Social media use and well-being: Exploring the role of use motivations

Jino Rhoe

Tilburg University

Abstract

This study aims to explore the relationship between frequency of social media use and well-being. We will contribute to the current body of knowledge by incorporating motivations for social media use as a moderator between social media use and well-being. Specifically, we will use motivations based on uses and gratifications theory. A literature review revealed seven common motivations for social media use: social interaction, information seeking, pass time, entertainment, relaxation, communicatory utility and convenience utility. Data were collected via an online questionnaire which was distributed on various social media platforms. 194 participants filled out the survey with regards to their frequency of social media use, their motivations for social media use and subjective well-being. The results indicated no significant correlation between frequency of social media use and well-being and no moderating effect of use motivations. By highlighting how use motivations moderate the relationship between frequency of social media use and well-being, this work provides a foundation for research on the consequences of social media use on well-being.

Keywords: Social media, use motivations, well-being, uses and gratifications theory.

Social media sites have an immense number of users. Facebook alone, had a staggering amount of 2,50 billion active users as of December 2019 and this number is still rising **(**Facebook Reports, 2019**).** The introduction of the site in 2004 was an instant hit. Soon, more social media sites followed. YouTube launched in 2005, and as of now has reached more than 2 billion active users. The founders of Twitter launched their site in 2006 which has now over 300 million active users. These giants, and more of them, have made an impact on how we spend our time online. They allow us to meet people all over the world, to share our latest achievements with everyone and to express ourselves in whatever way we want. Researchers have yet to investigate the effect it has on our lives and what it does with our well-being. This study aims to explore that relationship between social media use and well-being. We will enhance the current body of knowledge by investigating the moderating effect of use motivations in this relationship.

Social media are defined as 'interactive computer-mediated technologies that allow its users to share and create user generated content via virtual communities (Obar & Wildman, 2015). Currently there exists a vast array of social media sites, which all vary in their use and functionality. Some sites are used to share videos and photos such as YouTube, Instagram and Flickr. Other sites are used as weblogs such as Twitter and some are everything combined, such as Facebook. Social media sites are inexpensive and, more often than not, free to use. Individuals use it to find information, watch television shows, search for entertainment and seek romantic partners (Park, Kee & Valenzuela, 2009).

The current body of knowledge with regards to the relationship between social media use and well-being is comprised of many mixed results. On the one hand, Researchers have

found negative effects of social media use on well-being. On the other hand, there are also studies that link social media use with improved well-being.

Shakya and Christakis (2017) found a negative correlation between Facebook use and well-being. In this longitudinal study which was comprised of 5208 subjects, they investigated the association of Facebook activity, self-reported life satisfaction and mental health. They found that overall, the use of Facebook was negatively correlated with well-being. Another study used an experience sampling method in which participants received a text message five times a day for two weeks to examine how Facebook influences well-being. They found that the use of Facebook may undermine well-being (Kross et al., 2013). Researchers have also suggested that social media use is associated with depressive symptoms among adolescents (Pantic et al., 2012) and adults (McDougall et al., 2016).

Researchers on social media use have also looked at factors that are related to well-being, such as anxiety and self-esteem. For example, Primack et al. (2017) have found that people that are active on seven or more social media platforms are more than three times as likely to report having high levels of general anxiety symptoms as people that use 0-2 platforms. De Vries & Kühne (2015), found that using Facebook is related to more negative social comparison and that this is related to more negative self-perception. In a study conducted in 2016, Wang, Fang & Haigh (2016) suggested that people have a lowered self-esteem when looking at others' selfies, mainly because they will compare themselves with people that seem to be at their happiest.

Next to these studies finding negative relationships between well-being and the use of social media, there is also existing research that found positive effects of social media use on well-being. Bonetti, campbell, & Gilmore (2010) conducted a study with 626 participants in which they collected data with regards to loneliness, social anxiety and online

communication. They found that lonely and socially anxious adolescent may be encouraged by online communication to engage in self-disclosure with others, which in turn enhances their sense of belonging. Another study, performed by Ellison, Steinfeld & Lampe (2007), found evidence for positive effects of social media use. They found that students reporting low on satisfaction and low self-esteem appeared to gain social capital if they used Facebook more intensely, suggesting that the affordances provided by Facebook might be especially helpful for these students. A recent study performed by Bekalu, McCloud & Viswanath (2019) surveyed 1027 participants on their social media use and well-being. They found that routine social media use is positively correlated with social well-being, positive mental health and self-rated health.

