


Can Social Networks Improve User Subjective Wellbeing? Role of Passion and Personality Traits

Md. Aftab Uddin, University of Chittagong, Bangladesh

 <https://orcid.org/0000-0002-9101-7451>

Monowar Mahmood, KIMEP University, Kazakhstan

Alexandr Ostrovskiy, KIMEP University, Kazakhstan

Ha Jin Hwang, Sunway University, Malaysia

ABSTRACT

Based on the tenets of the uses and gratifications theory (UGT) of media, this study investigates the impact of information gratifications on the subjective wellbeing of social network users in a central Asian country. Data from 244 adolescents were collected using a convenience sampling method. The study reveals the effect of information gratifications on subjective wellbeing, though this influence appears to be moderated by user habits in terms of passion and obsession toward social network use. Furthermore, personality traits have a significant moderating influence on the relationship between information gratifications and subjective wellbeing. Using the empirical findings, this study offers recommendations to mitigate the negative effects of social networks on users' subjective wellbeing.

KEYWORDS

Information Gratifications, Personality Traits, Social Networks, Subjective Wellbeing, User Habits

INTRODUCTION

Information and communications technologies (ICTs) such as mobile phones, internet, and social networking sites (SNS) are now part of everyday life, and it is unimaginable to live without them (Dhir et al., 2018; Kim et al., 2019; Macrynikola & Miranda, 2019). While the main goal of technological innovations is to improve quality of life and benefits to the society, it is a common belief that SNS make communication easier and induce happiness in human life (Lin et al., 2014; Tomayess et al., 2019; Vakeel & Panigrahi, 2018). However, technologies are abstract objects, and people are the main drivers and users, and therefore, use or misuse of technologies as well as their potential effects depends on the users (Bae, 2018; Liu et al., 2019). Considering the roles of individuals in dealing with SNS in daily life (Chen et al., 2014; Y. Wu et al., 2018), this study investigates the impact of users' information gratifications of social network sites on their subjective wellbeing. Additionally, the study explores the moderating role of personality traits and user habits in the relationship between information gratifications and users' subjective wellbeing.

Earlier research has shown both positive and negative effects of ICTs in different spheres and aspects of human life (Bae, 2018; Gürbüz et al., 2017; Han & Myers, 2018; Josep et al., 2020; Fosso et al., 2016). However, not many of them explored the reasons of those impacts and provided policy

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guidelines to intervene the use and benefits of those inevitable technologies. While users come across various information on SNS, and not all the SNS information could be blamed for negative impact on human life (Han & Myers, 2018; Kayış et al., 2016). The intention of SNS use and search of good information could help the users to improve quality of life and personal wellbeing. In addition to information sources, user habits and personality could play a substantial role in the process of information gratifications and influencing users' sense of subjective wellbeing (Kim et al., 2019; Whaite et al., 2018). Therefore, the study instigated the following research questions to investigate the impact of social network sites on users' subjective wellbeing: (a) *Do information gratifications influence the subjective wellbeing of the SNS users?* (b) *Do user habits and personality traits moderate the information gratification-subjective wellbeing relationship?* The findings of the study will help policy makers to provide guidelines regarding information sources, extent of use and cautiousness related to individuals personality traits for better subjective wellbeing and improved quality of life.

This paper is organised as follows. After a brief introduction, the theoretical background section reveals the basis of the research ideas and justifies the selection of the variables. The third section addresses relevant literature and provides grounds for the hypotheses. The methodology is addressed in the fourth section, including the questionnaire development, sample selection and data collection. The fifth section covers the empirical findings. Finally, section six integrates the results with the theoretical background as well as previous research outcomes, in addition to highlighting the study's implications.

THEORETICAL BACKGROUND OF THE STUDY

The hypotheses of the study are based on the ideas of the uses and gratifications theory (UGT) of media and communication studies (Cantril, 2017; Li et al., 2018). UGT incorporates individuals' socio-psychological needs, such as reasons for using specific media and the selection of content as well as attitudinal and behavioural outcomes of exposure to media content (Katz et al., 1973; LaRose et al., 2001; Ruggiero, 2000; Swanson, 1992). It postulates that users actively employ media in a goal-directed way to satisfy their desire for a wide variety of information, which they expect will fit their purposes (Luo et al., 2018). Information gratifications include users' motives, as well as specific media outlets and the process of accumulating information (Li et al., 2017). As users choose content and information deliberately, they evaluate them with mindful effort, and therefore, the impact of media on individual users should not be considered as a random or isolated effect rather as a pre-planned goal orientation (Gan & Li, 2018; Ruggiero, 2000).

While different people have unique rationales for engaging in the same activity, earlier research has shown that people interact with different media outlets for distinct gratification purposes. Some people use media to obtain specific information, while others engage with them just for fun or leisure (Dhir et al., 2018; Fosso et al., 2019; Macrynika & Miranda, 2019). However, whatever the reason for media exposure and whenever people come across different information, they interact with it either consciously or unconsciously. Users' interactions with information affect their attitudes and behaviour (Swanson, 1992). Information gratifications and their subsequent impact lead to either positive or negative outcomes in user behaviour. Therefore, SNS users' information seeking behaviour is expected to influence their subjective wellbeing. Based on the tenets of UGT, the study assumes that users' intentions to seek out different kinds of information and the consequences of interacting with the information will influence their subjective wellbeing. Therefore, the study further investigates the moderating role of user habits (in terms of passion and obsession toward SNS) and personality traits in relation to subjective wellbeing.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Social Network Gratifications and Subjective Wellbeing

The pervasiveness of the internet and social media enables people to interact with SNS for the purposes of connecting with others, exchanging information and expressing their opinions and feelings (Lin et al., 2018; Liu et al., 2011; Yerasani et al., Tiwari, 2019). People join SNS to develop social connections, to obtain information and to enjoy their time (Chang & Hsu, 2016; C. Wang et al., 2017). However, exposure and information gratifications could affect their attitudes, feelings and behaviour (Bae, 2018; Dhir et al., 2018; Kim et al., 2009; LaRose et al., 2001; Macrynikola & Miranda, 2019; Morrison & Gore, 2010). Earlier research demonstrated that engaging with social networks has an indirect, positive impact on young adults' wellbeing (Chang & Hsu, 2016; Wang et al., 2018).

The positive influence of SNS on wellbeing could be due to the accumulation of diverse information, which subsequently livens users' mood (Clark et al., 2018; Gan & Li, 2018). Earlier research found that the active use of social networks (i.e. remarking on other accounts' reports, messages or pictures) is related to a higher level of subjective wellbeing whereas the passive engagement (i.e. observing other profiles or looking for information about other accounts) is linked to a lower level of self-respect and subjective wellbeing (Fan et al., 2019; Lai et al., 2019; Verduyn et al., 2017). However, Kross et al. (2013) pointed out that sometimes, social networks might reduce users' wellbeing. Surprisingly, Lee et al., (2011) reported no significant correlation between the use of social networks and individual wellbeing. Huang (2017) noticed a weak connection between the time allocated to using social networks and wellbeing. Other authors have shown that the use of social networks and social comparisons may lead to a negative impact and reduce subjective wellbeing (Verduyn et al., 2017). Despite robust proof for reverse interrelations between self-respect and the intensity of use of social networks, it is still not easy to clarify which variables could be treated as causes and which could be as consequences. According to UGT, users engage with SNS to seek specific information, which brings them satisfaction upon gathering it. Hence, the more and diverse information that users find on SNS, the better they will feel about their engagement with SNS. This could ultimately result in higher subjective wellbeing. Therefore, based on the assumptions of the UGT theory and the previous literature review, the study propose the following hypothesis.

