Social Media Use Purposes and Psychological Wellbeing in Times of Crises

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Abstract

This study investigates the effect of social media (SM) use purposes and user characteristics on individual psychological wellbeing (PWB) during the coronavirus pandemic (COVID-19). Informed by the uses and gratifications theory and PWB research, this study analyzed survey data collected from 282 SM users aged 18 through 59 from a minority-serving university in the United States in March-April 2020. Our quantitative data analysis showed that social media can be used to improve the quality of personal experiences during the COVID-19 crisis through three mechanisms—connectedness (i.e., social), engagement (i.e., collaborative), and entertainment (i.e., hedonic). However, the effect varied by gender, SM usage level, and individual concern about COVID-19 risk. The findings contribute to the literature and offer implications in technology use for enhancing public mental health during crises.

Keywords: social media use purpose, psychological wellbeing, gender, social media usage, COVID-19 pandemic

1. Introduction

The unprecedented coronavirus pandemic (COVID-19) has brought challenges to our everyday life and changed how we used digital technologies. The global health crisis has negatively affected our daily life: people showed an increased level of loneliness and anxiety and a decreased level of satisfaction with life (Elmer et al., 2020; Ruggieri et al., 2021). During COVID-19, one major change was people's increased use of the Internet and social networking sites (SNSs). A social networking site is an online platform that allows users to create a public profile and interact with other users. According to a Statista report (2021), all leading SNSs such as Facebook, Twitter, and TikTok reported monthly active usage growth in 2021 compared to 2019: TikTok witnessed the biggest increase at 38 percent, followed by Pinterest and Reddit, while Facebook and Twitter saw significant growth rates worldwide. In the United States, 42 percent of adults

were found socializing virtually with friends and family and women were more likely than men to socialize digitally (Johnson, 2021). The increased use of SNSs is not surprising during the pandemic when billions of people around the world attempted to maintain social connections when they were under some form of lockdowns. Research on positive computing has argued that technology can be designed to achieve the benefit of motivation, engagement and wellbeing in human digital experience (Peters et al., 2018). More recently, research has started to view SNSs as an effective means of coping with life stressors, including those induced by pandemics such as COVID-19 (Islam et al., 2022; Mäntymäki et al., 2022).

The topics of SNSs and individual wellbeing have attracted increasing attention among scholars and policy makers, but research findings remain mixed. For example, the review of articles published between 2003 and 2016 revealed that the use of SNSs is both positively and negatively related to users' psychological wellbeing (Erfani & Abedin, 2018). Some research suggests a positive but indirect effect of social media (SM) use on wellbeing, mainly due to the positive effect of social capital (Ostic et al., 2021). By contrast, some research shows that SM users were experiencing lower wellbeing as they experienced a higher level of loneliness, depression, stress, anxiety, and a lower level of life satisfaction in the pre/post quarantine comparison (Ruggieri et al., 2021). To cope with COVID-19 risks, individuals were found seeking emotional support from SNSs (Islam et al., 2022) or turning to SNSs to detach themselves from stress, which helped reinforce their psychological wellbeing (Mäntymäki et al., 2022). In prior studies, both terms of SNS and SM were used. As our study focuses on technology use for communication, we will use the term "social media" in the paper.

Prior studies are informative, but the mixed findings on the relationship between SM use and wellbeing call for further investigation. To better understand the mixed findings in extant research, we conducted this empirical study to examine the relationship between individual SM use purposes and individual wellbeing while considering user characteristics. Specifically, this study addresses the following research questions:

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1) What are individual purposes for SM use during the COVID-19 pandemic?
2) What is the relationship between the SM use purposes and individual wellbeing?
3) Do user characteristics (e.g., gender, SM usage, and risk concern about COVID-19) moderate the relationship between the SM use purposes and individual wellbeing?

To answer the questions, the study draws upon the uses and gratifications theory (UGT) and psychological wellbeing (PWB) research. Consistent with prior research, we define PWB as individuals' feeling about their quality of life, personal growth, and positive relations (Chen & Li, 2017; Diener et al., 2009). To answer the research questions, we collected survey data from a total of 282 participants from a minority-serving university via online survey between March 24 and April 4 of 2020. The quantitative data analysis showed three distinctive use purposes for social media –hedonic, social, and collaborative—all of which were associated with PWB differently and significantly. Moreover, the relationship between SM use purposes and PWB was found differing by user gender, SM use level and individual concern about COVID risk.

