness, Openness, and Narcissism) showed a poor fit to the data ( $\chi^2(215) = 639.42$ , p < .001; CFI = .80, RMSEA= .10, TLI = .77). The modification indices resulted in the removal of one narcissism indicator and correlations between the error terms of two pairs of narcissism items, one pair of agreeableness items, one extraversion item and one openness item. The modified model showed acceptable fit to the data,  $\chi^2(188) = 405.68$ , p < .001; CFI = 0.90; RMSEA = 0.07 (90% CI: .065, .087); TLI = .88.

Motives' initial measurement model also showed a poor fit to the data ( $\chi^2(160) = 490.42$ , p < .001; CFI = .86, RMSEA= .11; TLI = .84). After allowing the error terms of two pairs of EE and one pair of ISS items to correlate according to the modification indices, the modified model showed acceptable fit to the data, data ( $\chi^2(157) = 360.75$ , p < .001; CFI = .92, RMSEA= .08 (90% CI: .072, .094); TLI = .90).

Lastly, affordances' initial measurement model also showed a poor fit to the data ( $\chi^2(155)$ ) = 331.778, p < .001; CFI = .88, RMSEA= .08; TLI = .86). After allowing one pair of Information Richness items to correlate according to the modification indices, the modified model showed acceptable fit to the data, data ( $\chi^2(154) = 297.24$ , p < .001; CFI = .91, RMSEA= .087 (90% CI: .058, .082); TLI = .88).

Afterward, we performed SEM using the maximum likelihood (ML) estimator to test all hypotheses simultaneously. Initial fit of the SEM was  $\chi^2(1773) = 3409.85$ , p < .001; CFI = .76, RMSEA= .070, TLI = .74. Modification indices suggested the inclusion of six non-hypothesized paths (narcissism->Norm and Trend Following, openness->Expression and Exhibition/Communication Regulation, Expression and Exhibition->Privacy, Norm and Trend Following ->Network Association, ISS->communication regulation/network association) and six correlations between error terms. The modified SEM showed acceptable fit to the data,  $\chi^2(1760) = 3069.66$ , p < .001; CFI = .91, RMSEA= .063, TLI = .794. We bootstrapped p-values using 5000 samples with replacement and 95% confidence intervals. The results are separately presented in Figures 1-5.

# [Figures 1-5 near here]

The associations between the affordances and the use motives were examined. The social interaction motive is significantly associated with affordances of information richness ( $\beta$ = -.23, p < 0.05) and network association ( $\beta$ = .25, p < .001), but not with communication regulation ( $\beta$ = .04, p = .69). The EE motive is significantly associated with information richness ( $\beta$ =.31, p < .01) and privacy ( $\beta$ = .48, p < .001), but not with communication regulation ( $\beta$ =.08, p = .34). The ISS motive is significantly associated with information richness ( $\beta$ = .39, p < .001), communication regulation ( $\beta$ = .47, p < .001), persistence ( $\beta$ = .34, p < .001), marginally

significant with network association ( $\beta$ = .15, p =.08). The NTF motive is significantly associated with network association ( $\beta$ = .41, p < .001), but not persistence ( $\beta$ = -.07, p = .48). Lastly, the escapism and relaxation is not significantly associated with neither information richness ( $\beta$ =.11, p = .17) nor anonymity ( $\beta$ = .06, p = .44). To summarize, H5 was supported; H1a, H2, H7 were partially supported; H1b and H6 were rejected.

The associations between motives and personalities were then examined. Social interaction is positively affected by extraversion ( $\beta$ = .22, p < .05) and neuroticism ( $\beta$ = .27, p < .05), but not agreeableness ( $\beta$ = - .001, p = .85). EE motive is positively affected by narcissism ( $\beta$ = .29, p < .01) and openness ( $\beta$ = .25, p < .01), but not extraversion ( $\beta$ = .05, p = .16). ISS motive is positively affected by both conscientiousness ( $\beta$ = .15, p = .05) and openness ( $\beta$ = .32, p < .001). Escapism and relaxation is positively affected by both neuroticism ( $\beta$ = .46, p < .01), but not conscientiousness ( $\beta$ = .08, p = .32). Lastly, NTF is negatively affected by conscientiousness ( $\beta$ = -.22, p < .01), positively affected by narcissism ( $\beta$ = .27, p < .01) and openness ( $\beta$ = .17, p < .05). The results are shown in Table 5.