While studies on the relationship between social media use and well-being is highly available in the literature, the moderating effect that use motivations might have in this relationship has not been studied extensively. We have reasons to believe that use motivations are an important factor in the relationship between social media use and well-being. Research on motivation has indicated that individuals showing certain types of motivation report different levels of subjective well-being (Deci & Ryan, 1991). Studies have also shown that individuals have different motivations for using social media (Whiting & Williams, 2013). Therefore, our aim is to expand the current body of literature by adding use motivations as a moderating variable.

Within the literature there are three main theories of motivations that are primarily used. Maslow's hierarchy of needs (Maslow, 1943), Deci & Ryan's Self-determination theory (Deci & Ryan, 1985) and Herzberg's two factor theory (Herzberg, 1959). In this study, we decided to place an emphasis on Deci & Ryan's SDT. The reason for this is that they aimed

at understanding motivation within a social context and lays its focus on intrinsic and extrinsic motivation.

Maslow's hierarchy of needs theory assumes that people have 5 basic needs. These needs are hierarchical in that needs lower in the hierarchy must be satisfied before individuals can attend to needs higher up. The 5 basic needs are: psychological needs, safety needs, love and belonging, esteem, and self-actualization (Maslow, 1943). Herzberg's two factor theory has been developed within a work setting and states that people are motivated two work with accordance of two factors, motivation and hygiene (Herzberg, 1959). These factors are in turn, posited to increase job satisfaction. Deci & Ryan's Self-determination theory has been studied as early as the 1970's but received its definite name in 1985. In SDT, Deci & Ryan distinguish two types of motivation. On the one hand we have intrinsic motivation, which is the natural, inner drive individuals have to seek out challenges and possibilities. On the other hand, there is extrinsic motivation, which is motivation not inherent, but that comes from outside sources. So, intrinsic motivation involves doing something without any obvious external rewards and extrinsic motivation involves doing something because you want to earn a reward or avoid punishment.

Research on the comparison of task performed with intrinsic motivation and extrinsic motivation shows that the former, relative to the latter, show more excitement, interest confidence in their task. This, in turn, manifests itself as more creativity, better performance, and subsequently higher subjective well-being (Deci & Ryan, 1991; Ryan, Deci & Grolnick, 1995). Following these lines of research, we expect that use motivations play a role in the relationship between social media use and well-being. Therefore, this research aims to incorporate the moderating effect of use motivation in this association.

To incorporate intrinsic and extrinsic motivation into our study, we will take a look at motivations identified with uses and gratifications theory (UGT). The reason for using UGT is because motivations identified with this theory might also be relevant with regards to intrinsic and extrinsic motivation. For example, a motivation for social media use that is often identified with UGT is called social interaction (Ezumah, 2013; Park, kee & Valenzuela, 2009). Baumeister & Leary (1995) and Tomasello (2009) proposed that humans engaging in social interaction are intrinsically motivated to do so. It turns out, evidence has been found for this proposal in neuroeconomic studies in which they found reward-related brain activity during social interactions (Rilling & Sanfey, 2011). Another motivation for social media use often identified in research with UGT is called relaxation (Whiting & Williams, 2013). In their research, Whiting & Williams (2013) found that participants report using social media because 'it is an escape from reality' and 'it takes my mind of things'. These statements are related to intrinsic motivation. Research has also found decreased activity in brain regions that trigger emotional responses such as anger and fear during relaxation (Lazar et al., 2000).

UGT is an approach in which researchers try to understand how and why individuals use and seek out specific media to satisfy their needs (Katz & Foulkes, 1962). The theory considered a perspective in which it is assumed that different people can use the same mass medium for different purposes (Severin and Tankard, 1997). Katz, Blumler and Gurevitch (1994) state that it assumes that media users are goal-directed in their behavior and are active in their use. On top of this, it assumes that these users are aware of their needs and select the right platform to gratify this need. Therefore, this theory implies that different media platforms are competing against another for users' gratification (Katz, Blumler & Gurevitch, 1973-1974). To summarize, the driving question of UGT is: Why do people use media and what do they use them for? UGT has specific relevance to the use of social media, but it has

not been used widely in its literature. Therefore, this paper seeks to incorporate use motivations as a moderating factor.

