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A Social Media Give and Take:
What Young Adults Would Give Up to Stay Connected

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ABSTRACT

This study explored social media (SM) usage amongst young adults. Participants ($N = 750$) completed an online survey about their usage of/relationship with SM and the sacrifices they would make to remain on SM. Almost half of participants reported checking SM 9+ times/day and more than three-quarters spent 1+ hour/day on SM. SM addiction scores averaged 17.5/30 ($SD = 5.08$). Regression analyses revealed that number of SM checks/day ($p < 0.05$), time/day spent on SM ($p < 0.01$), and SM addiction ($p < 0.001$) all predicted increases in the number of trade-offs participants were willing to make, $F(6,733) = 21.941$, $p < 0.001$, $R^2 = 0.390$. These results act to both confirm existing literature, while also highlighting the specific compromises young adults would make to maintain their SM access. Future health efforts should aim to promote awareness of these psychological and social issues.

KEYWORDS

Addictive Behaviours, Appearance, Career, Food, Health, Hobbies, Life, Possessions, Relationships, Sacrifices, Social Media, Survey, Trade-Offs, Young Adults

INTRODUCTION

Social media (SM) are interactive technologies that allow users to create and share content via social networking sites (SNSs) or virtual communities (Obar & Wildman, 2015; Statistics Canada, 2021). All SM applications are Web 2.0 Internet-based, contain user-generated content (e.g., photos, text, videos), and require a user to design and maintain an online profile (Obar & Wildman, 2015). Various forms of SM are available, including SNSs (e.g., Facebook, Instagram), instant messaging services (e.g., WhatsApp), blogging sites (e.g., Tumblr), multiplayer online games (e.g., World of Warcraft), and virtual worlds (e.g., Second Life; Ryan et al., 2017). SM has revolutionized the way people search for information and consume entertainment media (Firth et al., 2019) and has become increasingly popular amongst Canadians (Statistics Canada, 2021). For instance, in 2018, SM was regularly used

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by about 9 in 10 Canadians aged 15 to 34 (Statistics Canada, 2021) and it is thought that Canadian SM users currently stand at a record of 25.35 million users (Tankovska, 2021).

As with other popular technologies, other popular technologies, the evolution of SM presents both opportunities and risks for users (Kaplan & Haenlein, 2010; Statistics Canada, 2021). One of SM's greatest attributes is its ability to increase connectivity (Akram & Kumar, 2018). Specifically, SM allows individuals to create and maintain personal (e.g., friends and family) and professional (e.g., career networking) relationships, irrespective of physical distance (Keles et al., 2020; Verduyn et al., 2017). In addition, SM allows users to create virtual spaces (e.g., forums, groups) where individuals can express their views and creativity, which can aid in relieving stress, anxiety, and sadness (Keles et al., 2020). SM can also reduce many barriers to social participation (e.g., social anxiety), which can provide increased emotional support, while simultaneously diminishing social isolation and loneliness (Keles et al., 2020).

Although SM has many benefits, excessive or inappropriate usage has the potential for negative psychosocial and physical outcomes (Karim et al., 2020; Twenge et al., 2018). For example, in 2018, Statistics Canada (2021) reported that around 1 in 8 Canadian SM users reported feeling anxious, depressed, or envious of the lives of others. These negative emotions often emerge due to the overwhelming strive for positive self-presentation on SM, whereby users only upload flattering images or information about personal accomplishments or material successes (Festinger, 1954; Verduyn et al., 2015). This frequent exposure to others can lead to idealized perceptions of other users' lives, which in turn increases the potential for negative comparison (i.e., social deprivation and low self-esteem; Festinger, 1954; Primack et al., 2017). SM can also impact an individual's physical health with Statistics Canada (2021) suggesting that among all SM users aged 15 to 64, around one-fifth reported decreased levels of physical activity (22%), lost sleep (19%), or trouble concentrating on other activities (18%) because of SM usage. Moreover, extended SM usage can increase sedentary behaviour, a known risk factor for obesity and cardiovascular disease (Reid Chassiakos et al., 2016). Even more troubling, individuals who spend a significant amount of time on SM may be more susceptible to developing obsessive compulsions to use SM applications, also known as a SM addiction (Andreassen, 2015; Marino et al., 2017). SM addiction or addictive behaviours often places individuals at a higher risk of these adverse effects (Andreassen, 2015; Karim et al., 2020; Marino et al., 2017).