H1. Information gratifications from social network sites positively influence users' subjective wellbeing.

The Moderating Role of User Passion and Obsession in Information Gratifications-Wellbeing Relationship

From the UGT perspectives, media users accumulate information based on their personal goals. However, their information gathering activities could be influenced by personal habits and other behavioural aspects. Users' engagement habits in SNS can be explained by the dualistic model of passion which states that passion has two facets: harmonious passion and obsessive passion (Vallerand, 2008; Vallerand et al., 2003; Vallerand et al., 2010). Researchers have found that passion drives motivation, strengthens wellbeing, and adds sense to daily activities (Aziz et al., 2013; Vallerand et al., 2010). Harmonious passion appears when an individual becomes enthusiastically involved in an activity with a certain sense of choice, without any negative concomitant circumstances (Deci & Ryan, 2000). On the other hand, obsessive passion can cause tension with other accomplishments in an individual's life if it takes up too much space in one's personality (Marsh et al., 2013; Vallerand et al., 2003; Vallerand et al., 2010). However, passion can at times provoke negative sensations, leading to uncompromising perseverance, and hinder one from attaining a well-adjusted, prosperous life (Marsh et al., 2013; Vallerand et al., 2003; Vallerand et al., 2010).

Harmonious passion appeared to positively foretell some indicators of wellbeing such as a sense of purpose in life, good feelings, satisfaction with life and viability (Carpentier et al., 2012; Lafrenie`re et al., 2009). In contrast, obsessive passion entails negative sentiments, reflection, disquiet and despair. Moreover, it is negatively linked to life satisfaction and does not subsidise subjective wellbeing, viability or sense of purpose in life (Dhir et al., 2018; Mageau et al., 2005; Philippe et al., 2009). Research evidence found that harmonious passion play a significant role in individual wellbeing and, eventually, lead to a competitive advantage and organizational achievement in the long term (Carpentier et al., 2012; Marsh et al., 2013). Based on the findings of previous research and the essence of UGT, passionate use of SNS will have a positive impact on subjective wellbeing. An obsessive use of SNS will have a negative effect on subjective wellbeing. The study thus propose the following hypotheses:

- H2. A high degree of the passionate use of social media will moderate the relationship between SNS information gratifications and subjective wellbeing.
- H3. A high degree of the obsessive use of social media will moderate the relationship between SNS information gratifications and subjective wellbeing.

The Role of Personality in the Relationship Between SNS and Wellbeing

Personality traits (i.e. the big five: extroversion, openness, neuroticism, conscientiousness and agreeableness) have a profound influence on human behaviour (Pak & Mahmood, 2015; Yerasani et al., 2019). The impact of these traits in SNS information seeking behaviour is quite reasonable (Hawi & Samaha, 2019; Huang, 2019; Kayış et al., 2016). Individuals with demonstrated extroversion and neuroticism appear to use the internet frequently and are more prone to internet addiction (Hardie & Tee, 2007). Similarly, extroverts show more addictive inclinations toward social networking activities (Wang et al., 2018; Wilson et al., 2010). Other researchers also investigated personality as a deliberate factor for forecasting internet usage and found that extroversion, neuroticism and conscientiousness are positively linked to greater internet use. Conscientious traits tend to engage less with Facebook compared to their peers (Ryan & Xenos, 2011). Other findings support the fact that people with a high level of conscientiousness dedicate more time and energy to regular or designated projects and therefore demonstrate less intensity in the use of social networks (McElroy et al., 2007; Moore & McElroy, 2012).

Agreeable individuals tend to be more altruistic, collaborative and disposed to prosocial activities and social networks (Hastings & O'Neill, 2009; Martin-Raugh et al., 2016). However, Collins et al., (2012) stressed that agreeableness is negatively linked to problematic behaviour in online games. Openness propels individuals to become involved in online activities (Jordan et al., 2015) and causes them to take part in different online gaming plots, sustaining the link between gaming plots and gaming pleasure (Wu et al., 2008). Neuroticism has a correlation with online gaming addiction (Jeong & Lee, 2015; Peters & Malesky Jr., 2008) and obsession with the Internet (Charlton & Danforth, 2010; Yao et al., 2014). Other scholars have found a correlation between neuroticism and the inclination toward online gaming (Mehroof & Griffiths, 2010). Hence, based on the above literature review and empirical findings, the study propose the following hypothesis:

- H4. Personality traits such as (a) extroversion, (b) conscientiousness, (c) agreeableness, (d) openness and (e) neuroticism moderates the relationship between SNS information gratifications and subjective wellbeing.

RESEARCH METHODOLOGY

Study Design, Sample and Data Collection Method

The study used a multi-item questionnaire to collect the data from the respondents. Following the logic of Brislin (1970), it employed the back-translation procedure of translating the questionnaire into the native language in order to elicit candid responses from the respondents. Translation-retranslation is continued until no significant differences can be seen between the original instrument and the translated one (Uddin et al., 2018; Uddin et al., 2019). We administered a pilot study to test the feasibility of the measures. Meanwhile, we brought obligatory changes to items based on advice from the experts, professionals and participants in the pilot survey, which ensured the face validity of the measures (Qin et al., 2018). The survey took place in the Central Asian country of Kazakhstan among university students at the graduate and post-graduate levels. We chose to survey young adults because they make up the largest proportion of social media users (Qin et al., 2018).

The study used non-probability convenience sampling method to collect the data from the respondents. As the aim of the research is to assess the impact of social network on adolescents, it purposely targeted the young university students who are supposed to be better acquainted and exposed to different social network sites. A total of 455 questionnaires were distributed among the two leading university students in Almaty, Kazakhstan. These universities are the only English medium instruction in Almaty, Kazakhstan and students of these universities are assumed to be more familiar with English language oriented global social networks. This type of convenience sampling could be considered as an acceptable technique when total population is unknown and the respondents are mostly likely homogeneous in nature (Saunders et al., 2009). Total 252 replies were received and 244 found to be usable for the analysis, leaving out 8 informants' responses, which are affected by un-matched, missing and outlier issues. The study yielded a response rate of 53.38%, which is moderately high considering prior studies in the social sciences (Fan et al., 2019). The higher response is justified by ensuring anonymity and privacy for the respondents. According to Tomaskovic-Devey et al., (1994), any response rate between 30% and 35% is adequate for homogenous data in order to limit the non-response bias.

Participants Profile

Table 1 displays the respondents' demographic profiles. Among the 244 informants, 151 (61.9%) are female and the rest (38.1%) are male. They come from diverse academic backgrounds. Among them, 41 (16.8%) study accounting, 149 (77.9%) are majoring in finance, and the rest (22.2%) are exploring marketing and management. Nearly 70% of the respondents are undergraduates, and the remaining ones are master's students. Respondents ages 18 to 24 dominated the survey (70.5%), and the remaining replies came from informants older than 24. The frequency of social network use rate shows that most people use WhatsApp (5.10 times/day) followed by Instagram (3.87 times/day), VKontakte (3.03 times/day) and Facebook (1.41 times/day). The average frequency of using social network devices is 16.96 times/day.