In order to distinguish between various motivations for using social media based on UGT, we have taken a look at the existing body of literature. In their article, Whiting and Williams (2013) identified seven motivations using UGT. These motivations are based on Palmgreen and Rayburn (1979), Korgaonkar and Wolin (1999), Papacharissi and Rubin (2000) and Ko et al. (2005)'s research. Whiting and Williams (2013) used these studies for several reasons. Palmgreen and Rayburn (1979) were selected because they were the first researchers to look at both uses and gratifications simultaneously. Additionally, their study is also selected because many previous studies have used their scale before. The other three studies were selected because these all looked at uses and gratifications with regards to internet usage. The motivations for social media use Whiting & Williams (2013) found are: Social interaction, information seeking, pass time, entertainment, relaxation, communicatory utility, and convenience utility. They will be elaborated further in the next paragraphs.

The first motivation identified is social interaction. This motivation is defined as using social media to communicate and interact with others. It is based on Ko et al.'s (2005) research on frequency of use and social interaction motivation. The other researchers stated above also had constructs that are related to social interaction such as social motivation, companionship, and interpersonal utility. Whiting and Williams (2013) combined these constructs into one motivation called social interaction. We expect that social media users who score higher on this motivation will also have high levels of subjective well-being. With this expectation, we follow Baumeister & Leary's (1995) and Tomasello's (2009) proposal

that humans engaging in social interaction are intrinsically motivated to do so, for which researchers have found evidence (Rilling & Sanfey, 2011).

The second motivation identified is called information seeking. This motivation is based on Papacharissi and Rubin's (2000) research on internet use and information seeking. It is defined as the use of social media for information seeking and self-education. Korgaonkar and Wolin (1999) had a similar construct in their research called information motivation which they defined in the same way. This motivation includes both information seeking and self-education. Whiting & Williams (2013) reported in their study that participants use social media to find information about sales, deals, events, birthdays and businesses. They also reported using social media to get how-to-instructions, and to learn new things. Studies have indicated a positive correlation between motivation to learn and well-being (Van Petegem et al., 2008). Therefore, we expect that social media users who score high on information seeking will score high on well-being.

The third motivation is identified as pass time. This motivation is defined as using social media to occupy time and relieve boredom. It is based on Palmgreen and Rayburn's (1979) research on television viewing in which they used the uses and gratifications theory. Pass time as a motivation was also used in Papacharrisi and Rubin's (2000) research. They used scales where they incorporated statements that tap into the same domain as the pass time used in this research. We expect that users motivated to use social media to pass time score lower on well-being. Boredom is commonly associated with low motivation, negative emotions and mental illness (Ahmed, 1990; Farmer & Sundberg, 1986)

The fourth motivation identified is called entertainment. This motivation is based on Papacharissi and Rubin's (2000) and Palmgreen and Rayburn's (1979) Research. They both used entertainment as a dimension in their scale. It is defined as using social media to provide enjoyment and entertainment. Korgaonkar and Wolin (1999) used a dimension called

escapism which they defined as pleasurable, fun and enjoyable, which is related to our entertainment motivation. In Whiting & William's (2013) study, participants reported using social media because 'reading comments and stuff makes me laugh' and 'watching how people display themselves on Facebook provides entertainment to me'. Therefore, we expect that this motivation is positively correlated with well-being. However, it is important to note that researchers have found that there might be a relationship between loneliness and using social media for entertainment and that this entertainment could be a substitute for engaging in face-to-face interactions (Whitty & McLaughlin 2007).

The next motivation identified is called Relaxation. Both Palmgreen and Rayburn (1979) and korgaonkar and Wolin (1999) used relaxation as one of their dimensions. It is defined as using social media to relieve day-to-day stress. Whiting & Williams (2013) stated in their research that participants used social media for relaxation because 'it is an escape from reality' and 'it takes my mind of things'. To make our expectations, we have looked at studies on the topic of stress and well-being. It turns out, research shows that stress is detrimental for humans in terms of mental health and physical illness (Adler & Matthews, 1994; Coyne & Downey, 1991). Therefore, we expect that relieving stress with the help of social media will have a positive correlation with well-being.

The next motivation is called communicatory utility. This motivation is defined as using social media to provide yourself with information to share with others and communication facilitation. It is based on Palmgreen and Rayburn's (1979) research. Korgaonkar and Wolin (1999) used a category in their research called socialization motivation which is related to this motivation. It is different from social interaction because it facilitates communication instead of providing social interaction. Respondents in Whiting and William's (2013) study reported using social media because 'it gives me something to talk about with friends' and 'Facebook provides me with things to gossip about'.