SM addiction occurs when an individual neglects daily life activities due to their excessive usage of SM applications (American Psychiatric Association, 2013; van den Eijinden et al., 2016). Those who are addicted to SM tend to use it as an escape from life stressors and negative emotions, causing increased anxiety when usage is not possible and making it very difficult to give up or reduce overall usage (American Psychiatric Association, 2013; van den Eijinden et al., 2016). Individuals suffering from addiction also exhibit problematic behaviours that can lead to impairment (i.e., neglecting other areas of their lives), lack of control (i.e., cannot reduce the behaviour, craving), and/or risky actions (i.e., persistent intake despite awareness of negative effects). For example, individuals who are addicted to SM are often overly concerned about their SM profiles and have uncontrollable urges to check their newsfeeds (Andreassen & Pallesen, 2014). These problematic behaviours can manifest into cognitive, physical, and/or emotional reactions, resulting in interpersonal and psychological issues (Błachnio et al., 2017; Tang et al., 2016; Zaremohzzabieh et al., 2014). The societal impact of SM is a growing topic amongst researchers with many concluding that SM addictions, along with the associated adverse effects, are significantly increasing (Andreassen & Pallesen, 2014; Błachnio et al., 2017; Kotyuk et al., 2020; Tang et al., 2016). There is, however, limited research on the associations between SM addiction and usage patterns/problematic behaviours. For instance, it is not well known whether higher SM usage patterns and addiction scores can increase the number of sacrifices a participant is willing to make in their personal lives to stay connected on SM. Therefore, the purpose of this exploratory study was to examine SM usage and addiction amongst young adults, while simultaneously uncovering what these individuals would be willing to neglect/give up to remain connected to SM. More specifically, the following research questions were developed:

1. What are the SM usage patterns and needs of young adults?
2. How addicted to SM are young adults?
3. What are young adults willing to give up to remain connected to SM?
4. Are individuals with higher SM usage patterns and/or SM addiction willing to give up more to remain connected to SM?

METHODS

Participants

Seven hundred and fifty participants were recruited via Qualtrics' (Provo, UT) online research panel. Study inclusion criteria were as followed: a) Canadian citizen or resident, b) aged 16-30 years, and c) SM user (i.e., accessed SM within the past 12 months). Participant demographics are available in Table 1.

Measures

Participants completed an online survey administered via Qualtrics (Provo, UT), which took, on average, 15 minutes to complete. Survey questions related to participant's demographics, their SM usage patterns, their relationship with SM, the sacrifices they would be willing to make to remain on SM, and their perceptions of SM influencing.

Demographic Measures

Survey questions concerning gender, race/ethnicity, age, education, income, employment, and relationship status were asked to obtain a profile of respondents' socio-demographic features. All demographic questions were taken or adapted from national surveys and questionnaires (e.g., Canadian Community Health Survey, Statistic Canada's Census of Population Questionnaire).

SM Use

Participants answered seven questions regarding their SM use. Adapted from Statistic Canada's (2013) General Social Survey on Social Identity, participants were first asked "Which SM site(s) do you have an account with? Check all that apply", with response options of *I do not have any personal SM accounts*, *Facebook*, *Google+*, *LinkedIn*, *Twitter*, *Instagram*, *TikTok*, *Tumblr*, *Snapchat*, *Pinterest*, *Reddit*, *YouTube*, and *Other – Please Specify* (with text box).

The remaining six questions were adapted from Ali et al.'s (2020) Social Networking Sites Usage & Needs Scale (SNSUN). Specifically, participants were asked to indicate the devices they used to access SM, the number of SM sites they actively use, the number of times they check SM per day, the total time spent on SM per day, the typical time(s) throughout the day that they check SM, and the length of time they have had at least once SM account.