Measurement Tools

The survey instrument was split into three sections. Section I briefly summarises the study's purpose and describes the measured variables, followed by the procedure to respond to the survey. Notably, we did not include any phenomena that would disclose the respondents' identity, such that they felt no pressure to manipulate the responses. Section II displays demographic profiles showing the respondents' age, major, gender, level of education, and frequency of use of popular social media. Section III lists all the indicator items of measurement, for which we asked the respondents to express an appropriate response to each statement. Each response ranged from 1 (*strongly disagree*) to 6 (*strongly agree*) on a Likert scale. Appendix A shows the questionnaire statements such as social network information seeking, personality traits, passion and obsession, and subjective wellbeing. We

Table 1. Estimates of the demographic variables (N=244)

Variables	Levels	Frequencies	Percentage
Gender	Female	151	61.9
	Male	93	38.1
Major	Accounting	41	16.8
	Finance	149	77.9
	Marketing	37	15.2
	Management	17	7.0
Education	Bachelor student	172	70.5
	Master student	72	28.5
Age (Mean age = 23.17 years)	Less than 25	172	70.5
	More than 25	72	28.5
Social media usage (16.96 times/Day)	Facebook	1.41 times/Day	
	Linkedin	1.14 times/Day	
	Instagram	3.87 times/Day	
	Vkontakte	3.03 times/Day	
	WhatsApp	5.10 times/Day	
	Twitter	1.32 times/Day	
	MySpace	1.10 times/Day	

adopted these items based on ideas of the prior studies such as social network information seeking (Wallace et al., 2017), personality traits (de Vries, 2013; Wallace et al., 2017), passion and obsession (Vallerand et al., 2003) and subjective wellbeing (OECD, 2013).

Response Bias

The common method and response biases are prevalent concerns among social science researchers (Podsakoff et al., 2012; Spector, 2006; Spector & Brannick, 2010). Hence, we took several precautions to curb the intermingling effects of inflated replies. First, the activation of face validity through back-translation allows researchers to accurately gauge respondents' attitudinal proposition about objects (Brislin, 1970; Qin et al., 2018). Second, the authors guarantee that the respondents' confidentiality and anonymity will be ensured, which encourages them to provide genuine answers rather than inaccurate ones to please others (Mahmood et al., 2019). Third, we administered Harman's one-factor test; the estimates revealed that the first factor only explained 18.39%, which is less than 26.16% of the total variance (70.28%) explained by the integrated model. Thus, not a single factor explains more than 50% of the overall variance (Scott & Bruce, 1998; Uddin et al., 2019). Finally, we examined the correlation matrix to find any association exceeding 0.90 between two variables in order to limit the response bias (Pavlou et al., 2007). The highest correlation between any two constructs is 0.369. Thus, there is no concern regarding the method or response bias.

MODEL EVALUATION

The partial least square-based structural equation modelling (PLS-SEM) was used in the study, which replaces simple regression analysis. PLS-SEM is a common statistical application package in

management science research (Uddin et al., 2019) and an integrated regression modelling technique that employs measurement model evaluation via confirmatory factor analysis (CFA) (Chin, 1998), as well as structural model assessment through path estimates (Hair et al., 2017). The supremacy of this process lies in the robustness of the analysis and the accuracy of the estimates and measurement errors (Dediu et al., 2018). The bootstrapping result of 5,000 cases was applied to elicit the path estimates of the structural model via SmartPLS3 (Uddin et al., 2019).

Quality Criteria in the Measurement Model

The internal consistency reliability (via composite reliability), convergent validity and discriminant validity of the constructs were checked using SmartPLS3. The study preferred composite reliability over Cronbach's alpha because the latter estimates reliability based on an inter-item 'correlation where the alpha level is sensitive to the number of replies' (Hair Jr. et al., 2014). A score of more than 0.70 for both composite reliability and Cronbach's alpha is considered acceptable for SEM. Table 2 shows that the minimum scores for composite reliability and Cronbach's alpha are 0.855 and 0.775 for consciousness, which reflect no concern regarding reliability. Convergent validity demonstrates that the minimum average variance extracted is 0.596 (consciousness) which is above the threshold level (>0.50). Thus, these constructs are reliable and valid (Hussain & Endut, 2018a, 2018b). We tested data normality using skewness and kurtosis scores. Shan, Zhao, and Hua (2013) suggest that the data are consistent with a normal distribution if skewness and kurtosis do not exceed 1.70 and 3.00, respectively. Table 2 exhibits neither skewness nor the kurtosis yield score beyond the rule of thumb.

To unearth the distinctiveness of each construct from constructs representing the entire structural model, we ran a separate discriminant validity test. In Table 3, the discriminant validity investigation reports that the square root of the average variance extracted from any construct is higher than its correlation to other constructs (Fornell & Larcker, 1981). Additionally, the estimates of CFA in Table 4 indicate that items representing a construct are highly loaded to them, more so than other constructs (Chin, 1998). None of the items is loaded to another variable except for their own construct.

Quality Criteria in the Structural Model

The study applied multiple criteria to capitalise on the authenticity of the structured model. Particularly, we assessed path estimates (β) along with their significance levels (p-values) and the coefficient of codetermination (R^2). We also tested the goodness of fit index (GFI) and multi-collinearity issues in the structural model. Applying multiple criteria increases the accuracy and robustness of the estimated outcome (Hair Jr et al., 2014). Nevertheless, the Fornell and Larcker (1981) correlation matrix showed no high correlation. A score of the variance inflation factor (VIF) above 3.00 might problematize the structural model's overall predictability (Bock et al., 2005; Hussain & Endut, 2018a; Mahmood et al., 2019). The maximum yielded estimate is 2.135 (<3.00), as in Table 5, and there is no collinearity concern.

The estimates demonstrated that all of the predictor variables (direct effects) significantly influence the outcome variables, except for the impact of extroversion ($\beta=0.003$, $p=0.63$) and neuroticism ($\beta=0.076$, $p=0.149$). Figure 2 indicates path relations (including the moderating influence of moderators whose direct effects are significant), a significance level, and the coefficient of determination in the structural model. We examined the influence on subjective wellbeing after eliminating the insignificant, direct influences of moderator variables. All significant predictors jointly explain a 54.4% change (R^2) in subjective wellbeing, which is above the cut-off value mentioned in Hair Jr et al. (2014) and Cohen (1988).

Furthermore, the goodness of fit (GoF) test was conducted to determine the structural model's overall suitability. GOF is calculated with the square root of the average (AVE) times the average of R^2 (Tenenhaus et al., 2005). Wetzels, Odekerken-Schröder, and Van Oppen (2009) recommend considering the threshold level of Cohen (1988) to assume the effect sizes of 0.10, 0.25 and 0.36 for