Unfortunately, research has not been extensive with regards to this motivation and possible correlations with well-being. Therefore, we do not have expectations with regards to this association

The final motivation identified is called convenience utility. It is defined as using social media to provide convenience or usefulness to individuals. Both Papacharrisi and Rubin (2000) and Ko et al. (2005) used some form of convenience in their scales. They called this category convenience for internet uses and convenience motivation, respectively. Unfortunately, we have not been able to find research on the possible association with convenience utility and well-being. Therefore, we have not made any prediction with regards to this association.

Methods

Participants

Participants were recruited through various social media platforms such as Facebook and WhatsApp. Out of 326 participants that started the survey, a total of 194 completed it (M_{age} = 29.5, 36% male).

Design

This study aimed to examine the association between frequency of social media use and well-being, incorporating use motivations as a moderator. Therefore, we have used a correlational design. Participants had to fill out a questionnaire which was created using Qualtrics. The questionnaire started with a question asking about their frequency of social media use, which was followed by statements regarding their use motivations and finished with a measure of well-being.

Measurements

Frequency of use was measured using one question. Participants were asked to indicate how often they used any social media platform on a 7-point Likert scale ranging from 1 = once a month to 7 = several times a day.

The motivations for social media use were measured using two items for each motivation separately. Each item was derived from Palmgreen and Rayburn's (1979), Ko et al.'s (2005), Papacharissi and Rubin's (2000) or Korgaonkar and Wolin's (1999) research based on uses and gratifications theory. Social interaction was measured using the statements 'I use social media to meet people with my interest' and 'I use social media to keep up with what is going on'. The correlation between these items is $r(194) = .218$, $p = .002$. Information seeking was measured using the statements 'I use social media to seek out information' and 'I use social media to self-educate', which correlate $r(194) = .557$, $p = .000$. Pass time was measured using the statements 'I use social media when I have nothing better to do' and 'I use social media to occupy my time'. The correlation between these statements is $r(194) = .643$, $p = .000$. Entertainment was measured using 'I use social media for the enjoyment of it' and 'I use social media because it is my source of entertainment', which correlate $r(194) = .595$, $p = .000$. Relaxation was measured using the statements 'I use social media to relieve day-to-day stress' and 'I use social media for relaxation'. The correlation between these statements is $r(194) = .545$, $p = .000$. Communicatory utility was measured using 'I use social media to provide myself with information I can later share with others' and 'I use social media because it gives me something to talk about with friends', which correlate $r(194) = .415$, $p = .000$. The final motivation, convenience utility, was measured using 'I use social media because of the ability to communicate with a lot of people at one time' and 'I use social media because it is readily available'. The correlation between these statements is $r(194) = .284$, $p = .000$

Well-being was measured using the Satisfaction with life scale (SWLS) constructed by Diener et al. (1985). It is a 5-item scale designed to measure to what extend subjects are satisfied with their life. Participants had to indicate to what degree they agreed with the statements on a 7-point Likert scale ranging from 7 = strongly agree to 1 = strongly disagree. The first statement was 'In most ways my life is close to my ideal'. The second statement was 'The conditions of my life are excellent'. The third statement was 'I am satisfied with my life'. The fourth statement was 'So far I have gotten the important things I want in life'. The final statement was 'If I could live my life over, I would change almost nothing'. Internal reliability of the 5-item satisfaction with life scale was investigated using Cronbach's alpha. The results indicated that the alpha for the total scale was equal to .839.

Results

Zero-order correlations

Table 1 presents the zero-order correlations between all the variables. Results of the Pearson correlation indicated that all the motivations are positively correlated at a $p < .01$ level. Frequency of use was not significantly associated with life satisfaction, $r(194) = -.001$, $p = .993$. The results of the Pearson correlation indicated no correlation between the motivations and SWLS. The results did show a significant correlation between frequency of use and the motivations.

Hierarchical regression analyses

We performed seven hierarchical regression analyses. One for each motivation separately and are all treated separately in the following paragraphs. The general procedure for each of the analyses was as followed. In step 1, we entered frequency of use and one of the seven use motivations as predictors of well-being. The predictors were all centered. In

step 2 we added the interaction term between the predictors. The results of the hierarchical regression analyses are summarized in table 2.