Relationship With SM

The Bergen SM Addiction Scale (BSMAS; Andreassen et al. 2016), which was adapted from the Bergen Facebook Addiction Scale (BFAS; i.e., same questions but *Facebook* was replaced with *SM;* Andreassen et al. 2012), was used to assess participants' relationships with SM within the previous 12 months. The BSMAS contains six items, with each item corresponding to one of the six core elements of addiction (i.e., salience, mood modification, tolerance, withdrawal symptoms, conflict, and relapse), as proposed by Griffiths (2005). Each item (e.g., *How often during the last year have you felt an urge to use SM more and more?*) is scored on a 5-point Likert scale using anchors of *very rarely* (1) and *very often* (5). Composite scores may range from 6-30, with higher scores indicating greater addiction (Andreassen et al., 2012; Andreassen et al., 2016). Both the BFAS and its adaptation (i.e.,

Table 1. Participant demographics

Characteristic		Frequency	%
Gender	Woman/Girl	599	77.9
	Man/Boy	148	19.2
	Non-binary, genderqueer, agender, or a similar identity	20	2.6
	Indigenous or other cultural gender identity (e.g., Two-Spirit)	2	0.3
Race/Ethnicity	White	412	53.58
	Chinese	78	10.14
	Mixed (belonging to one or more groups)	56	7.28
	South Asian (e.g., East Indian, Pakistani, Sri Lankan)	52	6.76
	Black	47	6.11
	Filipino	36	4.68
	Southeast Asian (e.g., Vietnamese, Cambodian, Malaysian, Laotian)	27	3.51
	Arab	20	2.60
	Latin American	19	2.47
	West Asisan (e.g., Iranian, Afghan)	8	1.04
	Korean	5	0.65
	Japanese	4	0.52
	Indigenous	3	0.39
	Hispanic	2	0.26
Age		24.17 (4.194)*	16-30**
	16	6	0.8
	17	24	3.1
	18	68	8.8
	19	41	5.3
	20	61	7.9
	21	51	6.6
	22	46	6
	23	37	4.8
	24	47	6.1
	25	52	6.8
	26	46	6
	27	72	9.4
	28	60	7.8
	29	63	8.2
	30	95	12.4

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Table 1. Continued

Characteristic		Frequency	%
Education	University certificate or diploma at bachelor level or above	246	31.99
	High school diploma or GED equivalent	230	29.91
	College, CEGEP, or other non-universit certificate or diploma	142	18.47
	University certificate or diploma below bachelor level	65	8.45
	Currently in high school or completed some high school credits	63	8.19
	Apprenticeship or trades certificate or diploma	23	2.99
Income	Less than $29,999	212	27.6
	$30,000 - $59,999	203	26.4
	$60,000 - $89,000	135	17.6
	Over $90,000	88	11.4
	Prefer not to answer	131	17
Employment	Student	229	29.78
	Employed full-time	323	42.00
	Employed part-time	114	14.82
	Not in workforce	101	13.13
Relationship Status	Yes	387	50.3
	No	348	45.3
	It's complicated	34	4.4

Note. *Mean and standard deviation; **range

the BSMAS) have shown acceptable psychometric properties (Andreassen et al., 2012; Andreassen et al. 2016). Cronbach's alpha for the current sample was .81.

Sacrifices to Remain on SM

Similar Schwartz et al. (2006), participants responded to a series of items related to personal trade-offs/sacrifices they would make to remain on SM. Trade-offs related to food/drink (e.g., I would rather give up alcohol than give up SM), hobbies (e.g., I would rather give up watching television than give up SM), possessions (e.g., I would rather give up half of my personal belongings than give up SM), career (e.g., I would rather lose my current job than give up SM), appearance (e.g., I would rather gain 15 pounds than give up SM), relationships (e.g., I would rather lose a family member than give up SM), health (e.g., I would rather be blind than give up SM) and life (e.g., I would rather give up 1 year of my life than give up SM). A small number of items were adapted from Schwartz et al. (2006), with the remaining items developed for the present study based on current societal contexts and environments. Each item was rated on a 5-point scale with anchors of *strongly disagree* (1) and *strongly agree* (5), with an option of *not applicable* for each question in the case that the item did not apply to a participant (e.g., participants who do not drink alcohol were able to answer *not applicable* to alcohol consumption-related items).

Procedures

Upon receiving University of Windsor Research Ethics Board clearance (REB#21-054; spring of 2021), Qualtrics (a commercial survey sampling and administration company; Provo, UT) was contracted (summer of 2021) to recruit 750 Canadian SM users, aged 16-30 years, and implement the online

survey. Qualtrics' panelists (i.e., potential respondents) were invited to participate via email. An active survey link was provided in the email for those who wished to opt-in. After clicking the survey link, participants were asked to provide consent before continuing to the survey. Once consent was provided, participants answered two questions to ensure they met the study's inclusion criteria (i.e., country of citizenship/residency and age). To ensure data quality, attention checks (i.e., items that instructed participants to select a specific response) and speed checks (i.e., respondents with survey duration less than one-half the median survey duration) were utilized. Recruitment took approximately two weeks and continued until valid data (i.e., met inclusion criteria, completed survey, passed attention and speed checks) from 750 respondents were collected.