Table 2. Quality estimates of the constructs

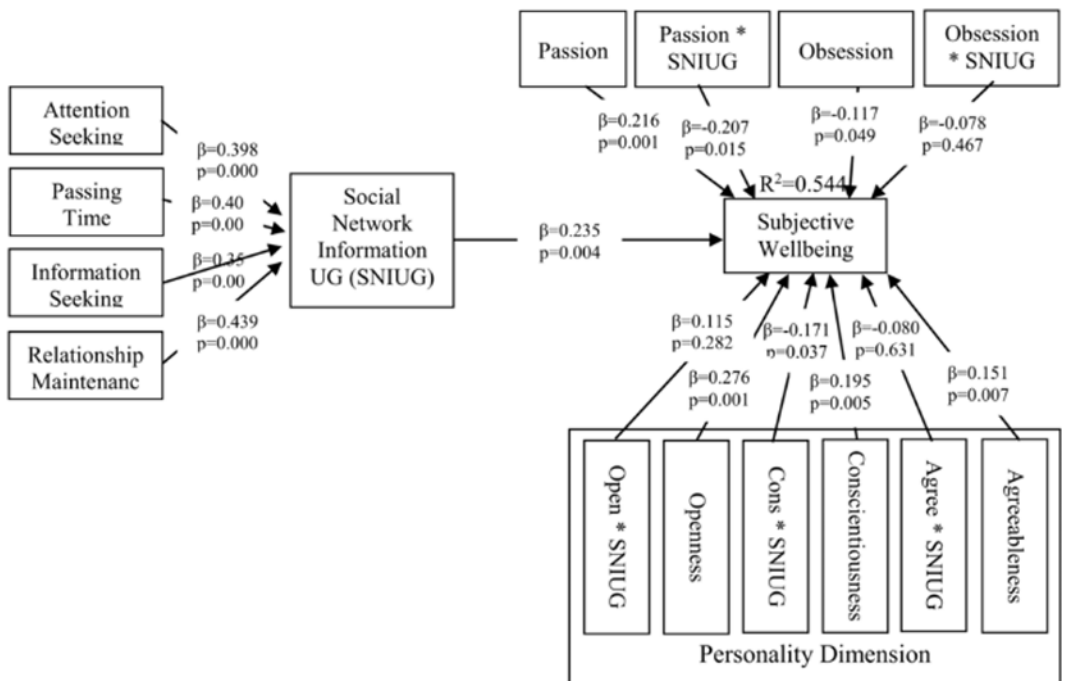
Items	Code	Items Loading	AVE	CR	CA	T-Statistics	Skewness	Kurtosis	R ²
Information seeking	Infos1	0.870	0.758	0.904	0.840	15.464	-1.175	1.317	SNU =1.000
	Infos2	0.898				14.469	-.941	.824	
	Infos3	0.845				16.099	-1.090	1.181	
Attention Seeking	Atts1	0.922	0.862	0.949	0.920	19.607	-.831	.310	
	Atts2	0.938				17.893	-.701	.361	
	Atts3	0.925				23.642	-.858	.468	
Relationship Maintaining	Rels1	0.897	0.788	0.918	0.865	29.257	-.623	.224	
	Rels2	0.904				27.246	-1.018	1.179	
	Rels3	0.862				22.787	-.854	1.183	
Passing Time	Passt1	0.897	0.810	0.927	0.883	15.810	-.816	1.006	
	Passt2	0.908				14.432	-.849	1.001	
	Passt3	0.895				14.199	-.725	1.064	
Passion	Pas1	0.851	0.707	0.923	0.896	8.548	-.917	1.688	N/A
	Pas3	0.830				9.304	-1.015	1.663	
	Pas4	0.818				8.792	-1.133	2.128	
	Pas6	0.858				9.461	-.984	1.633	
	Pas7	0.845				9.556	-1.090	1.993	
Extroversion	Ext1	0.840	0.599	0.856	0.778	5.872	-.821	2.543	N/A
	Ext2	0.734				3.606	-.441	.830	
	Ext3	0.797				5.052	-.718	1.716	
	Ext4	0.718				2.815	-.453	.887	
Consciousness	Con1	0.845	0.596	0.855	0.775	7.854	-.968	2.936	N/A
	Con2	0.725				7.872	-.764	2.129	
	Con3	0.740				6.589	-.649	1.753	
	Con4	0.845				5.683	-.855	2.806	
Agreeableness	Agre1	0.828	0.682	0.896	0.845	9.083	-.635	1.381	N/A
	Agre2	0.846				8.030	-.785	1.542	
	Agre3	0.808				10.100	-.691	1.159	
	Agre4	0.828				8.231	-.938	1.614	
Neuroticism	Neu1	0.737	0.699	0.902	0.874	0.082	-1.283	1.621	N/A
	Neu2	0.888				1.554	-1.139	1.437	
	Neu3	0.904				1.751	-1.297	1.599	
	Neu4	0.805				0.777	-1.098	1.680	
Openness	Ope1	0.818	0.662	0.887	0.830	13.103	-.820	1.506	N/A
	Ope2	0.834				11.966	-1.150	2.214	
	Ope3	0.787				12.963	-.506	.806	
	Ope4	0.815				10.472	-1.027	1.830	
Obsession	Obs1	0.836	0.674	0.892	0.842	6.342	.684	.323	N/A
	Obs4	0.883				4.337	1.076	1.866	
	Obs5	0.794				4.035	.666	.446	
	Obs7	0.765				2.392	.689	.557	
Subjective well-being	Swb1	0.756	0.608	0.861	0.785	15.860	-.680	1.451	0.544
	Swb2	0.788				17.202	-.710	1.565	
	Swb3	0.805				13.670	-.376	.231	
	Swb6	0.768				14.340	-.758	1.799	

the GoF to be small, medium and large, respectively, upon attaining a minimum AVE or a communality of 0.50. Thus, the estimated value is above the cut-off value.

Table 3. Fornell-Larcker Criterion (Correlation Matrix) for Discriminant Validity

Latent Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Agreeableness	0.826											
2. Attention seeking	0.244	0.928										
3. Conscientiousness	0.232	0.206	0.772									
4. Neuroticism	0.055	-0.047	-0.018	0.836								
5. Extroversion	0.206	0.119	0.127	0.051	0.774							
6. Information seeking	0.136	0.149	0.168	0.110	0.139	0.871						
7. Obsession	-0.018	-0.028	-0.021	0.006	-0.098	-0.184	0.821					
8. Openness	0.188	0.175	0.275	0.034	0.325	0.318	-0.211	0.814				
9. Passion	0.150	0.144	0.132	0.062	0.249	0.348	-0.173	0.201	0.841			
10. Passing time	0.265	0.068	0.130	0.005	0.147	0.153	-0.067	0.180	0.219	0.900		
11. Relationship seeking	0.174	0.203	0.129	0.026	0.160	0.323	-0.201	0.209	0.211	0.250	0.888	
12. Subjective wellbeing	0.379	0.348	0.419	0.111	0.271	0.382	-0.260	0.510	0.426	0.293	0.329	0.780

Figure 1. Structural model with path-coefficient of significant direct and moderating effects



Open. Openness, Cons. Conscientiousness, Agree. Agreeableness.

$$GoF = \sqrt{Average AVE * Average R^2} \quad (1)$$

$$GoF = \sqrt{0.704 * 0.544}$$
$$GoF = 0.619$$

Agree. Agreeableness, Atts. Attention seeking, Cons. Conscientiousness, Neuro. Neuroticism, Ext. Extroversion, Infs. Information seeking, Obses. Obsession, Open. Openness, Pass. Passion, Psst. Passing time, Rels. Relationship seeking, SWB. Subjective well-being.

Hypothesis Testing

To test the hypotheses, the study examined the test statistics of the path relations along with their significance levels. The estimates, in Table 6, show that information gratifications significantly influence ($\beta=0.235$, $p=0.004$) subjective wellbeing. In particular, the outcomes demonstrate that social media information gratifications positively affect subjective wellbeing. Therefore, the findings support Hypothesis 1. We used PLS-SEM to investigate the moderating influences of passion, obsession and personality traits on the relationship between information gratifications and subjective wellbeing. Unlike covariate-based SEM, one of the key distinctions of PLS-SEM is its suitability for simultaneously measuring both direct and indirect effects (particularly moderating and mediating effects) (Hair Jr et al., 2014; Howladar et al., 2018). Henceforth, following Lowry and Gaskin (2014) suggestion, we estimated the moderating effects of both user habits and intensity and user personality traits in relation to gratification intention and subjective wellbeing.