The findings provide partial explanations to the mixed results of prior studies on the effect of SM use on psychological wellbeing by highlighting the interplay between SM use purposes and wellbeing dimensions. Moreover, the findings have important practical implications on enhancing public mental health during a global crisis. During the lockdowns, there was an urgent need for people to tend to their psychological wellbeing. Our results highlight the importance of fostering and encouraging the use of SM for socialization and collaboration to keep individuals socially engaged and intellectually active, satisfying their needs for belonging and growth (Chen & Li, 2017; Diener et al., 2009).

2. Theoretical background and hypothesis development

Two streams of research broadly inform our study: the uses and gratifications theory and psychological wellbeing. We draw upon the UGT literature to explore individual purposes for social media use and the gratifications sought in their consumption of the online media during the global coronavirus pandemic in 2020. We then draw upon the PWB research to inform our hypothesis development on the relationship between PWB and social media use.

2.1. The uses and gratifications theory

According to the UGT, individuals actively seek out and choose to use specific media (e.g., newspaper, radio, TV) to satisfy their specific gratifications needs (Katz & Foulkes, 1962). Individual consumption of a media includes information benefits, entertainment, economic rewards, and social interaction (Rubin, 1983). With its development and popularity starting in 1990s, the Internet created a different paradigm for media consumption: the Internet is viewed as "a medium with the capability to empower the individual in terms of both the information he or she seeks and the information he or she creates" (Singer, 1998, p. 10).

The emergence and widespread usage of SNSs could come with new changes in roles, personal, and social habits of media users. One can wonder if social media activities provide the same uses and gratifications as other media and communication channels. Prior research has adopted the UGT in studying individual motivations in using social media. For example, Whiting and Williams (2013) focus on a marketing context to understand consumers use of social media through in-depth interviews with 25 consumers. Their study identified ten uses and gratifications for SM use, including: social interaction, information seeking, pass time, entertainment, relaxation, communicatory utility, convenience utility, expression of opinion, information sharing, and surveillance/knowledge about others. Similarly, Dolan et al. (2016) adopt UGT in their online media study and reveal the four motivations of consumer choices of social media as entertainment, information seeking, information sharing, and desire for remuneration (Dolan et al., 2016).

2.2. Psychological wellbeing

PWB was conceptualized by Ryff (1989) to consist of six dimensions: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. The conceptualization incorporates various aspects of human potential in individual coping with challenges in life. According to Ryan and Deci (2000) and Ryan and Deci (2001), PWB represents human optimal functioning and consists of three key aspects: supportive and rewarding relationships, competency, and contributing to the wellbeing of others. In this paper, we adopt the conceptualization of PWB as individual psychological traits consisting of five key aspects, including self-acceptance, positive relation, environment mastery, purpose in life, and personal growth (Ryff & Keyes, 1995).

Prior research has suggested associations between technology usage and psychological wellbeing of users.

For example, many smartphone functions have afforded social connections among users and facilitated their productive goals. Positive relationships between smartphone uses (such as for communication and voice calls) and individual wellbeing have been reported in prior studies (Chen & Li, 2017; Horwood & Anglim, 2019). However, excessive uses of smartphones were found correlated with lower wellbeing on autonomy and environmental mastery, suggesting maladaptive coping and compulsive behavior of users when experiencing anxiety and lack of control (Horwood & Anglim, 2019). Given the fact that a smartphone has integrated many tools of daily life, such as phone, camera, calendar, music players, the research highlights the importance of considering which aspects of smartphone usage have positive influences on users' wellbeing.

2.3. Hypothesis development: SM use and psychological wellbeing

Based on the above discussions of literature, we argue that SM use by individuals under the lockdowns and physical distancing during the COVID-19 pandemic can be motivated by the needs for information, entertainment, and social interaction. Prior research has suggested that use of the social networking technologies can improve individual quality of life, resulting in individual wellbeing (Riva et al., 2012). Likewise, we argue that during COVID-19, SM use purposes are likely to contribute to individual psychological wellbeing, which refers to personal experiences and feelings about their life (Chen & Li, 2017; Diener et al., 2009). A prior study on Internet use and individual wellbeing (Weiser, 2001) has drawn on the uses and gratifications model of communications media and hypothesized that the social and psychological effects of Internet use depend primarily on the user's reasons and goals for using the technology. Similarly, we argue that the effect of social media use on individual wellbeing is contingent on its use purposes, that is, the social and psychological effects of social media use depend upon the functions it serves for users.