# [Table 5 near here]

The mediation relationships were assessed by computing simple mediation models (Hayes, 2009, 2012) employing bootstrapping procedures (5,000 samples) and bias-corrected 95% confidence intervals (CIs) with motives as a mediator between the personalities and affordances preferences. As Table 6 shows, seven mediation relationships were identified, four of which were full mediation effects. To sum up, H8, H10, H12a, H13, and H14 were partially supported; H11 and H12b were rejected.

[Table 6 near here]

#### **Discussion and Conclusion**

U&G framework argues that selecting and consuming a media channel and/or content is an active procedure through which audience purposefully satisfy their needs through media use (Rubin & Perse, 1987). We argue that the rapid-changing social media ecology not only provides users with new experiences, such as online social networking and content generation, but also creates blurred boundaries between platforms, making it impossible to provide a static description of the fluctuating media landscape. The current study, by adopting an affordance-centered approach, showcases how goal-oriented social media users address their motives by using the specificities of a social media platform.

The findings indicate that people who seek social interactions prefer platforms which afford greater network associations and, surprisingly, less information richness. This unexpected finding suggests that users who like to chat on social media may purely enjoy text communication with online friends without the interference of visuals or audio. In addition, people who view social media as an expression and exhibition place particularly value the affordances of information richness and privacy protection. The information seekers are fond of platforms with information richness, communication regulation, and persistence for vivid, broad, and credible information. Interestingly, both ISS and NTF motives are associated with network association affordance, suggesting that people who seek information and follow trends would heavily rely on their connections for the desired information.

It is important that the peeking motive was dropped in EFA due to low loadings. One possible reason is that peeking does not represent an independent social media use motive. It has great overlap with information seeking and sharing motive, as peeking can be considered as a certain type of information obtaining. Alternatively, instead of a use motive, peeking is likely to represent an online behavior. These speculations await further investigation and replications.

Personality is a factor influencing one's media use and gratification (Wang et al., 2015). This study discovered that narcissistic users tend to use social media to express and exhibit themselves, and further pursue platforms which afford rich information transmission to fully present themselves. People with an open and conscientious mind tend to use social media more for information-obtaining and sharing. Previous research suggested that conscientious people often view social media as a distraction from their work and thus avoid using them (Butt & Phillips, 2008). Different from these findings, the current study suggests that conscientious and open individuals seem to use social media primarily for utilitarian value and cognitive stimulation. We also found that extraverted and neurotic people are more likely to engage in social interactions on social media, and, thus, tend to pursue platforms with network association. This finding lends support for the neuroticism-loneliness hypothesis (e.g. Amichai-Hamburger & Ben-Artzi, 2003) such that people regularly experiencing unstable emotions tend to seek social contact.

It is found that the norm and trend following motive is positively correlated with openness and narcissism, and negatively correlated with conscientiousness. The results suggest that both open and narcissistic people use social media to stay up to date with the current norms and trends. Moreover, conscientious people who are hardworking and self-disciplined are less likely to use social media to follow trends.

In this research, instead of locking ourselves into idiosyncratic channels and/or features, we associate affordance with use motives, and this advances a new theoretical model by enabling us to account for the materiality of media technology. First, it facilitates the mechanism research by helping to explain how social media use motives influence platform selection. For instance, previous research identified several motives for using Facebook (e.g., Nadkarni & Hofmann,

2012), but our finding revealed that these motives are actually associated with network association, which is an outstanding affordance of Facebook. Presumably, other platforms with this affordance, such as Tinder and LinkedIn, may also attract users with the motives of social interaction and ISS. In addition, information richness and persistence are two commonly shared affordances on most popular social media, including TikTok, Pinterest, and Instagram. Based on our findings, these platforms may look particularly appealing for open-minded and narcissistic people. Second, this framework may provide a starting point for a systematic analysis of how specific social media behaviors (e.g., liking, sharing instant stories, uploading selfies, self-disclosure) are driven by use motives and further satisfied by social media affordances. As an illustration, network association is associated with three motives. But people with different motives may exhibit different use patterns and behaviors in such a way that social interaction users may look for a small network with strong ties whereas information seekers and norm and trend followers may deliberately seek a large network with weak ties. This further investigation can be carried out under the current framework.