Table 1.
Zero-order correlation and descriptives

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.
1 Freq									
2 So_In	.434**								
3 In_Se	.374**	.416**							
4 Pa_Ti	.404**	.372**	.249**						
5 Ent	.542**	.502**	.415**	.582**					
6 Rel	.444**	.438**	.396**	.534**	.638**				
7 Co_Ut	.357**	.493**	.534**	.317**	.427**	.378**			
8. Con_Ut	.557**	.534**	.438**	.369**	.567**	.409**	.405**		
9 SWLS	-.001	-.031	.078	.078	.007	.012	.034	.060	
Mean	5.49	3.24	3.13	3.83	3.72	3.19	3.02	3.61	3.00
SD	1.18	.92	1.08	1.06	1.03	1.08	1.01	.95	1.11

*** P < .01*
Freq = frequency of use, So_In = social interaction, In_Se = information seeking, Pa_Ti = Pass time, Ent = entertainment, Rel = relaxation, Co_Ut = communicatory utility, Con_Ut = convenience utility .

Table 2
Regression analysis using frequency of use and use motivations as predictors of well-being

	Step 1			Step 2	
Predictor	*β*	SE	Predictor	*β*	SE
Freq	.010	.078		.094	.104
So_In	-.035	.097		-.031	.097
			Freq*So_In	.121	.072
Freq	-.036	.075		.033	.098
In_Se	0.90	.081		.091	.081
			Freq*In_Se	.104	.064
Freq	-.046	.078		-.037	.107
Pa_Ti	.098	.083		.097	.083
			Freq*Pa_Ti	.012	.069
Freq	-.011	.083		-.030	.125
Ent	.013	.093		.014	.094
			Freq*Ent	-.023	.069

(continued)

(continued)					
Freq	-.012	.078		.004	.108
Rel	.017	.083		.016	.083
			Freq*Rel	.021	.070
Freq	-.018	.075		.040	.100
Co_Ut	.040	.086		.037	.086
			Freq*Co_Ut	.084	.071
Freq	-.053	.084		-.009	.123
Con_Ut	.089	.103		.091	.103
			Freq*Con_Ut	.057	.068

*Freq = frequency of use, So_In = social interaction, In_Se = information seeking, Pa_Ti = Pass time, Ent = entertainment, Rel = relaxation, Co_Ut = communicatory utility, Con_Ut = convenience utility . ** indicates p <.01*

Social Interaction

In step 1, we entered frequency of use and social interaction as predictors of SLWS. This model explained 0% of the variance. Adjusted R^2 = .000, $F(2,191) = .098$, $p = .906$. Frequency of use was not significantly related to well-being ($\beta = .10$, $p = .896$) such as social interaction ($\beta = -.035$, $p = .661$). In step 2, we added the interaction of frequency of use and social interaction into the equation. This explained 0% of the variance, adjusted $R^2 = .000$, $F(1,190) = 1.401$, $p = .238$. The interaction term was not significant ($\beta = .121$, $p = .238$). The model in total, with the three variables included, was not significant. ($F(3,190) = .533$, $p = .660$)

Information seeking

In step 1, we entered frequency of use and information seeking as predictors of SWLS, which explained 0% of the variance. Adjusted $R^2 = .000$, $F(2,191) = .691$, $p = .502$. The results indicated no significant relation between frequency of use and well-being ($\beta = -.036$, $p = .640$) such as information seeking ($\beta = .090$, $p = .242$). In step 2, we added the interaction of frequency of use and information seeking, which explained 0% of the variance,

adjusted R^2 = 0.000, F(1,190) = 1.147, p = .285. The interaction term was not significant (β = .091, p = .236). The model in total, with the three variables included, was not significant. (F(3,190) = .844, p = .472)

Pass time

In step 1, we entered frequency of use and pass time as predictors of SWLS. This explained 0% of the variance. Adjusted R^2 = .000, F(2,191) = .754, p = .472. Frequency of use was not significantly related to well-being (β = -.046, p = .567) such as pass time (β = .098, p = .221). In step 2, we added the interaction of frequency of use and pass time. This explained 0% of the variance, R^2 = 0.000, F(1,190) = 0.014, p = .906. The interaction term was not significant (β = .012, p = .906). The model in total, with the three variables included, was not significant. (F(3,190) = .505, p = .679)

Entertainment

In step 1, We entered frequency of use and entertainment as predictors of SLWS. This explained 0% of the variance, Adjusted R^2 = .000, F(2,191) = .013, p = .987. Frequency of use was not significantly related to well-being (β = -.011, p = .896) such as entertainment (β = .013, p = .883). In step 2, we added the interaction of frequency of use and entertainment. This explained 0% of the variance, adjusted R^2 = 0.000, F(1,190) = 0.040, p = .842. The interaction term was not significant (β = .040, p = .842). The model in total, with the three variables included, was not significant. (F(3,190) = .22, p = .996)