Social media platforms (e.g., Facebook, Twitter) provide an important avenue for people to engage in social interactions. On these platforms, users can post their own content, engage with others, and search for information (Ali-Hassan et al., 2015; Salehan et al., 2017). SM use for social connection and interaction is likely to increase personal wellbeing both at work and in daily life. In organizations, using social media for relationship building was found providing support for innovative thinking and improving employee job performance and overall wellbeing (Ali-Hassan et al. (2015). Similarly, in a study of mobile social media use (Chen & Li, 2017), friending and connectedness via the

SM use have a positive effect on user psychological wellbeing because SM use led to strong ties that have helped reduce loneliness, transmit useful information, and provide social support. Therefore, we expect:

Hypothesis 1(H1): SM use for socialization has a positive effect on psychological wellbeing.

Similarly, hedonic activity is likely to increase PWB. Hedonic use refers to using SM for fun, passing time, relaxing and escaping (Ali-Hassan et al., 2015). Relaxation and entertainment are important for people facing crises and under concerns about a worrisome environment. In the new challenging environment that first-generation college students encounter in college, some of them find such hedonic use provided them with a "study break," contributing to their stress relief (Deng et al., 2021). During the pandemic, SM use has become a critical channel for people to take a break from stressful reality such as losing jobs, uncertain about being infected with COVID-19; such detachment from the stressors in life helps reinforce their psychological wellbeing (Mäntymäki et al., 2022). Thus, these reasonings led to:

Hypothesis 2 (H2): SM use for hedonic purpose has a positive effect on psychological wellbeing.

Finally, collaborative use of social media increases PWB. Active information search and sharing have become important in the situations when people are staying in shelter and lack of information and knowledge from authentic sources. Using SM allows individuals access to government and health organization websites to obtain updated information about the pandemic, thus helping reduce individual anxiety and enhancing wellbeing. In addition, individual users were found creating and posting content and by accessing content created by friends and colleagues for task completion. All these activities are active use of social media, which were found impacting wellbeing positively (Sun et al., 2020). Therefore, based on the reasoning above, we state our hypothesis:

Hypothesis 3 (H3): SM use for collaboration has a positive effect on psychological wellbeing.

2.4. Moderating effects of gender, SM usage, and COVID risk concerns

Prior UGT studies (Dolan et al., 2016; Ku et al., 2013) have provided evidence to show that individual needs for information and entertainment vary by their gender, age, and social economic status in their choices of mass media and consumption of media content. Yet, individual needs for media use and experiences of such SM use may differ by their user characteristics.

First, individuals of different genders are likely to use social media for different motives and needs. Prior studies have researched the social media usage patterns

by males and females and found that females use social media more often or spend more time on social media in comparison to males (Hughes et al., 2012; Ruleman, 2012) The researchers have found different focus on social media use by gender: females use social media more for communication purposes in comparison to male users, while males use social media for observations. In addition, the effects of SM use are likely to differ by gender. For example, a recent study shows the varied effects of five social media needs on usage behaviors between males and females (Ali Aksar et al., 2021). Moreover, gender was found playing a significant role in moderating the relationship between evaluations and hedonic usage of SM (Lim et al., 2017).

The studies discussed above suggest that gender may moderate the relationship between SM use purposes and outcomes. Prior study has shown that the effect of heavy digital media use on psychological wellbeing is larger for females than males (Twenge & Martin, 2020). Similarly, during the global health crisis of COVID-19, SM use and digital communications will differ by their individual characteristics such as gender. The studies and reasonings suggest that the effect of SM use on individual PWB may be different for users of different genders. Therefore, we expect:

Hypothesis 4 (H4): Gender is a significant moderator on the relationships between social media purposes and psychological wellbeing; the relationship is stronger when gender is female.

Another user characteristics influencing SM use effect is the SM usage level. The study by (Sun et al., 2020) examined how different ways of interacting with others impacted wellbeing during a period of lockdown in the United Kingdom in April-June 2020 and found evidence on the moderating effect of social media usage level. According to their study, active social media use led to significantly higher wellbeing when participants reported spending more time on such SM use. Likewise, in our study, the three types of active social media use—social, hedonic, and collaborative—are likely to positively affect psychological wellbeing when SM usage level increases. Therefore, we expect,

Hypothesis 5 (H5): SM usage level is a significant moderator on the relationships between social media purposes and psychological wellbeing; the relationship is stronger when SM usage increases.

Finally, the global health crisis gave rise to individual risk concerns about mental health and emotional support. For example, the study by (Elmer et al., 2020) investigates students' social networks and mental health before and at the time of the COVID-19 pandemic in April 2020 and reveals that COVID-19 specific worries, isolation in social networks, lack of interaction and emotional support, and physical isolation were associated with negative mental health

trajectories. Such risk perception of individuals has an impact on the effects of SM use purposes and PWB. In another study comparing people's life satisfaction before and after quarantine, SM users were experiencing lower wellbeing as they experienced a higher level of stress induced by COVID-19 (Ruggieri et al., 2021). Thus, we argue that the effect of SM use purposes on psychological wellbeing is moderated by the level of individual risk concerns.