Practically, our findings provide user experience (UX) researchers with a toolkit for designing and developing social media features. First, the current study directly links social media motives with affordances. Considering an individual's motives, we can predict the linkage between affordances and associated channels/features. This information provides the UX designers practical guidance to develop effective social media channels and features. For example, people who seek expression and exhibition would value both affordances of information richness and privacy protection. Photo and video-sharing platforms are suggested to bundle both. Besides, the association between ISS motive with network association affordance suggests that information seekers may rely on online interpersonal communication as an

information source. Therefore, news-based platforms are suggested to use algorithms to enlarge users' networks. Second, our framework opens opportunities for exploring individual factors that may cause the differences in users' valued affordances. Previous research has indicated that personality factors influence social media use motives (e.g., Carpenter et al., 2011; Correa et al., 2011). Our findings suggest this effect further carries over to the selection of media affordances as we found several affordances are at least partially driven by personality traits via motives. As such, future affordance research should account for individual factors.

Several limitations must be noted when interpreting the current results. First, the relatively small sample size overrepresented the population of young women, which may limit the generalizability of the findings to the general population. Replications with more representative populations are warranted in the future. Second, all the survey was conducted at a one-time point with no manipulation. The results of the impact of personality on motives cannot establish causal relationships. Thus, the findings can only be considered as suggestive of the causal inferences between the variables. Third, the results were based on self-report measures, which may be subject to inaccuracy and social desirability. Future research may consider scraping real footage of people's social media activities and perform content analysis for more objective results. Fourth, among the Dark Triad traits, Machiavellianism and psychopathy were not examined in the current study. Given these two personalities have shown to affect problematic social media use, such as cyberbullying and cyberstalking (Kircaburun et al., 2019), future research may look into how people with such personalities utilize social media affordances for communication and relationship management.

In conclusion, the contribution of the current study is threefold. First, we identified five broad use motives across various social media platforms, including 1) expression and exhibition,

2) information-seeking and sharing, 3) social interaction, 4) escapism and relaxation, and 5) norm/trend-following. Second, we advance theorizing on social media motive theory by examining the motives' associations with media affordances. Third, we further identified some of the personality characteristics associated with the motives and affordances. The findings advanced our understanding of social media use by exploring the interplay between media affordances and use motives.



#### Disclosure statement

The authors declare no competing interests.

## **Data Availability Statement**

The authors confirm that the data supporting the findings of this study are available within its supplementary materials.

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## SOCIAL MEDIA MOTIVES AND AFFORDANCES

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Table I E	xploratory	Factor	Analysis	Results of	Personalities	$(\mathbf{n} = 1)$	<u>190)</u>
Item							

Item	Factor	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Extraversion (α= 0.81)	1		3	4	3	0
I am someone who tends to be quiet. (R)	.963					
I am someone who is dominant, acts as a leader.	.983					
•	.983 .431					
I am someone who is full of energy.	.431					
Conscientiousness ( $\alpha = 0.86$ )		021				
I am someone who tends to be disorganized. (R)		.831				
I am someone who has difficulty getting started on tasks. (R)		.917				
I am someone who is reliable, can always be counted on.		.930				
Openness ( $\alpha = 0.80$ )						
I am someone who is fascinated by art, music, or literature			.923			
I am someone who has little interest in abstract ideas. (R)			.896			
I am someone who is original, comes up with new ideas.			.695			
Neuroticism ( $\alpha = 0.67$ )						
I am someone who worries a lot.				.832		
I am someone who tends to feel depressed, blue.				.777		
I am someone who is emotionally stable, not easily upset. (R)				.720		
Neuroticism ( $\alpha = 0.67$ )  I am someone who worries a lot.  I am someone who tends to feel depressed, blue.  I am someone who is emotionally stable, not easily upset. (R)  Agreeableness ( $\alpha = 0.67$ )  I am someone who is compassionate, has a soft heart.  I am someone who is sometimes rude to others. (R)  I am someone who assumes the best about people.  Narcissism ( $\alpha = 0.81$ )  I react annoyed if another person steals the show from me.  I deserve to be seen as a great personality.						
I am someone who is compassionate, has a soft heart.					.481	
I am someone who is sometimes rude to others. (R)					.889	
I am someone who assumes the best about people.					.776	
Narcissism ( $\alpha = 0.81$ )						
I react annoyed if another person steals the show from me.						.706
I deserve to be seen as a great personality.						.730
I want my rivals to fail.						.846
Being a very special person gives me a lot of strength.						.556
I manage to be the center of attention with my outstanding contributions.						.573
Most people are somehow losers.						.717
Sometimes people would describe me as aggressive						.493
Bonietines people would describe the as aggressive						· <del>1</del> /3