Data Analysis

All data were processed using IBM SPSS Statistics (version 27). First, descriptive statistics (i.e., frequencies, percentages, means, standard deviations; where appropriate) were calculated for demographics and SM usage patterns and needs. Next, additional descriptive statistics were performed to obtain means and standard deviations for total and item-specific scores on the BSMAS. Scores on individual trade-off/sacrifice items were tabulated, followed by frequency and percentage calculations. Then, a total trade-off (i.e., sacrifices) score was created. For every trade-off item, responses were collapsed into two categories to allow for greater clarity and identification of trends and data quality (DiStefano et al., 2021; Grimbeek et al., 2005; Jeong & Lee, 2016). Specifically, a score of 1 was given when a participant answered *Somewhat Agree* or *Strongly Agree* and a score of 1 was given. All other answers (i.e., *Somewhat Disagree*, *Strongly Disagree*, *Neither Disagree* nor *Agree*) received a score of 0, with answers of *Not Applicable* excluded from scoring. All scores were summed, with potential total trade-off scores ranging from 0 to 43.

A hierarchical multiple linear regression (MLR) was performed to examine whether SM use patterns and/or addiction (i.e., time since first SM account, number of SM checks per day, time per day spent on SM, and BSMAS scores; entered in Block 2 using enter method) predicted total trade-off scores, while controlling for demographic variables (i.e., age, gender, ethnicity/race, income, highest level of education, employment status; entered in Block 1 using enter method). As required, categorical demographic variables (e.g., gender, ethnicity/race) were dummy coded (e.g., for gender, men = 0 and women = 1; for ethnicity/race, non-White = 0, White = 1). Additionally, a sensitivity power analysis (G*Power; Faul et al., 2009) was conducted and confirmed that a sample size of 769 (assuming $\alpha = .05$; power = .90) was adequate for detecting a moderate effect size (i.e., .15; Cohen, 1988).

Prior to conducting all hierarchical MLRs, preliminary analyses were conducted to examine linearity, homoscedasticity of residuals, multicollinearity, and normality, as well as the presence of outliers, high leverage points, or highly influential points. Preliminary analyses revealed that ethnicity/race, income, highest level of education, and employment status were not individually linearly related to the dependent variable (i.e., total number of trade-offs). As such, they were removed from the analyses. Second, as assessed by visual inspection of a plot of studentized residual against unstandardized predicted values, heteroscedasticity was present. To correct for this violation, a weighted least square hierarchical MLR was performed, where age and gender were entered in Block 1 and SM use patterns and/or addiction variables were entered in Block 2, all using the enter method.

Assumptions were again inspected. All assumptions were met, with the exclusion of the presence of 12 outliers (± 3SD). However, after further investigation and with the sample size considered, it is believed that such data are likely natural variation, rather than errors in data entry or sampling. Additionally, when the analysis was re-run with the 12 outliers removed, similar results were obtained. As such, the outliers were kept.

RESULTS

Participants' SM usage patterns and needs are displayed in Table 2. Among the current sample, almost all participants ($n = 727$, 94.54%) had two or more SM accounts, with Instagram ($n = 693$, 90.1%), Facebook ($n = 662$, 86.1%), and YouTube ($n = 632$, 82.2%) among the most popular. Cellphones ($n = 733$, 95.3%) were the most common device through which SM accounts were accessed, followed by laptops ($n = 538$, 70.0%). Almost half of the sample ($n = 342$, 44.47%) reported checking SM *9+ per day* or *on every notification beep*, whereas only 93 participants (12.09%) reported checking their SM accounts *1-2 times per day* or *less than one time per day*. Additionally, more than three-quarters of participants reported spending at least one hour each day on SM ($n = 626$, 81.40%), with mornings ($n = 585$, 76.07%), and evenings ($n = 582$, 75.68%) reported as the most popular times of the day for accessing SM.