Hypothesis 6 (H6): COVID-19 risk concern is a significant moderator on the relationships between social media purposes and psychological wellbeing; the relationship is stronger when the COVID-19 risk concern level increases.
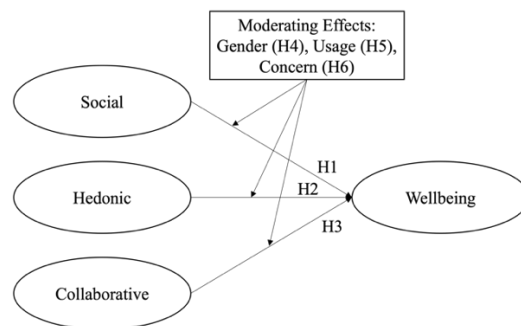
The research model is presented as in Figure 1.

Figure 1. Research Model.

3. Research methodology

3.1. Data collection

The data was collected through an online survey that was distributed to adult social media users in a four-year minority-serving university on the west coast of the United States during the two weeks from late March to early April of 2020. The university is ethnically and economically diverse. Most students are commuting, non-traditional college students, with average age of students at 26 and majority of the students being employed part-time or full-time. Given the diversity of the student background, this is an ideal research site for us to study the social media use and wellbeing during the COVID-19 pandemic.

The conduct of the survey study was IRB (Institutional Review Board) approved. The survey includes questions on wellbeing, social media use, and about their demographic background. There are also open-ended questions about their social media use behaviors. The online survey was deployed via SurveyMonkey. Six professors from four departments of the College of Business voluntarily distributed the survey invitation and link to their students through class announcements, followed by one reminder email.

Table 1. Spearman Correlations.

	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9
1	-0.00	0.92	1.000								
2	-0.00	0.92	0.127*	1.000							
3	-0.00	0.80	0.128*	-0.076	1.000						
4	-0.00	0.78	0.194*	-0.113	0.213*	1.000					
5	0.67	0.47	0.057	0.039	-0.111	-0.171*	1.000				
6	0.12	0.33	-0.040	-0.074	-0.205*	-0.122*	0.039	1.000			
7	26.24	6.80	0.015	-0.253*	-0.215*	-0.216*	0.168*	0.385*	1.000		
8	0.51	0.50	-0.009	0.114	-0.146*	-0.095	0.117	0.093	0.066	1.000	
9	2.20	1.14	-0.013	0.201*	0.190*	0.090	0.065	-0.112	-0.263*	0.162*	1.000
10	3.16	0.82	0.035	-0.036	0.006	0.108	0.030	0.096	0.136*	0.239*	-0.041

* $p < 0.05$; 1. *WELLBEING*, 2. *HEDONIC*, 3. *SOCIAL*, 4. *COLLABORATE*, 5. *EMPLOYED*, 6. *MARRIED*, 7. *AGE*, 8. *GENDER*, 9. *USE*, 10. *CONCERN*

Table 2. Main Results.

	Main Model	Female	Male	High Usage	Low Usage	High Concern	Low Concern
Intercept	-0.782**	-0.836	-0.597	-1.269**	-0.688*	0.109	0.193**
	(-2.28)	(-1.50)	(-1.24)	(-2.03)	(-1.91)	(1.06)	(2.31)
HEDONIC	**0.157****	**0.190***	**0.169***	**0.275****	**0.141***	**0.303****	**0.086**
	(2.48)	**(1.96)**	**(1.83)**	**(2.27)**	**(1.94)**	**(2.48)**	**(0.93)**
SOCIAL	**0.177****	**0.064**	**0.330****	**0.218***	**0.147**	**0.202**	**0.259****
	(2.44)	**(0.60)**	**(3.17)**	**(1.92)**	**(1.58)**	**(1.60)**	**(2.70)**
COLLABORATE	**0.259*****	**0.303*****	**0.184***	**0.406*****	**0.157***	**-0.086**	**0.325****
	(3.51)	**(2.86)**	**(1.72)**	**(3.58)**	**(1.68)**	**(-0.44)**	**(2.18)**
EMPLOYED	0.159	0.057	0.264*	0.054	0.154	-0.072	-0.150
	(1.35)	(0.31)	(1.68)	(0.27)	(1.08)	(-0.26)	(-0.64)
MARRIED	-0.143	-0.279	-0.039	-0.729*	0.008	0.032*	0.030**
	(-0.82)	(-1.15)	(-0.14)	(-1.91)	(0.04)	(1.88)	(2.58)
AGE	0.033***	0.036**	0.024*	0.050**	0.025**	0.059	-0.076
	(3.51)	(2.47)	(1.78)	(2.18)	(2.46)	(0.30)	(-0.52)
GENDER	0.030			-0.074	0.080	-0.055	-0.036
	(0.25)			(-0.38)	(0.56)	(-0.63)	(-0.53)
USE	-0.050	-0.068	-0.022			-0.650	-0.908
	(-0.94)	(-0.87)	(-0.31)			(0.53)	(0.35)
CONCERN	-0.024	0.017	-0.055	-0.029	-0.019		
	(-0.35)	(0.17)	(-0.58)	(-0.26)	(-0.23)		
Control Variables	included	included	included	included	included	included	included
N	267	136	131	102	173	111	156
adj. R^2	0.087	0.049	0.118	0.189	0.028	0.061	0.089