**Table 2 Exploratory Factor Analysis Results of Social Media Use Motivation (n = 190)** 

Table 2 Exploratory Factor Analysis Results of Social Media Use Motivation (n = 190)					
Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Expression and exhibition ( $\alpha$ = 0.93)					
I use the social media platform to record what I do in life.	.974				
I use the social media platform to record what I have learned.	.679				
I use the social media platform to record where I have been.	.889				
I use the social media platform to show my personality.	.868				
I use the social media platform to tell others about myself.	.925				
I use the social media platform to share information.	.410				
I use the social media platform to present information on my interest	.608				
Information seeking and sharing ( $\alpha = 0.81$ )					
I use the social media platform to find and spread information.		.895			
I use the social media platform to keep abreast of current events.		.777			
I use the social media platform to browse a variety of photos.		.644			
I use the social media platform to browse photos related to my interests.		.521			
Social interaction ( $\alpha$ = 0.85)					
I use the social media platform to get updates on friends and family.			.804		
I use the social media platform to maintain a good relationship with others (for networking).			.864		
I use the social media platform to communicate with distanced friends.			.736		
Escapism and relaxation ( $\alpha$ = 0.85)					
I use the social media platform to forget about school, work, or other things.				.701	
I use the social media platform to get away from the rest of my family or others.				.739	
I use the social media platform to get away from what I'm doing.				.932	
Norm and trend following ( $\alpha$ = 0.74)					
I use the social media platform to browse daily lives of celebrities.					.411
I use the social media platform because everybody else is doing it.					.746
I use the social media platform because it is cool.					.695
•					

Table 3 Exploratory Factor Analysis Results of Social Media Affordances (n = 190)  Item	Factor	Factor	Factor	Factor	Factor	Factor
TUEIII	ractor 1	2	3	Factor 4	5	6
Information richness ( $\alpha$ = 0.83)						
The platform allows me to convey emotion.	.589					
The platform allows me to receive cues about how the other person is feeling.	.705					
On the platform, I can say not just what I want to say, but how I want to say it.	.617					
The platform makes it seem like the other person is present.	.847					
The platform makes it feel like the person I'm communicating with is close by.	.606					
Communication regulation ( $\alpha$ = 0.73)						
The platform allows me to personalize my message.		.516				
The platform allows me to edit the message I want to communicate before I actually		.467				
communicate it.						
The platform allows me to carefully craft my message before sending it.		.813				
I feel I can control the amount of time I invest in a conversation on the platform.		.515				
Persistence ( $\alpha$ = 0.87)						
The platform keeps a record of communication that I can go back and look at.			.741			
I can retrieve past messages on the platform.			.795			
The platform keeps a record of communication that can last long after the initial communication.			.907			
Network association ( $\alpha$ = 0.80)						
On the platform, members of our social networks can easily join our interaction.				.701		
Communication with someone on the platform makes our connection apparent to other network				.773		
members.						
The platform makes it easy for others to identify other people I am connected to.				.747		
Anonymity ( $\alpha = 0.74$ )						
The platform allows people to remain anonymous or unidentifiable if they want to.					.715	
The platform can mask my true identity when communicating.					.707	
When I communicate on the platform, the receiver doesn't necessarily know it's me.					.686	
Privacy ( $\alpha = 0.77$ )						
The platform helps keep my communication private.						.925
I feel my information can be kept private on the platform.						.516