Hypothesis 2 proposes that passion moderates the association between user information gratifications and subjective wellbeing. The interaction effect delineates that the moderating effect is significant ($\beta=-0.207$, t -statistics=2.438, $p=0.015$), revealing that the positive influence of social network use tends to decline when passion is high (versus low). Figure 3(a) shows that a high level of passion dampens the positive influence of social network use on subjective wellbeing. Thus, H2 is supported. H3 examines the moderating effect of obsession in terms of the influence of social media use on users' subjective wellbeing. The moderating effect illustrates that the impact is not significant ($\beta=-0.078$, t -statistic=0.729, $p=0.467$). The plotted diagram in 3(b) indicates that the positive influence of social media use on subjective wellbeing is negatively affected due to a high obsession (versus a low obsession). However, the effect is statistically insignificant. Hence, H3 is not supported.

The study further investigated the moderating effect of personality in relation to the positive influence of social media use on subjective wellbeing. Table 6 shows that the influence of two personality dimensions, i.e., extroversion ($\beta=0.003$, t -statistic=0.066, $p=0.63$) and neuroticism ($\beta=0.076$, t -statistic=1.482, $p=0.149$) are not significant. Thus, the moderating variable's impact on the outcome variable does not prevail. H4 (a) and H4 (e) are not supported. H4 (b) proposes that conscientiousness moderates the influence of social media use on subjective wellbeing. The interaction effect is significant ($\beta=-0.171$, t -statistic=2.101, $p=0.004$). We also plotted the test estimates on a graph. Figure 3 reveals that a display of high conscientiousness negatively impacts the positive influence of social media use on subjective wellbeing. Therefore, H4 (b) is supported. H4 (c) highlights the moderating effect of agreeableness on the influence of social media use on subjective wellbeing. The estimates demonstrate no significant influence ($\beta=-0.080$, t -statistic=0.481, $p=0.631$). The plotted diagram in 3(d) reports that the moderating effect of agreeableness negatively (insignificant) impacts the relationship between social media use and subjective wellbeing. Thus, H4 (c) is not supported either. Finally, the moderating effect of openness on the influence of social media use on subjective wellbeing is investigated in H4 (d). The plotted diagram in Figure 3(e) illustrates that a high degree of openness strengthens the positive impact of social media use on subjective wellbeing. However,

Table 4. Factor loading in a confirmatory factor analysis

Items	Agree	Atts	Cons	Emos	Ext	InfS	Obses	Open	Pass	Psst	RelS	SWB
Agr1	0.821	0.212	0.178	0.086	0.205	0.125	-0.021	0.131	0.162	0.209	0.163	0.341
Agr2	0.828	0.171	0.198	0.042	0.114	0.157	0.019	0.110	0.124	0.210	0.064	0.273
Agr3	0.846	0.219	0.177	0.013	0.196	0.122	-0.026	0.208	0.117	0.283	0.168	0.338
Agr4	0.808	0.198	0.219	0.041	0.152	0.044	-0.027	0.167	0.087	0.166	0.169	0.289
AtnS1	0.192	0.922	0.165	0.007	0.101	0.140	0.005	0.127	0.129	0.025	0.160	0.297
AtnS2	0.295	0.938	0.210	-0.075	0.145	0.106	-0.022	0.184	0.145	0.106	0.206	0.337
AtnS3	0.189	0.925	0.197	-0.058	0.084	0.169	-0.058	0.173	0.128	0.055	0.196	0.332
Con1	0.193	0.127	0.774	-0.019	0.122	0.127	-0.037	0.228	0.068	0.126	0.089	0.336
Con2	0.263	0.178	0.845	0.027	0.123	0.102	0.010	0.230	0.155	0.108	0.102	0.392
Con3	0.122	0.146	0.725	-0.099	0.019	0.115	0.006	0.165	0.117	0.077	0.032	0.268
Con4	0.104	0.190	0.740	0.016	0.115	0.191	-0.049	0.220	0.058	0.087	0.177	0.278
Emo1	0.008	-0.092	-0.037	0.737	-0.032	0.105	0.018	0.022	0.048	0.000	0.015	0.007
Emo2	0.073	-0.018	0.029	0.888	0.027	0.096	0.000	0.045	0.031	-0.021	0.053	0.107
Emo3	0.078	-0.035	-0.029	0.904	0.065	0.101	0.001	0.035	0.081	0.036	0.015	0.115
Emo4	-0.059	-0.094	-0.076	0.805	0.047	0.085	0.026	-0.009	0.044	-0.011	-0.021	0.053
Ext1	0.202	0.073	0.124	0.105	0.840	0.134	-0.132	0.252	0.222	0.183	0.164	0.251
Ext2	0.164	0.134	0.133	0.002	0.734	0.112	-0.039	0.276	0.134	0.068	0.121	0.174
Ext3	0.151	0.111	0.138	-0.012	0.797	0.052	-0.043	0.293	0.222	0.112	0.098	0.227
Ext4	0.109	0.055	-0.024	0.052	0.718	0.142	-0.076	0.182	0.176	0.065	0.107	0.169
InfS1	0.100	0.116	0.157	0.104	0.108	0.870	-0.187	0.308	0.277	0.124	0.300	0.376
InfS2	0.148	0.134	0.141	0.131	0.126	0.898	-0.164	0.278	0.297	0.136	0.249	0.346
InfS3	0.107	0.139	0.141	0.051	0.128	0.845	-0.130	0.245	0.335	0.140	0.294	0.276
Obs1	-0.003	-0.009	-0.028	0.023	-0.057	-0.174	0.836	-0.218	-0.079	-0.089	-0.197	-0.217
Obs4	-0.029	-0.062	-0.021	0.036	-0.108	-0.158	0.883	-0.175	-0.213	-0.044	-0.190	-0.283
Obs5	0.035	-0.022	-0.046	-0.047	-0.051	-0.165	0.794	-0.167	-0.145	-0.076	-0.177	-0.150
Obs7	-0.053	0.028	0.031	-0.025	-0.095	-0.105	0.765	-0.123	-0.105	-0.012	-0.073	-0.157
Opn1	0.164	0.170	0.286	0.033	0.239	0.327	-0.136	0.818	0.146	0.127	0.211	0.429
Opn2	0.116	0.165	0.194	-0.013	0.305	0.209	-0.229	0.834	0.133	0.160	0.138	0.432
Opn3	0.125	0.115	0.210	0.080	0.287	0.176	-0.222	0.787	0.201	0.155	0.183	0.408
Opn4	0.212	0.113	0.201	0.013	0.224	0.326	-0.093	0.815	0.180	0.145	0.145	0.389
Pas1	0.140	0.150	0.101	0.022	0.185	0.321	-0.192	0.136	0.851	0.223	0.196	0.422
Pas3	0.108	0.094	0.116	0.012	0.225	0.320	-0.163	0.221	0.830	0.153	0.194	0.333
Pas4	0.146	0.109	0.061	0.117	0.286	0.284	-0.146	0.166	0.818	0.158	0.174	0.337
Pas6	0.132	0.140	0.111	0.119	0.165	0.306	-0.096	0.211	0.858	0.200	0.181	0.336
Pas7	0.102	0.106	0.169	0.001	0.191	0.229	-0.117	0.124	0.845	0.177	0.138	0.346
PasT1	0.219	0.064	0.159	0.023	0.113	0.128	-0.080	0.186	0.207	0.897	0.243	0.256
PasT2	0.281	0.056	0.090	0.011	0.143	0.165	-0.049	0.172	0.212	0.908	0.199	0.271
PasT3	0.216	0.062	0.102	-0.021	0.142	0.120	-0.052	0.128	0.171	0.895	0.232	0.264
RelM1	0.148	0.152	0.084	0.033	0.169	0.316	-0.194	0.218	0.220	0.269	0.897	0.301
RelM2	0.128	0.202	0.121	0.021	0.150	0.311	-0.212	0.185	0.198	0.165	0.904	0.303
RelM3	0.190	0.187	0.140	0.015	0.106	0.230	-0.126	0.151	0.141	0.232	0.862	0.272
SWB1	0.282	0.223	0.267	0.153	0.151	0.313	-0.227	0.379	0.324	0.285	0.262	0.756
SWB2	0.268	0.352	0.320	0.055	0.166	0.233	-0.160	0.340	0.387	0.242	0.244	0.788
SWB3	0.391	0.303	0.397	0.069	0.253	0.311	-0.225	0.414	0.299	0.228	0.285	0.805
SWB6	0.230	0.204	0.315	0.072	0.270	0.334	-0.196	0.456	0.323	0.159	0.231	0.768

the test estimates show no significant influence ($\beta=0.115$, t -statistic=1.078, $p=0.282$). Hence, H4 (d) is not supported either.