t statistics in parentheses; * $p < .1$, ** $p < .05$, *** $p < .01$; Dependent Variable: *WELLBEING*

We received a total of 282 completed responses. On average, the respondents took 12 minutes to complete the survey. The respondents have a wide variety of majors, including business, accounting, marketing, biology, sociology, etc. and about 83% of them are juniors and seniors. About 58% of them are between 19 years old and 25 years old, with the youngest being 18 and the most senior being 59 years old. 51.06% of them are female and about 65% of the respondents are single. About 20% of the respondents have a total household income below $20,000 while about 57% of the respondents have a total household income between $20,000 and $75,000. Majority of the respondents are Latino (about 60%), following by Asian (about 16%), Caucasian (about 12%) and African American (about 11%). Among the 282 respondents, majority of them (about 67%) are employed full-time or part-time.

In the survey, we asked the question "*Which of the following social networking websites do you currently have an account with?* (Check all that apply)". On the survey, we included the following SNSs: Facebook, Instagram, Snapchat, Twitter, Pinterest, and LinkedIn. The list of SNSs was informed by a prior study (Deng et al., 2021) on the common SM accounts owned by adult students from a minority-serving university, the similar context of this study. We also asked the respondents to specify other SM not listed. Occasionally they mentioned YouTube, WhatsApp, Discord, and Reddit. In total, they reported popular social media platforms, including Instagram (82.3%), Snapchat (62.4%), Facebook (59.6%), LinkedIn (48.9%), Twitter (36.5%), and Pinterest (27.0%). Note that an individual may use multiple social media sites.

3.2. Measurements

Based on our conceptual model (Figure 1), we operationalize our constructs as follows. For psychological wellbeing (*WELLBEING*), we use the questions in Diener et al. (2009). There are five different statements, and the participants needs to indicate their agreements with these statements by using a 5-point Likert scale (1 is strongly disagree and 5 is strongly agree). The questions are: Q1: I am engaged and interested in my daily learning activities. Q2: I actively contribute to the happiness and wellbeing of others. Q3: My social relationships are supportive and rewarding. Q4: I am competent and capable in the learning activities that are important to me. Q5: I am optimistic about my future after graduating from college.

We measure social media usage purposes by using seven 5-point Likert scale statements. These questions ask the participants regarding why they use social media and their agreements with these seven statements: Q1: to get to know people I would otherwise not meet at college. Q2: to get acquainted with people who share my interests. Q3: to do something fun (i.e., watch funny videos, read jokes, etc.). Q4: to collaborate with friends and classmates to create content for academic work. (e.g., build presentations, write project reports etc.). Q5: to have entertainment. Q6: to take a break from study and academic work. Q7: to access content created by my friends and classmates at college. (e.g., search and/or gather information from others about course assignments, projects).

All other information was self-reported. *EMPLOYED* is an indicating variable: it equals one if the participant has a full time or part time job and zero otherwise. Similarly, the variable *MARRIED* equals one if the participant is married and zero otherwise.

3.3. Econometric models

Based on our research questions, we use Equation (1) below to test our first hypothesis. Equation (1) is estimated by using the ordinary least squares (OLS) model. The variables are as defined earlier for each participant. In addition to the main effect, we also use three sets of subsamples to test the moderating effects by using Equation (1), including: female versus male, high use versus low use, and high-risk concern level versus low-risk concern level. The analysis was performed by using Stata 17.