**Table 4 Correlational Analysis Results** 

	•	1	2	3	4	5	6	7	8	9	10	11
1	EE	-										
2	ISS	.501**	-									
3	Social interaction	.562**	.295**	-								
4	Escapism and relaxation	.386**	.412**	.305**	-							
5	NTF	.478**	.408**	.297**	.458**	-						
6	Information richness	.387**	.376**	.158*	.342**	.411**	-					
7	Communication regulation	.183*	.365**	.148*	.218**	.124	.391**	-				
8	Persistence	.119	.321**	.176*	.134	.054	.143**	.475**	-			
9	Network association	.342**	.308**	.314**	.247**	.403**	.424**	.448**	.344**	-		
10	Anonymity	020	.113	115	.102	.194**	.343**	.287**	.145*	.260**	-	
11	Privacy	.327**	.243**	.100	.221**	.359**	.540**	.194**	.120	.239**	.371**	-

Note. EE = Expression and exhibition; ISS = Information seeking and sharing; NTF = Norm trend following \*p < .05. \*\*p < .01. \*\*\*p < .001.

Table 5. Relationships among Personalities, Motives, and Affordances.

Outcor		Effect
Social	interaction	
	Extraversion -> Social interaction	$0.216^{*}$
	Neuroticism -> Social interaction	$0.266^{*}$
	Agreeableness -> Social interaction	-0.001
EE		
	Extraversion-> EE	0.049
	Narcissism -> EE	0.293**
	Openness ->EE	$0.249^{**}$
ISS		
	Conscientiousness -> ISS	$0.153^{\dagger}$
	Openness -> ISS	0.322***
Escapi	sm and relaxation	
	Conscientiousness -> Escapism and relaxation	0.075
	Neuroticism -> Escapism and relaxation	0.456***
NTF	C I I I NAT	0.215**
	Conscientiousness-> NTF	-0.217**
	Openness-> NTF	0.168*
T., C.	Narcissism-> NTF	0.266**
ıntorm	nation richness	0.227*
	Social interaction -> Information richness	-0.227* 0.212**
	EE-> Information richness	0.312**
	ISS -> Information richness	0.388***
	Escapism and relaxation -> Information richness	0.111
	Extraversion -> Information richness	-0.007
	Openness -> Information richness	0.072
	Conscientiousness-> Information richness	-0.012
<b>C</b>	Narcissism->Information richness	0.152
Comm	nunication regulation	0.042
	Social interaction -> Communication regulation	0.043
	EE-> Communication regulation	-0.119
	ISS -> Communication regulation	0.468***
	Extraversion-> Communication regulation	0.207*
	Openness-> Communication regulation	0.223*
Danii e	Social interaction -> Communication regulation EE-> Communication regulation ISS -> Communication regulation Extraversion-> Communication regulation Openness-> Communication regulation Narcissism-> Communication regulation ence ISS -> Persistence NTF -> Persistence	$0.189^{*}$
Persist	ence	
	ISS -> Persistence	0.341**
		0.000
	Conscientiousness-> Persistence	0.120
	Openness-> Persistence	0.128
Netwo	rk association	
	Social interaction -> Network association	0.249**
	ISS -> Network association	$0.152^{\dagger}$
	NTF -> Network association	0.405***
	Extraversion-> Network association	0.017
Anony		
	Escapism and relaxation -> Anonymity	0.063
Privac		
	Social interaction -> Privacy	-0.153
	EE-> Privacy E = Expression and exhibition, ISS = Information seeking and sharing	0.484***

Note. EE = Expression and exhibition. ISS = Information seeking and sharing; NTF = Norm and trend following.  $p < .10 \cdot p < .05 \cdot *p < .01 \cdot *p < .001$ .