Relaxation

In step 1, we entered frequency of use and relaxation as predictors of SWLS. This explained 0% of the variance. Adjusted R^2 = .000, F(2,191) = .025, p = .975. Frequency of

use was not significantly related to well-being (β = -.012, p = .883) such as relaxation (β = .017, p = .830). In step 2, the interaction of frequency of use and entertainment was forced into the equation, adjusted R^2 = 0.000, F(1,190) = 0.042, p = .837. The interaction term was not significant (β = .021, p = .837). The model in total, with the three variables included, was not significant. (F(3,190) = .031, p = .993)

Communicatory utility

In step 1, we entered frequency of use and communicatory utility as predictors of SLWS. This explained 0% of the variance, Adjusted R^2 = .000, F(2,191) = .137, p = .872. Frequency of use was not significantly related to well-being (β = -.018, p = .816) such as communicatory utility (β = .040, p = .630). In step 2, the interaction of frequency of use and communicatory utility was forced into the equation, adjusted R^2 = 0.000, F(1,190) = 0.721, p = .397. The interaction term was not significant (β = .084, p = .397). The model in total, with the three variables included, was not significant. (F(3,190) = .425, p = .803)

Convenience utility

In step 1, we entered frequency of use and convenience utility as predictors of SWLS. This explained 0% of the variance, Adjusted R^2 = .000, F(2,191) = .533, p = .588. Frequency of use was not significantly related to well-being (β = -.053, p = .539) such as convenience utility (β = .089, p = .304). In step 2, the interaction of frequency of use and convenience utility was forced into the equation, adjusted R^2 = 0.000, F(1,190) = 0.235, p = .628. The interaction term was not significant (β = .057, p = .628). The model in total, with the three variables included, was not significant. (F(3,190) = .553, p = .730)

Discussion

Studies on the relationship between social media use and well-being have not been extensive in incorporating use motivations as a moderating factor. This paper aims to fill in that research gap by exploring the role these use motivations have in the association between social media use and well-being. The motivations used are identified with UGT. The reason for using UGT is because motivations identified with this theory are related to Deci & Ryan's SDT (1985). For example, humans engaging in social interaction are intrinsically motivated to do so (Tomasello, 2009) and relieving stress through relaxation reduces brain-activity in area's related to emotional responses such as anger and fear (Lazar et al., 2000).

Contrary to our expectations, the results of this study reveal that there is no relationship between frequency of social media use and subjective well-being. On top of that, motivations identified with UGT do not moderate the relationship between social media use and well-being. These findings suggest that individuals scoring high on frequency of social media use do not necessarily report high levels of well-being and that their motivations for going online do not affect the direction or strength of this association.

Research findings on the topic of social media use and well-being are mixed, and the relationship between these variables is still under consideration. This study found no significant results, but by considering how use motivations might influence the relationship between these variables, this research offers a foundation for future research. Researchers have indicated that the use of social media will increase in the coming years (Pew Research Center, 2019). Understanding what this usage will do to our state of mind will become increasingly important when the amount of users will increase even more. Especially, because the average user spends over two hours per day on social media sites (Hootsuite & We Are Social, 2020).

An alternative explanation for why the use motivations do not affect the relationship between social media use and well-being might be that users go online and find themselves motivated to go online for several reasons at once. As stated before, the average user spends over two hours per day on social media sites (Hootsuite & We Are Social, 2020). This is a considerable amount of time in which a lot can be done. For example, participants might find themselves scrolling through their feed for an half an hour, search for information for another half an hour and engage in social interaction for an hour. This can also be seen in Table 1. Table 1 shows the correlations between all the motivations, and as we can see all motivations are correlated significantly. This means that participants are motivated to go online for more than one reason.

This study has several limitations. First, the responses on the frequency of use scale were not normally distributed. It turned out that 78.8% of the participants answered the question ‘how often do you use social media?’ with several times a day, while the scaling ranged from 1 = once a month and 7 = several times a day. A high proportion of our subjects have obtained maximum scores on this variable. The problem with this is that we cannot discriminate between those participants. Therefore, a ceiling effect has probably occurred. Further research should measure frequency of use in a more elaborate manner. This can be done using the same assessment but with more answer options on the Likert scale.