SM addiction scores (i.e., total and item-specific scores on the BSMAS) are presented in Table 3. Overall, mean SM addiction across the sample was 17.5 ($SD = 5.08$) out of a possible 30, with the highest average individual item scores reported for *Spent a lot of time thinking about SM?*, *Felt an urge to use SM more and more?*, and *Used SM to forget about personal problems?* (scores of 3.40, 3.29, and 3.32, with *SD*s of 1.05, 1.18, and 1.22, respectively).

Participants' willingness to make a variety of trade-offs/sacrifices to remain on SM are displayed in Table 4. Notably, more participants were willing to make food/drink or hobbies related trade-offs to remain connected to SM, whereas health and life-related trade-offs were the least popular. For example, approximately 40% participants were willing to give up alcohol or video games ($n = 318$ and $n = 291$, respectively), whereas only 1.7% ($n = 13$) and 2.2% ($n = 17$) of participants would rather lose a limb or have a life-threatening illness than give up SM.

Lastly, a weighted least square hierarchical MLR was performed to determine whether SM use patterns and addiction could predict, at least partially, the number of trade-offs participants would make to remain on SM, while controlling for age and gender. Results of the weighted least squares hierarchical MLR are presented in Table 5.

The full model (including age, gender, time since first SM account, number of SM checks per day, time per day spent on SM, and BSMAS scores) was statistically significant, $F(6, 733) = 21.941$, $p < .001$, $R^2 = .152$, adjusted $R^2 = .145$. All variables, with the exclusion of time since first SM account, added statistically significantly to the prediction ($p < .05$). Although increases in the number of SM checks per day, time per day spent on SM, and BSMAS scores all significantly predicted increases in the number of total trade-offs participants would be willing to make to remain on SM, age was inversely related. Additionally, men ($M = 6.182$, $SD = 7.834$) were significantly more likely than women ($M = 4.901$, $SD = 5.72$) to make more trade-offs.

DISCUSSION

Among the current sample of young adults in Canada, authors examined SM usage patterns and behaviours thought to be associated with a SM addiction. More specifically, the investigators sought to explore what individuals were willing to sacrifice to keep their SM addictions fueled.

When examining current SM patterns, more than three-quarters of the participants reported having three or more SM accounts. These results are congruent with national data from 2018, where more than three-quarters of Canadians used at least one SM account, and more than half of respondents reported using three or more SM accounts (Statistics Canada, 2021). The current study also found that over half of the participants report checking their SM accounts *9+ times per day* or *on every notification beep* and more than three-quarters of the participants reported *spending at least one hour on SM each day*. These high rates of SM usage are a potential cause for concern, as SM behaviour patterns (e.g., duration, frequency of use, and purpose of use) have been shown to be associated with negative psychosocial and physical outcomes (Primack et al., 2017; Statistics Canada, 2021;

Table 2. Participants' social media usage patterns and needs

	Frequency	Percentage
Social Media Site Accounts		
Facebook	662	86.10
Google+	224	29.10
LinkedIn	280	36.40
Twitter	420	54.60
Instagram	693	90.10
TikTok	413	53.70
Tumblr	130	16.90
Snapchat	517	67.20
Pinterest	433	56.30
Reddit	255	33.20
YouTube	632	82.20
Other (e.g., Twitch, Quora, Picuki, Nexopia, Discord)	6	0.01
Devices Used		
Desktop computer	202	26.3
Laptop	538	70
Cellphone	733	95.3
Tablet	225	29.3
Number of Social Media Accounts		
1	42	5.46
2	107	13.91
3	223	29.00
4	173	22.50
5	84	10.92
More than 5	137	17.82
None	3	0.39
Social Media Checks Per Day		
1-2 times per day	77	10.01
3-4 times per day	97	12.61
5-6 times per day	110	14.30
7-8 times per day	84	10.92
8-9 times per day	43	5.59
9+ times per day	239	31.08
Less than one time per day	16	2.08
On every notification beep	103	13.39

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Table 2. Continued

	Frequency	Percentage
Time Per Day		
Less than 15 minutes	33	4.29
16-59 minutes	104	13.52
1-2 hours	190	24.71
3-4 hours	261	33.94
5-6 hours	96	12.48
7-8 hours	34	4.42
9+ hours	45	5.85
No response	6	0.78
First Social Media Account		
Less than one year ago	3	0.39
1–2 years ago	29	3.77
3–4 years ago	120	15.60
5–6 years ago	124	16.12
7–8 years ago	139	18.08
9–10 years ago	98	12.74
More than 10 years ago	256	33.29
Time of Day Checking Social Media		
Morning	585	76.07
Afternoon	508	66.06
Evening	582	75.68
Night	525	68.27
Weekends	480	62.42