Table 6. Direct, Indirect, and Total Effect of Mediation Models

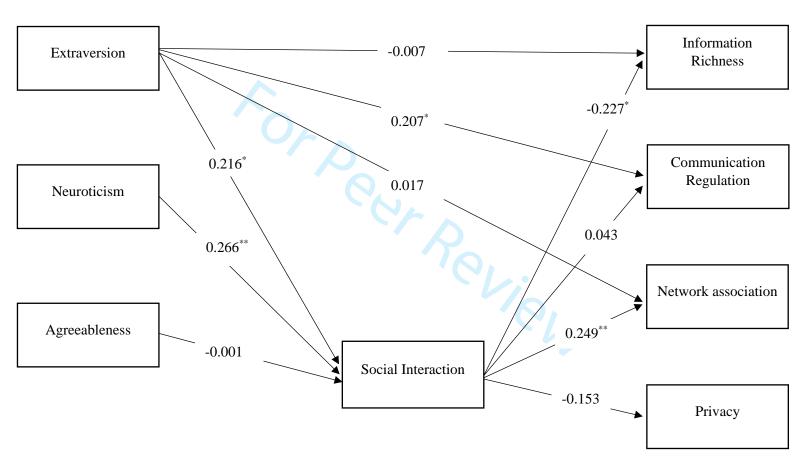
Personality -> Motive -> Affordance	Direct effect	Indirect effect	Total effect	Outcome
Extraversion->EE->Information Richness	0.0897	$0.1037^{*}$	$0.1903^{*}$	Complete mediation
Extraversion->Social Interaction->Information Richness	$0.1626^*$	$0.0286^{*}$	$0.1903^{*}$	Mediation
Extraversion->EE->Communication Regulation	$0.2158^*$	0.0303	$0.2400^{*}$	No mediation
Extraversion->Social Interaction-> Communication Regulation	$0.2245^{*}$	0.0194	$0.2400^{*}$	No mediation
Extraversion->EE->Network Association	0.1141	$0.0874^{*}$	$0.1887^{*}$	Complete mediation
Extraversion->Social Interaction-> Network Association	$0.1307^*$	$0.0680^{*}$	$0.1887^{*}$	Mediation
Openness->ISS->Information Richness	0.0834	$0.1100^{*}$	$0.1861^*$	Complete mediation
Openness->ISS->Persistence	$0.1539^*$	$0.0603^{*}$	$0.2058^{*}$	Mediation
Openness->NTF->Persistence	$0.2015^*$	0.0050	$0.2058^{*}$	No mediation
Conscientiousness-> ISS -> Information richness	-0.0293	0.0125	-0.0182	No mediation
Conscientiousness-> ISS -> Persistence	0.1083	0.0077	0.1145	No mediation
Narcissism->EE->Information Richness	$0.2253^{*}$	$0.0933^*$	$0.3232^{*}$	Mediation
Narcissism->EE-> Communication Regulation	0.1891*	0.0345	0.2190*	No mediation

Relieu

Note. EE = Expression and exhibition. ISS = Information seeking and sharing; NTF = Norm and trend following.

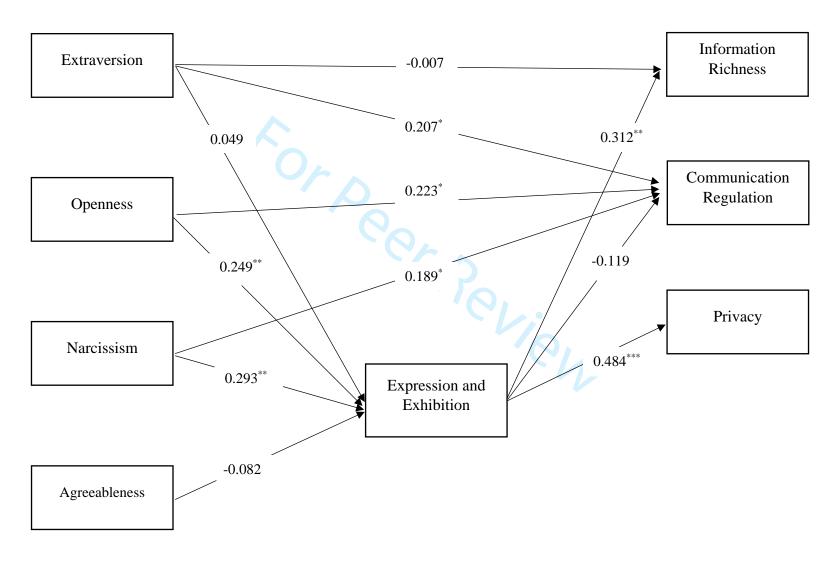
† p < .10. \*p < .05. \*\*p < .01. \*\*\*p < .001.

Figure 1: Structural equation model for Social Interaction Motive.