$WELLBEING = \beta_0 + \beta_1 HEDONIC + \beta_2 SOCIAL + \beta_3 COLLABORATE + \beta_4 EMPLOYED + \beta_5 MARRIED + \beta_6 AGE + \beta_7 GENDER + \beta_8 USE + \beta_9 CONCERN + \varepsilon$ (1)

4. Results

4.1. Descriptive statistics

For psychological wellbeing, the average responses (standard deviations) for these questions are 3.871 (0.949), 3.673 (1.038), 3.700 (1.007), 4.125 (0.821) and 4.181 (0.941) respectively. We performed a confirmatory factory analysis and formed only one factor labeled as *WELLBEING* with most of the factor loadings larger than 0.7. We also calculated the following validity metrics, Cronbach's $\alpha = 0.84$, AVE (average variance extracted) = 0.51, CR (composite reliability) = 0.84, which are all at the acceptable level (Hair et al., 2017; Taber, 2018).

For social media usage, the average responses (standard deviations) for these questions are 2.514 (1.299), 2.996 (1.322), 3.982 (1.132), 2.477 (1.366), 4.188 (1.045), 4.121 (1.066) and 2.702 (1.346) respectively. We performed a confirmatory factory analysis and formed three different factors. We labeled the first factor as *HEDONIC* as this factor is related to fun experience and entertainment. We then labeled second and the third factors as *SOCIAL* and *COLLABORATE* as the second factor is about social activities on social media while the third focuses on collaboration and information sharing. The factor loadings of each factor are all larger than 0.7. We also calculated the following validity metrics, Cronbach's α = 0.77, AVE (average variance extracted) = 0.67, CR (composite reliability) = 0.85, which are all at the acceptable level (Hair et al., 2017; Taber, 2018).

In our sample, 66.7% of the respondents are employed and 12.4% of the respondents are married. The participants also provided their ages (*AGE*) and gender (*GENDER*, 1 is female and 0 is male). The average age of our respondents is about 26 years old while slightly more than half of them (51.1%) are female. Respondents also reported the total amount of time they spent on all social media accounts in a typical day (denoted as *USE* in our model). *USE* has four categories: Category equals to 1 when the respondent spent less than or equal to one hour during a typical day on all social media accounts (36.13%); 2 when it is more than one hour but less than or equal to two hours (28.10%); 3 when is more than two hours but less than or equal to three hours (14.96%), and 4 when the respondent spent more than three hours (20.80%). In our analysis, we further grouped them into high use level (3 and 4) and low use level (1 and 2). We also asked the respondent regarding their concern level about COVID-19 (*CONCERN*). The responses are in four categories: very much concerned (41.64%), concerned (34.88%), somewhat concerned (21.71%) and not concerned at all (1.78%). In our analysis, we further grouped them into

high concern level (41.64%) versus low concern level (58.36%). Descriptive statistics for each variable are reported in Table 1. We did not observe any high correlations based on the Spearman correlations given in Table 1 that may affect our subsequent analyses.

4.2. Main results

Table 2 presents the main results. Our first hypothesis focuses on the relationship between psychological wellbeing and the SM use purpose. All three SM usage purposes are significantly and positively associated with psychological wellbeing. That is, overall, the use of social media during the pandemic has a positive effect on individual wellbeing. Most of the participant demographic variables are insignificant except *AGE*. The coefficient of *AGE* suggests a positive relationship between age and wellbeing.

We next turn our attention to how gender (*GENDER*), SM use level (*USE*) and concern level (*CONCERN*) may affect *WELLBEING* as discussed in our hypotheses. First, we investigate whether the association between SM use purpose and wellbeing is different by gender. The findings in Table 2 suggests that the social activity on social media is the main difference between female and male users. It plays a role in psychological wellbeing only for male users (0.330, $p < 0.01$) but not for female users ($p < 0.05$).

We next focus on the moderating effects of social media usage level and concern level on the association between social media use purpose and wellbeing. The findings are also presented in Table 2. Table 2 shows that regardless of the social media usage purposes, high usage is important for the social media usage purposes to have a positive association with psychological wellbeing. When the usage level is low, the effect becomes relatively weak and the effect with social activities on social media becomes insignificant (0.147, *n.s.*). Last, Table 2 demonstrates that the association between social media use purpose and wellbeing is also different when the concern level of the pandemic is different. When the participants have a high concern level, the hedonic effect of using social media is positively related to psychological wellbeing (0.303, $p < 0.05$) but this is not the case for other social media purposes ($p < 0.05$). However, when the concern level is not as high, the social activities and online collaborations are the main positive effect on psychological wellbeing (the coefficients are 0.259 and 0.325, $p < 0.01$ and $p < 0.05$ respectively).