Table 3. Scores on Bergen social media addiction scale (BSMAS)

How often during the last year have you…	*M*(*SD*)
Spent a lot of time thinking about social media?	3.4 (1.05)
Felt an urge to use social media more and more?	3.29 (1.18)
Used social media to forget about personal problems?	3.32 (1.22)
Tried to cut down on the use of social media without success?	2.78 (1.19)
Become restless or troubled if you have been prohibited from using social media?	2.36 (1.22)
Used social media so much that is has had a negative impact on your job/studies?	2.37 (1.22)
Total	17.5 (5.08)

Note: Higher scores indicate greater addiction

Table 4. Participant responses to trade-off items

Category	I would rather… [*insert statement*] than give up social media	Disagree		Neither Disagree nor Agree		Agree		Not Applicable	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Food/ Drink	Give up caffeine	294	38.2	125	16.3	284	37	66	8.6
	Give up alcohol	205	26.7	98	12.7	318	41.4	148	19.2
	Never eat my favorite food again	531	69.1	103	13.4	122	15.8	13	1.7
	Not eat at a restaurant for 1 year	393	51.1	133	17.3	231	30	12	1.6
Hobbies	Give up video games	261	34	98	12.7	291	37.9	119	15.5
	Give up playing sports	286	37.2	106	13.8	249	32.3	128	16.6
	Give up working out/going to the gym	344	44.8	139	18.1	197	25.6	89	11.6
	Give up watching TV	397	51.6	128	16.6	222	28.8	22	2.9
	Never watch my favorite TV/movie	482	62.7	118	15.3	153	19.9	16	2.1
Possessions	Give up half my personal belongings	646	84	57	7.4	59	7.7	7	0.9
	Give up my driver's license	570	74.1	57	7.4	62	8.1	80	10.4
	Never travel again	605	78.7	70	9.1	76	9.9	18	2.3
	Live without air conditioning	564	73.4	99	12.9	87	11.3	19	2.5
	Be poor	665	86.5	48	6.2	35	4.6	21	2.7
Career	Lose my job	585	76.1	44	5.7	48	6.3	92	12
	Take a 25% pay cut	637	82.8	43	5.6	32	4.2	57	7.4
	Never land my dream job	680	88.4	40	5.2	31	4	18	2.3
	Get kicked out of school	600	78	34	4.4	37	4.8	98	12.7
	Have a criminal record	703	91.4	24	3.1	26	3.3	16	2.1
Appearance	Gain 15lbs	579	75.3	64	8.3	115	15	11	1.4
	Give up make-up	381	49.6	86	11.2	174	22.6	128	16.6
	Get a tattoo of my ex on my shoulder	607	78.9	34	4.4	35	4.6	93	12.1
	Have acne	593	77.1	71	9.2	83	10.8	22	2.9
	Shave my head	603	78.4	72	9.4	77	10	17	2.2
	Have my most embarrassing moment become a meme/gif that goes viral	588	76.4	76	9.9	89	11.6	16	2.1
	Be ugly	603	78.4	93	12.1	49	6.4	24	3.1
	Be unpopular	449	58.4	147	19.1	139	18.1	34	4.4
Relationships	Give up my pet	582	75.7	26	3.4	33	4.3	128	16.6
	Live in a different city than my significant other for 1 year	513	66.7	66	8.6	92	12	98	12.7
	Give up sex	557	72.4	53	6.9	68	8.8	91	11.8
	Have no face-to-face contact with anyone outside my household for 1 year	607	79	63	8.2	87	11.3	12	1.6
	Lose my best friend	685	89	41	5.3	26	3.4	17	2.2
	Lose a family member (e.g., parent, sibling)	716	93.2	28	3.6	19	2.4	6	0.8