Table 5. Multi-Collinearity

Construct	AtnS	InfS	RelM	PasT	Pass	Ext	Cons	Neuro	Agree	Open	Obses	SWB
Tolerance	.838	.750	.835	.847	.784	.847	.806	.973	.802	.688	.894	.468
VIF	1.194	1.333	1.198	1.180	1.276	1.181	1.241	1.027	1.246	1.453	1.118	2.135

Atts. Attention seeking, InfS. Informating seeking, RelM. Relationship maintenance, PasT. Passing time, Pas. Passion, Ext. Extroversion, Cons. Conscientiousness, Neuro. Neuroticism, Agree. Agreeableness, Open. Openness, Obses. Obsession, SWB. Subjective well-being, VIF. Variance inflation factor

Table 6. Result of direct and moderating effects

Hypotheses	Hypothesized Relationships	path coefficient	t-statistics	p value	Results
H1	SNIUG → SWB (Direct effect)	0.235	2.901	0.004	Supported
H2	Passion → SWB	0.216	3.233	0.001	Supported
	Passion * SNIUG → SWB	-0.207	2.438	0.015	
H3	Obsession → SWB	-0.117	1.982	0.049	Not supported
	Obsession * SNIUG → SWB	-0.078	0.729	0.467	
H4a	Extraversion → SWB	0.003	0.066	0.947	Not supported
	Extraversion * SNIUG → SWB	N/A	N/A	N/A	
H4b	Conscientiousness → SWB	0.195	2.819	0.005	Supported
	Conscientiousness * SNIUG → SWB	-0.171	2.101	0.037	
H4c	Agreeableness → SWB	0.151	2.723	0.007	Not supported
	Agreeableness * SNIUG → SWB	-0.080	0.481	0.631	
H4d	Neuroticism → SWB	0.076	1.482	0.140	Not supported
	Neuroticism * SNIUG → SWB	N/A	N/A	N/A	
H4e	Openness → SWB	0.276	3.335	0.001	Not supported
	Openness * SNIUG → SWB	0.115	1.078	0.282	

DISCUSSION AND IMPLICATIONS

The main objective of the study is to assess the influence of information gratifications on the subjective wellbeing of SNS users. Our findings reveal that information gratifications have a significant influence on subjective wellbeing. According to UGT, people deliberately interact with media to gather desired information. As long as they receive it, they feel satisfied with their time and energy spent on SNS sites (Gan & Li, 2018; Malik et al., 2016). Due to the easy access to and availability of SNS sites, people rely on SNS for different purposes. The features and content of SNS are now so diverse and user friendly that in most cases, they fulfil users' expectations in terms of magnitude and usefulness. Based on the literature review, we presume that SNS users mostly engage with SNS sites for four particular reasons (i.e. seeking attention, seeking a relationship, looking for specific information and passing the time). As long as they obtain the desired information or if SNS sites fulfil their expectations, they are happy to continue visiting SNS sites. Our findings are consistent with previous research (Clark et al., 2018; Ha et al., 2015). Ha et al. (2015) found that some kinds of gratifications (such as hedonic ones) improve users' social interactions with acquaintances and lead to pleasant feelings in life. As long as users perceive the information obtained as useful and desirable, they will continue to use SNS sites with enthusiasm (Gan & Li, 2018).

The study examined the moderating role of passion and obsession regarding subjective wellbeing. The results exhibit a negative moderating role for passion in the relationship between information gratifications and subjective wellbeing. However, with a higher level of passion, the influence

Figure 2. Moderating effect of passion

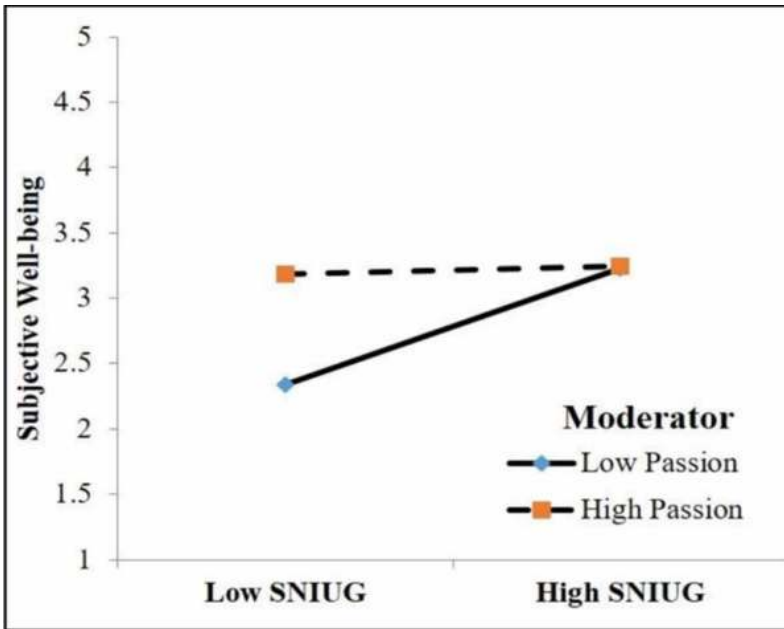
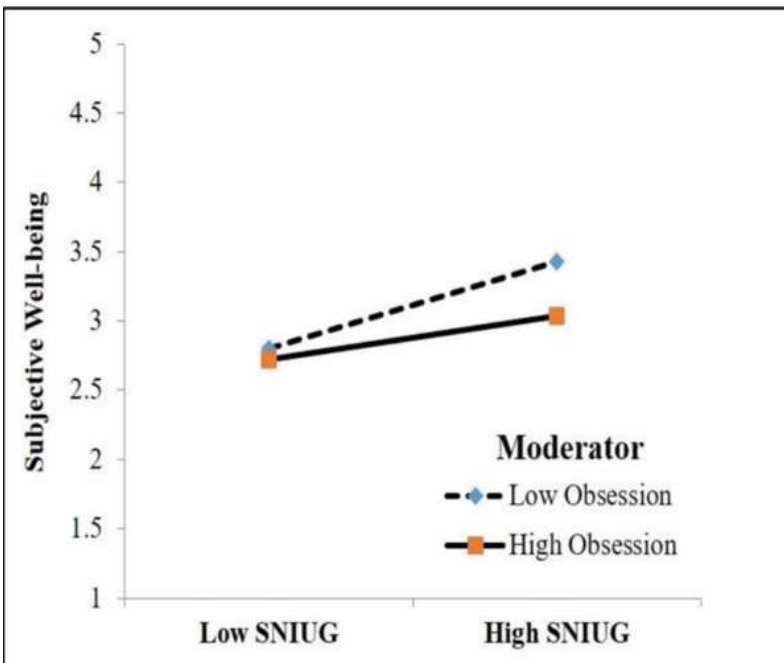