5. Discussion

Our results show that the three distinctive social media use purposes, social, hedonic, and collaborative,

had significant, positive effect on psychological wellbeing. Among the three purposes, collaborative use of SM showed the biggest effect (0.259 at $p < 0.01$), followed by social activity (0.177 at $p < 0.05$) and hedonic activity (0.157 at $p < 0.05$). In this study, collaborative use of SM is measured by the extent to which a participant used SM platforms to collaborate with friends and classmates to create content for academic work as well as to access content created by peers in college. Such collaborative use requires one's engagement with others in performing a task, fostering a supportive and rewarding relationship, a key aspect of psychological wellbeing (Ryan & Deci, 2000, 2001; Ryff & Keyes, 1995). The positive effect of SM use is reflected in a respondent's remark: "*I found myself using Instagram to connect to the University for up-to-date information because I was a new transfer student looking for ways to connect and make new friends in an online environment.*"

It's not surprising that the lockdown and social distancing during the pandemic gave rise to more social connection and interaction activities on SNSs. Participants in the study witnessed increased SM use in their families and appreciated the SM tools for connecting with family and friends. One respondent explained, *"Most people within my circle have increased their use of social media. For example, my family has increased their use of video conferencing to speak with other relatives."* To some respondents, social media has become their main, if not the only way of communication with family and friends during the Pandemic. COVID-19 led to the increased dependence on SM for communication, as one respondent elaborated, "*Everything was shut down and it was hard to leave my house with all the fear of being infected with the coronavirus.*"

As shown above, the social activities on social media platforms contributed to individual wellbeing through fostering a bonding relationship between family members or friends. This is relevant to the key aspect of positive social relations in the conceptualization of psychological wellbeing (Ryan & Deci, 2000, 2001; Ryff & Keyes, 1995). In addition to the collaborative and social activities, our study participants also frequently cited their use of social media for entertainment. Such hedonic use may have contributed to their psychological wellbeing through their engaging with others and interest in life (Ryff & Keyes, 1995).

In our study, participants have reported different types of engagement with a SNS for the purpose of entertainment. For example, TikTok is popular among the study participants. Some users of TikTok enjoyed watching videos and playing games with family members. For example, one participant cited an interactive video game called Jackbox and explained,

"*the game takes a modern twist on classic board game ... to stay connected with family, we would play games online for hours.*" For another user, TikTok has become a platform for family members to share their daily life. As the user elaborated, "*During the pandemic, my whole started using TikTok, trying to mimic dances, see new creative ways to make food or find different ways to make house chores more eventful/fun.*"

As shown above, the two respondents engaged in different fun activities on TikTok: while the first respondent watched videos and played interactive games with his brother, the second respondent was interested practicing the dancing moves and sharing creative cooking recipes with family members. From those interactive activities on the SM platform, they not only found fun but also felt more connected with their family members. This suggests that hedonic use of SM contributed to individual psychological wellbeing through different use activities.

In addition to the main effect of the three SM use purposes on the wellbeing outcome, our analysis also provided evidence for some moderating effects of gender, SM usage level, and perceived COVID-19 risk concern (see Table 2, Columns 3-8). Our result shows that males and females differed slightly on the positive effect of the three SM use purposes on their wellbeing. While hedonic and collaborative activities benefited both males and females, social use of SM seemed to have a significant, positive effect on males. This suggests that for males and females to increase their wellbeing from SM use, they may consider focusing on different uses and gratifications (Dolan et al., 2016; Whiting & Williams, 2013). Our result also suggests that maintaining a high-level usage (e.g., two hours or more in a day) is important for the SM use activities to make a positive, significant effect on individual psychological wellbeing. In addition, for those who have shown a high-level concern about the COVID-19 risk, it's useful for them to engage in more hedonic use of SM to increase their wellbeing.

Finally, it's worth noting that our study participants did not consider SM platform a helpful channel for information. Our confirmatory factory analysis of SM use purposes did not reveal the informational use of SM. One potential reason for the lack of informational use dimension in our data sample is the user concern about the quality of information disseminated on SM platforms during the pandemic. Some users shared the feeling that the constant coverage of COVID-19 content made them feel more anxious. As one indicated, "*I feel that there is a lot of content that spreads misinformation and hate [on the SM].*"

The above remark suggests that certain use of SM, such as informative use, may have a negative effect on psychological wellbeing. The negative effect of technology use on wellbeing has been evidenced in problematic uses of smartphone (Horwood & Anglim 2019). In this regard, examining both the positive and negative effects of various SM use purposes is a promising topic of future research.