A second limitation in this study is the assessment of the use motivations. It turned out that the measures for these motivations were all significantly correlated at a $p < .01$ level (table 1). These motivations are supposed to be unrelated and finding that this is not the case has implications for the discriminant validity. A successful evaluation of discriminant validity when measuring these motivations is important. These measures should all measure one motivation, but that was not the case. Future research should make sure that the measure of

these motivations does not overlap and show discriminant validity. This can be done by incorporating more questions per motivation each. In this research, two questions per motivation have been used which is too few. Furthermore, future studies should test for discriminant validity before distributing the questionnaire.

Another limitation in this study is the number of participants. For research on social media use, this number is too low. Out of 326 participants that started the survey, only 194 completed it. To increase power, future studies should have more subjects conducted the survey.

The purpose of this study is to examine the relationship between frequency of use and well-being, while including use motivations as a moderator. We did not find significant results. However, the likelihood that there is no relationship between frequency of use and well-being in real-life is unlikely, given the average amount spent on social media by its users. With more of our social lives taking place online, it is important to understand the impact social media use has on our well-being. Future research has to be wary for the limitations found in this study. We want to emphasize the importance of using the right scaling for the Likert scale. With regards to the frequency of use question, we highly underestimated the amount of time participants are online on social media. This can be easily avoided. Future research should also approach the relationship between social media use and well-being via multiple methodologies. For example, researchers could use experimental interventions that would support causal claims. A correlational design is a good start, but extraneous variables might have interfered with our observations. Therefore, future research should try to make causal claims with respect to the relationship between social media use and well-being.

References

Adler, N., & Matthews, K. (1994). Health psychology: Why do some people get sick and some stay well? Annual Review of Psychology, 45, 229–259

Ahmed, S.M.S. 1990: Psychometric properties of the Boredom Proneness Scale. Perceptual and Motor Skills 71, 96366.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. Psychological bulletin, 117(3), 497.

Bekalu, M. A., McCloud, R. F., & Viswanath, K. (2019). Association of social media use with social well-being, positive mental health, and self-rated health: Disentangling routine use from emotional connection to use. Health Education & Behavior, 46(2_suppl), 69S-80S.

Bonetti, L., Campbell, M. A., & Gilmore, L. (2010). The relationship of loneliness and social anxiety with children's and adolescents' online communication. Cyberpsychology, behavior, and social networking, 13(3), 279-285.

Coyne, J. C., & Downey, G. (1991). Social factors and psychopathology: Stress, social support, and coping processes. Annual Review of Psychology, 42, 401–425

Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior. New York: Plenum.

Deci, E. L., & Ryan, R. M. (1991). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), Nebraska Symposium on Motivation: Vol. 38. Perspectives on motivation (pp. 237-288). Lincoln: University of Nebraska Press.

Deci, E. L., & Ryan, R. M. (2012). Self-determination theory.

De Vries, D. A., & Kühne, R. (2015). Facebook and self-perception: Individual susceptibility to negative social comparison on Facebook. Personality and Individual Differences, 86, 217-221.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. Journal of Personality Assessment, 49, 71-75.

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. Journal of computer-mediated communication, 12(4), 1143-1168.

Ezumah, B. A. (2013). College students' use of social media: Site preferences, uses and gratifications theory revisited. International Journal of Business and Social Science, 4(5).

Facebook Reports Fourth Quarter and Full Year 2019 Results" (2020, January 29). Retrieved from http://www.newsroom.fb.com.

Farmer, R. and Sundberg, N.D. 1986: Boredom proneness the development and correlates 208 M Martin et al. of a new scale. Journal of Personality Assessment 50, 417.

Herzberg, Frederick; Mausner, Bernard; Snyderman, Barbara B. (1959). The Motivation to Work (2nd ed.). New York: John Wiley. ISBN 0471373893.

Hootsuite & We Are Social (2020), 'Digitial 2020: Global digital overview,' Retrieved from Https://datareportal.com/reports/digital-2020-global-digital-overview

Jelenchick, L. A., Eickhoff, J. C., & Moreno, M. A. (2013). "Facebook depression?" Social networking site use and depression in older adolescents. Journal of Adolescent Health, 52(1), 128-130.

Obar, J. A., & Wildman, S. S. (2015). Social media definition and the governance challenge-an introduction to the special issue. *Obar, JA and Wildman, S.(2015). Social media definition and the governance challenge: An introduction to the special issue. Telecommunications policy*, *39*(9), 745-750.

Katz, Elihu, and David Foulkes. "On the use of the mass media as "escape": Clarification of a concept." *Public opinion quarterly* 26.3 (1962): 377-388.

Katz, E. (1974). Utilization of mass communication by the individual. *The uses of mass communications: Current perspectives on gratifications research*, 19-32.