Figure 3. Moderating effect of obsession



of passion appears to decline. Passion might have a buffering effect on the connection between information gratifications and subjective wellbeing (Dhir et al., 2018). As long as users' do not feel tired, they gain a sense of gratification from receiving an increasing amount of information, and feel

Figure 4. Moderator-conscientiousness

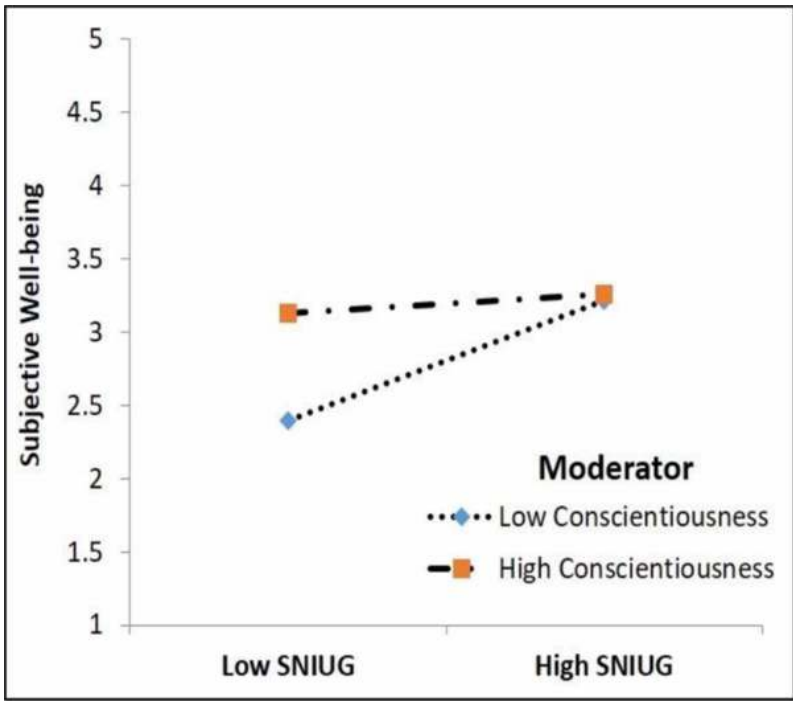


Figure 5. Moderator-Agreeableness

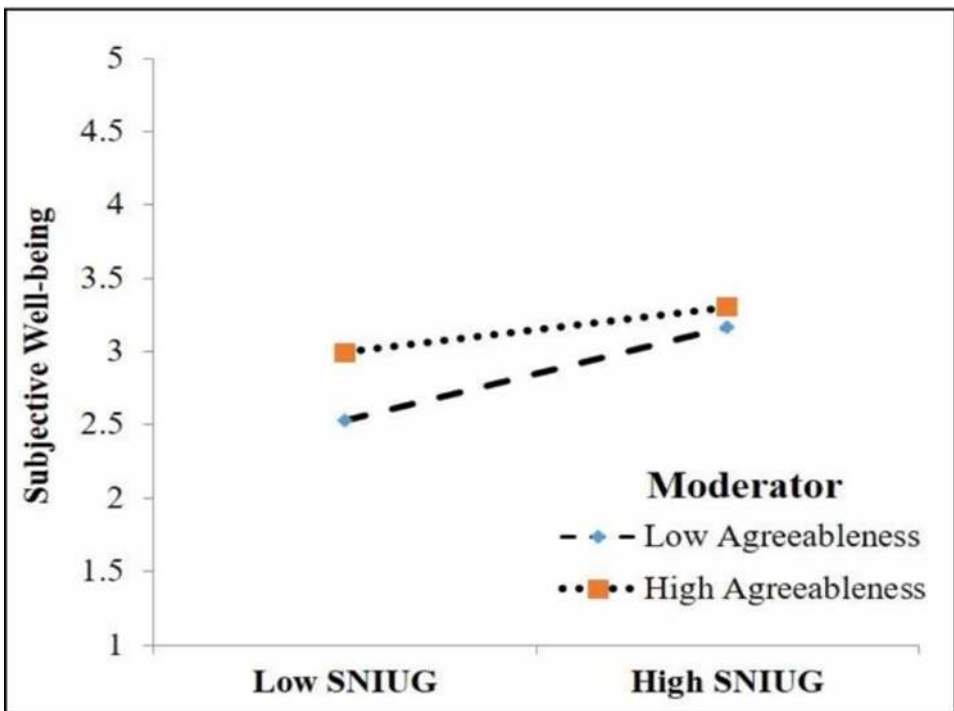
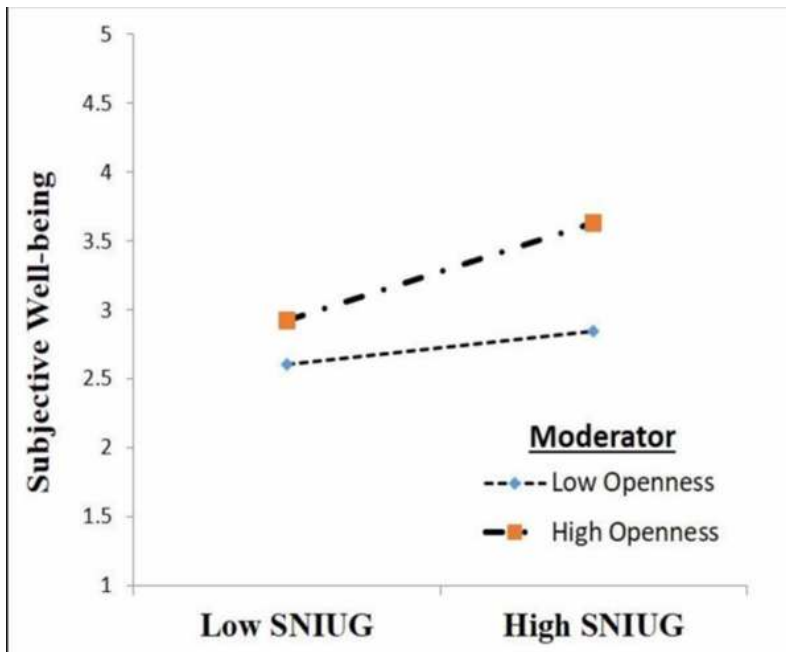


Figure 6. Moderator-Openness



better about their SNS use. After a certain level of fatigue, the use of SNS does not have any effect on users' mood as they became passive consumers of information (Han & Myers, 2018). In the case of obsession with SNS sites, there is no substantial effect on subjective wellbeing. These results contradict previous research in terms of different types of social media and Internet tools. In most cases, obsession with online media and other services has a negative impact on various aspects of people's lives (Macrynika & Miranda, 2019). This may be related to users' perceptions of the overuse and underuse of SNS sites (Han & Myers, 2018). People might consider SNS use as a 'necessary means' rather than an 'unnecessary evil' in daily life. Hence, even the excessive use of SNS does not appear to have a negative impact on users' feelings and does not affect their subjective wellbeing.

Users' personality traits had a moderating role in our study. Among five common personality traits, conscientiousness negatively moderates the relationship between information gratifications and subjective wellbeing. The moderating role of the other four qualities (i.e. openness, agreeableness, extroversion and neuroticism) was insignificant. These findings are consistent with prior results regarding the use of different technology services, social media and networks (Blackwell et al., 2017; Kayış et al., 2016). Narcissism and self-esteem are linked to social media addiction and consequently have a negative impact on users' health (Andreassen et al., 2017; Wang et al., 2018). Sometimes neuroticism develops due to fear of missing out among media users, instigating a higher level of media use and subsequent stress (Blackwell et al., 2017). Openness to new experiences and agreeableness tend to foster more engagement and consumption of political, health and lifestyle news content, and ultimately lead to better feelings and confidence (Jordan et al., 2015; Tov et al., 2016).