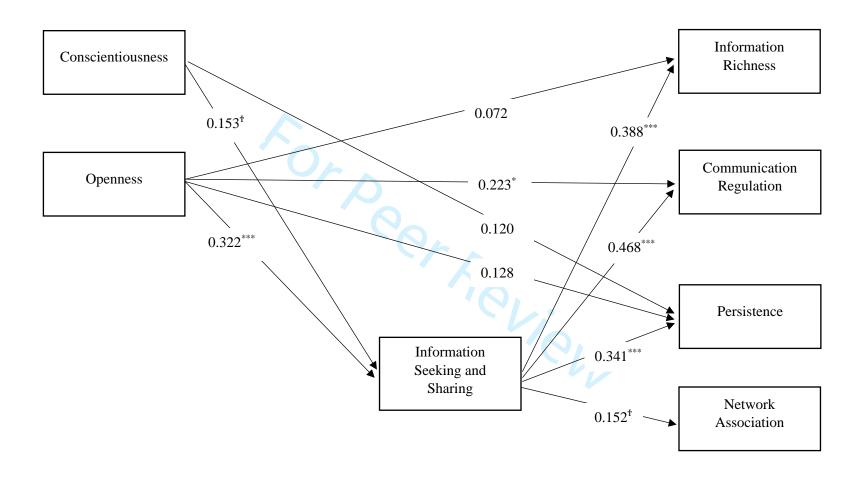
<sup>&</sup>lt;sup>†</sup> p < .10. \*p < .05. \*\*p < .01. \*\*\*p < .001.

Figure 2: Structural equation model for Expression and Exhibition Motive.



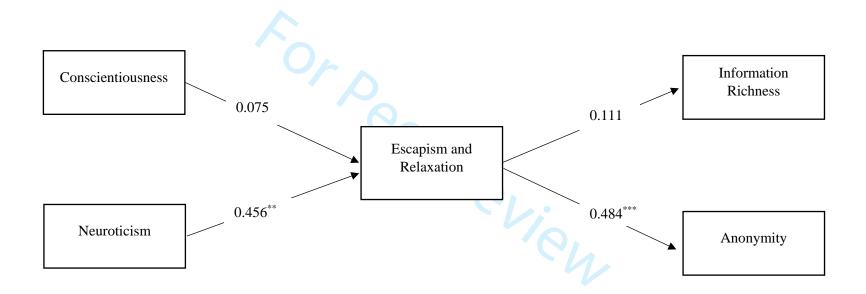
<sup>&</sup>lt;sup>†</sup> p < .10. \*p < .05. \*\*p < .01. \*\*\*p < .001.

Figure 3: Structural equation model for Information Seeking and Sharing Motive.



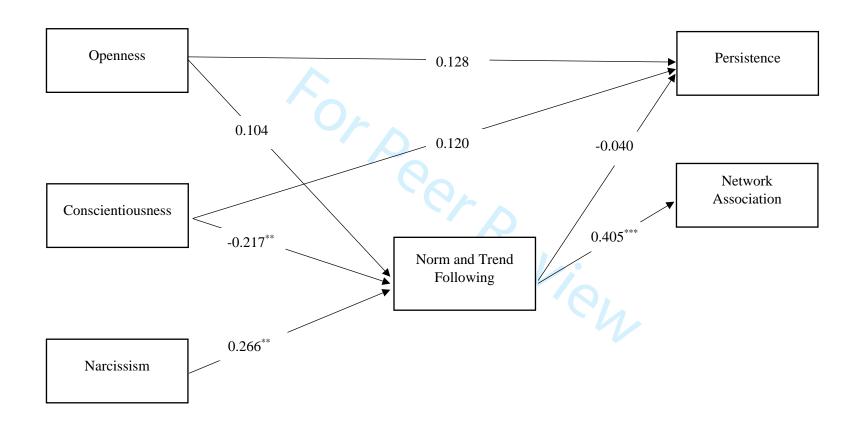
<sup>†</sup> p < .10. \*p < .05. \*\*p < .01. \*\*\*p < .001.

Figure 4: Structural equation model for Escapism and Relaxation Motive.



<sup>†</sup> p < .10. \*p < .05. \*\*p < .01. \*\*\*p < .001

Figure 5: Structural equation model for Norm and Trend Following Motive.



<sup>†</sup> p < .10. \*p < .05. \*\*p < .01. \*\*\*p < .001