Katz, Elihu, Jay G. Blumler, and Michael Gurevitch. "Uses and Gratifications Research." Public Opinion Quarterly 4th ser. 37 (1973–1974): 509-23. JSTOR. Web. 14 Oct. 2011. <http://jstor.org/stable/2747854>.

Ko, H., Cho, C. H., & Roberts, M. S. (2005). Internet uses and gratifications: A structural equation model of interactive advertising. *Journal of advertising*, *34*(2), 57-70.

Korgaonkar, P. K., & Wolin, L. D. (1999). A multivariate analysis of web usage. *Journal of advertising research*, *39*(2), 53-53.

Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D. S., Lin, N., ... & Ybarra, O. (2013). Facebook use predicts declines in subjective well-being in young adults. *PloS one*, *8*(8), e69841.

Lazar, S. W., Bush, G., Gollub, R. L., Fricchione, G. L., Khalsa, G., & Benson, H. (2000). Functional brain mapping of the relaxation response and meditation. Neuroreport, 11(7), 1581-1585.

Maslow, A.H. (1943). "A theory of human motivation". Psychological Review. 50 (4): 370–96. CiteSeerX 10.1.1.334.7586. doi:10.1037/h0054346

McDougall, M. A., Walsh, M., Wattier, K., Knigge, R., Miller, L., Stevermer, M., & Fogas, B. S. (2016). The effect of social networking sites on the relationship between perceived social support and depression. *Psychiatry research*, *246*, 223-229.

Palmgreen, P., & Rayburn, J. D. (1979). Uses and gratifications and exposure to public television: A discrepancy approach. *Communication Research*, *6*(2), 155-179.

Pantic, I., Damjanovic, A., Todorovic, J., Topalovic, D., Bojovic-Jovic, D., Ristic, S., & Pantic, S. (2012). Association between online social networking and depression in

high school students: behavioral physiology viewpoint. *Psychiatria Danubina*, *24*(1.), 90-93.

Papacharissi, Z., & Rubin, A. M. (2000). Predictors of Internet use. *Journal of broadcasting & electronic media*, *44*(2), 175-196.

Park, N., Kee, K. F., & Valenzuela, S. (2009). Being immersed in social environment: Facebook groups, uses and gratifications, and social outcomes. *CyberPsychology & Behavior*, *12*(6), 729-733.

Pew Research Center (2019). *June 12, 2019.* 'Social media use over time.' Pewresearch.org/internet/fact-sheet/social-media/#social-media-use-over-time.

Primack, B. A., Shensa, A., Escobar-Viera, C. G., Barrett, E. L., Sidani, J. E., Colditz, J. B., & James, A. E. (2017). Use of multiple social media platforms and symptoms of depression and anxiety: A nationally-representative study among US young adults. Computers in human behavior, 69, 1-9.

Rilling, J. K., & Sanfey, A. G. (2011). The neuroscience of social decision-making. Annual review of psychology, 62, 23-48.

Ryan, R. M., Deci, E. L., & Grolnick, W. S. (1995). Autonomy, relatedness, and the self: Their relation to development and psychopathology. In D. Cicchetti & D, J. Cohen (Eds.), Developmental psychopathology: Theoo' and methods (pp. 618-655). New York: Wiley.

Severin, W. J., & Tankard, J. W. (1997). *Communication theories: Origins, methods, and uses in the mass media* (pp. 300-310). New York: Longman.

Shakya, H. B., & Christakis, N. A. (2017). Association of Facebook use with compromised well-being: A longitudinal study. *American journal of epidemiology*, *185*(3), 203-211

Tomasello, M. (2009). Why we cooperate. MIT press.

Van Petegem, K., Aelterman, A., Van Keer, H., & Rosseel, Y. (2008). The influence of student characteristics and interpersonal teacher behaviour in the classroom on student's wellbeing. Social Indicators Research, 85(2), 279-291.

Wang, R., Yang, F., & Haigh, M. M. (2017). Let me take a selfie: Exploring the psychological effects of posting and viewing selfies and groupies on social media. Telematics and Informatics, 34(4), 274-283.

Whiting, A., & Williams, D. (2013). Why people use social media: a uses and gratifications approach. *Qualitative Market Research: An International Journal*.

Whitty, M. T., & McLaughlin, D. (2007). Online recreation: The relationship between loneliness, Internet self-efficacy and the use of the Internet for entertainment purposes. Computers in Human Behavior, 23(3), 1435-1446.