CONCLUSION

The finding of the study contribute to the information system and social psychology literature in several ways. First, we found that information gratifications influence subjective wellbeing; this extends the applicability of UGT in studies on subjective wellbeing. Second, we revealed the

moderating effect of passion on subjective wellbeing. This opens avenues for integrating UGT with other psychological hypotheses such as the theory of reasoned behaviour (TRB) or the theory of planned behaviour (TPB) in order to investigate media behaviour and its consequences in people's lives. From a managerial perspective, sometimes the use of SNS is considered counterproductive. Many organisations discourage employees from using SNS in the workplace. The results indicate a positive correlation between SNS information gratifications and subjective wellbeing. Therefore, rather than controlling or banning SNS in the workplace, managers might rethink a reasonable use of SNS to improve employees' wellbeing and happiness at work. The outcomes also demonstrate a buffering effect of passion on SNS information gratifications, which managers would do well to remember. Some sort of restriction in terms of user habits could be considered for the benefit of both employees and companies. Behavioural intention and intensity are also important in the relationship between SNS information gratifications and wellbeing. This suggests that behavioural interventions bring about a positive outcome of the inevitable SNS use of daily life. Based on the nature of businesses and jobs, managers might search for appropriate interventions to maximise the benefits of SNS use among employees (Qin et al., 2018). The study further found evidence of passionate or rational use of SNS for maximizing wellbeing; behavioural interventions thus indicated the benefits of SNS.

However, the study has some limitations which could be overcome in future research. First, we investigated the influence of information gratification through different types of SNS on subjective wellbeing. It assumes that users have a series of interactions in the information gratification process, and various SNS sites have diverse features and content. Future studies should consider the content and features of SNS sites, as well as users' interactions regarding certain aspects of gratification (such as content visualisation) and the impact of SNS features on subjective wellbeing. Second, the study was conducted in one country and one specific group of people, i.e., university students in Kazakhstan. SNS use and gratification may be sensitive to cultural differences, and the same information could be interpreted differently by users because of their personal and cultural backgrounds. Future studies with samples from different countries and different age groups will help to infer more reliable and generalised findings. In addition, the study examined the moderating role of only two variables (i.e. user habits in terms of passion and obsession) and personality traits, but other elements such as age, gender, education, marital status and profession, etc. might also influence the impact of SNS on subjective wellbeing. Future studies should include more biographical and demographic variables, thus providing a more integrated, holistic picture of the link between SNS and subjective wellbeing.

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APPENDIX

Table 7. Survey Instrument - Measurement of the Variables

<i>Social Network - Information Seeking</i>
I use social networks is to know different types of information.
I use social networks to improve my information base.
Through social networks, I try to know what is going on other people and society.
<i>Social network - Attention Seeking</i>
Sometimes, I try to get attention of other people through social networks.
Through social networks, I try to develop a positive impression of me.
I use social networks to indicate my importance to other people.
<i>Social Network - Relationship Maintaining</i>
I use social networks to connect with new people.
Social networks help me to maintain my connections with other people.
I use social networks to improve my relationships with other people.
<i>Social Network -Passing Time</i>
I use social networks to spend time my free time.
I consider use of social networks as my resting time.
I use social networks just to keep my busy in doing something.
<i>Social Network - Passion</i>
Social networks allow me to feel different experiences of life.
Social networks bring new things to me that I do not find in other sources.
Social networks create a variety of good memories for me.
Social networks help me to develop/understand good qualities of life.
Social networks engagement matches with my routine activities.
Social networks use is hobby for me, and I am able to control use of it.
I am happy with my engagement of social networks.
<i>Social Network - Obsession</i>
Sometimes, life without social networks seems to be boring.
It is difficult to imagine life without social networks.
I feel disappointment/frustration without social networks.
I feel emotional and mental dependence on social networks.
I experience difficulties in controlling social networks' usage.
I think, I am using social networks too much.
My mood changes completely because of Social Networks presence or absence.

continued on following page

Table 7. Continued

<i>Personality - Extraversion</i>
I like to have many friends and like to talk with others.
I can talk to strangers and make friendship very easily.
People do not like to engage long conversation with me. (reverse)
I can concentrate on any single object/item/topic for a long time. (reverse)
<i>Personality – Neuroticism</i>
I am scare of feeling stress.
In difficult situation, I feel less nervous than my friends. (reverse)
While watching or enjoying sad or romantic movies, I cannot control my emotions.
I can control my emotions or bad behaviour even when someone treats me badly. (reverse)
<i>Personality - Openness to Experience</i>
I like people with creative and new ideas.
I postpone complicated tasks as long as possible. (reverse)
I often express criticism without considering the consequences.
I am not a big fan of scientific experiments. (reverse)
<i>Personality – Agreeableness</i>
I have better imagination than my friends.
Compared to others, I am a bit more perfectionist. (reverse)
Normally I quickly agree with others without asking many questions.
I expect special respects from my friends and family members. (reverse)
<i>Personality – Conscientiousness</i>
I always try to be well organized.
I can easily overcome difficulties on my own without others help.
Most of the time, I act like as a serious person. (reverse)
Sometimes I make decisions without much thinking. (reverse)
Subjective Well Being
Overall life experience/expectation
Your physical health
Your psychological/mental well-being
Your personal relationships
Your financial condition
Your academic achievement/result

Md. Aftab Uddin is an Associate Professor in the Department of Human Resource Management, University of Chittagong, Bangladesh 4331. He does research on corporate greenization, creative engagement, innovative behavior, intelligence, leadership, proactive behavior, positive psychology, and social networking which were published in Bangladesh, Brazil, Canada, China, India, Iran, Japan, Malaysia, Thailand, Pakistan, South Korea, Switzerland, United Arab Emirates, and United Kingdom. He published more than 60 research papers.

Monowar Mahmood is a Professor of Management, Bang College of Business, KIMEP University, Almaty, Kazakhstan. He obtained his MBA from Saint Mary's University, Canada; MA from University of Leeds, UK, and PhD from University of Manchester, UK. Professor Mahmood has published on corporate governance, corporate social responsibility, human resource management and gender and equal employment policies. Monowar Mahmood is the corresponding author.

Alexandr Ostrovskiy is an Assistant Professor of Marketing at Bang College of Business, KIMEP University, Almaty, Kazakhstan. He obtained MBA and DBA in Marketing from KIMEP University, Kazakhstan. Dr. Ostrovskiy published on sales and marketing management, sales force training, and consumer behaviour related issues.

Ha Jin Hwang received MBA (1986) and DBA (1990) from Mississippi State University, U.S.A. He is currently Head and Professor at Department of Business Analytics, Sunway University Business School, Sunway University, Malaysia. Dr. Hwang taught at Minnesota State University (1989-1991), Mankato, Minnesota, U.S.A., Catholic University of Daegu (1991-2010), Korea, and KIMEP University, Kazakhstan (2010-2016). He served as President of Korea Association of Information Systems (2005) and President of Korea Internet Electronic Commerce Association (2008). He also served as Program Co-Chair for IEEE/SNPD International Conference (2018), Publicity Chair for IEEE/ACIS International Conference (2008), Portland, U.S.A., and Conference Chair for KAIS International Conference (2005), Daegu, Korea. Dr. Hwang's research interests include Internet of Things, U-Healthcare systems, Social Media Analytics, Intelligent Supply Chain Management Systems.