6. Contributions and limitations

The findings of the study extend the uses and gratifications theory by examining three different purposes that motivate individual SM use behaviors during the pandemic. Our results show that the effects of the three social media use purposes – social, hedonic, and collaborative—on psychological wellbeing are contingent upon user characteristics such as gender, SM usage level, and COVID-19 risk concern. The positive effect of SM use for social purpose was found stronger for males but the positive effect of SM use for collaborative purpose was stronger for females. All three SM use purposes had a significant effect on PWB when SM usage level is high. Moreover, hedonic use of SM was found impacting PWB significantly and positively when individual COVID risk concern is high, while socialization and collaborative use of SM had a significant, positive role on PWB when the COVID risk concern is low. Thus, our study contributes to UGT by demonstrating that individual gratifications sought in their consumption of social media need to account for user background and the stressor imposed by the environment (i.e., the COVID-19 risk concern).

Our study also offers some useful guidelines for SM use to increase psychological wellbeing. SM offers a variety of features and functionalities that afford users to seek community support and develop social capitals (Deng et al., 2021; Ostic et al., 2021). As interest in SM for minority college students and wellbeing continues to grow (e.g., Deng et al., 2021), a new understanding of the implications of user motives for SM use in times of global crises will encourage higher educational institutions and public policy makers to account for individual purposes and user characteristics in designing and implementing institutional SM strategy and policies. Therefore, based the findings of this study, we offer six guidelines for effective usage of SM in promoting PWB, including: (1) Develop relevant SM functionalities and activities for socialization; (2) Identify ways to increase collaborative activities on various platforms; (3) Encourage entertainment and fun in SM use for personal wellbeing; (4) Share best practices on SM use to reduce information overload concerns; (5) Customize SM support services to individual needs based on their user background; and (6) Develop SM use guidelines to include PWB as an important outcome.

In the study, we have focused on the use of SM by college students from a minority-serving university, but the respondents are adults with mean age of 26 (Table 1) and most of them are employed full-time or part-time. In this regard, many of our findings and guidelines could be cautiously applied to the implementation of SM initiatives in organizations with employees from various social economics backgrounds to support their information sharing, socialization, and collaborations.

Despite the study's contributions, we would acknowledge three limitations of the study. First, our data collection only took place at the initial phase of the Pandemic in March-April of 2020. Early in the pandemic, many people had to turn to social media to continue socializing in lieu of gathering face-to-face. However, as the pandemic prolonged, SM users may experience a significant burnout. Our study did not allow us to study if individual SM use behavior and its effects on wellbeing persisted during the prolonged COVID pandemic after spring 2020. Second, the main variables of wellbeing and SM usage are self-reported. Finally, it's important to note that our study sample consists of adult college students from a minority-serving university, and their social economic backgrounds may affect their perceived psychological wellbeing in its relation to social media. Currently, we only considered the moderators of user gender, SM usage level, and COVID-19 risk concern level. Future research on longitudinal study of SM use through a global crisis (e.g., COVID-19 from 2020 to 2021) by using objective measures of the key variables and using a large data sample would generate further insights.

7. Concluding remarks

In the information systems academia, we care not only about research rigor and relevance, but also the responsibility of our research (Desouza et al., 2006). We have a moral responsibility for addressing important societal problems to develop knowledge to benefit business and society (Davison & Bjørn-Andersen, 2019). Through the empirical study of 282 active social media users aged 18 through 59 in the U.S. in spring 2020, this paper suggests that social media can be used to improve the quality of personal experiences during the COVID-19 crisis through three mechanisms—connectedness (i.e., social), engagement (i.e., collaborative), and entertainment (i.e., hedonic). Moreover, our study shows that such performance effect of SM use purposes differed by individual and contextual factors (gender, SM usage level, and individual concern about COVID-19 risks). In doing so, our research has become one of many efforts to address the societal impact of social networking technologies by exploring the relationship between SM use purposes and

individual psychological wellbeing from a more nuanced perspective.

To achieve the benefits of SM use on individual wellbeing, we would consider not only the individual purposes for SM use but also the individual characteristics and contextual factors. Such attention is important if we attempt to enhance public mental health via social technologies such social media platforms during a global health crisis. Prior research highlights the design of technology to achieve the benefit of motivation, engagement, and wellbeing in human digital experience (Peters et al., 2018). We hope this research and practical implications contribute to the ongoing scholarly work on the use of social networking technologies and positive impacts of computing to enhance individual wellbeing in times of crises.

8. References

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