Table 4. Continued

Category	I would rather… [*insert statement*] than give up social media	Disagree		Neither Disagree nor Agree		Agree		Not Applicable	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Health	Be blind	724	94.1	18	2.3	20	2.6	7	0.9
	Contract a sexually transmitted infection	700	91	20	2.6	18	2.3	31	4
	Lose a limb	730	95	19	2.5	13	1.7	7	0.9
	Be an alcoholic	666	86.6	35	4.6	33	4.3	35	4.6
	Be unable to have children	606	78.9	69	9	72	9.4	22	2.9
	Be clinically depressed	637	82.9	51	6.6	48	6.2	33	4.3
	Have a life-threatening illness (e.g., cancer)	725	94.2	20	2.6	17	2.2	7	0.9
Life	Give up 1 year of my life	641	83.4	57	7.4	69	8.9	2	0.3
	Give up 5 years of my life	701	91.2	31	4	34	4.4	3	0.4
	Give up 10 years of my life	721	93.8	21	2.7	22	2.9	5	0.7

Table 5. Weighted least squares regression results for number of trade-offs

Variable	B		95% CI for B		*SE* B	*β*		R^2		*Δ*R2	
			LL	UL							
Step 1								0.054	***	0.054	***
Constant	11.598	***	9.152	14.044	1.246						
Gender	-1.21		-2.469	0.05	0.641	-0.068					
Age	-0.268	***	-0.354	-0.183	0.044	-0.221	***				
Step 2											
Constant	5.05	***	2.335	7.765	1.383			0.152	***	0.099	***
Gender	-1.302	*	-2.502	-0.101	0.611	-0.073	*				
Age	-0.173	***	-0.269	-0.077	0.049	-0.142	***				
Time since first social media account	0.041		-0.087	0.168	0.065	0.025					
Number of social media checks per day	0.105	*	0.001	0.209	0.053	0.082	*				
Time per day spent on social media	0.335	**	0.116	0.553	0.111	0.131	**				
BSMAS	0.18	***	0.102	0.258	0.04	0.186	***				

Twenge & Martin 2020; Verduyn et al., 2017). For example, Statistic Canada (2021) reported that SM users with three or more accounts experienced more negative effects (e.g., trouble concentrating, feelings of anxiety, depression) compared to those with one account. In addition, previous research has shown that there is a positive relationship between time spent on SM and the development of obsessive compulsions to use SM applications, also known as an SM addiction (Andreassen, 2015; Marino et al., 2017; Simsek et al., 2019).

Although there is no consensus on a cut-off value for SM addiction on the BSMAS scale, Luo et al. (2021) suggest that a score of 24 or more is almost always (diagnostic accuracy of 98.8%) indicative

of a clinical diagnosis and thus a score of 24 could be used as a future clinical cut-off value. Keeping this in mind, the resulting mean addiction score of 17.4 in the present study may not be concerning from a clinical perspective, however, it is still high enough to merit some concern and discussion. For instance, a large proportion of the participants *spent a lot of time thinking about SM*, *felt an urge to use SM more and more*, and *used SM to forget about personal problems*. These findings are notable considering that past research has shown that when individuals begin to neglect daily life activities due to their excessive usage of SM applications, there is an even greater risk of developing a SM addiction (American Psychiatric Association, 2013; van den Eijinden et al., 2016). Past research has reported that people who excessively use SM already neglect daily activities such as spending less time interacting face-to-face with others (Ybarra et al., 2005), sleeping less (Statistic Canada, 2021), and participating in less physical activity (Statistic Canada, 2021).

In the present study, when participants were asked what objects or activities, they were willing to neglect to remain connected on SM, more individuals were willing to make food/drink or hobby-related trade-offs, whereas health and life-related trade-offs were the least popular. For example, 41 out of every 100 participants would rather give up alcohol than SM whereas only 4 out of every 100 participants would rather give up five years of their life than SM. These results are not surprising considering that investigators expected that individuals would be more willing to give up less meaningful trade-offs (e.g., possessions, hobbies) compared to more serious trade-offs (e.g., relationships, health). In addition, it was presumed by investigators that based on personal preferences, some respondents would be more willing to give up certain items compared to others. These speculations are based on past research, which suggests that personality type may play a role in the addictive use of SM (Andreassen et al., 2013; Hong et al., 2014). For example, an individual who regularly goes to the gym may be a lot less likely to give up working out compared to someone who has not been to a gym in years.

Overall, participants were most willing (i.e., more than 30 out of every 100 people) to give up caffeine, video games, participating in sports, and eating at a restaurant for one year compared to other trade-offs. In addition, approximately 20 out of every 100 participants would rather give up working out, television, and make-up than SM. Although some of these numbers seem unsettling, it is important to consider that there is a potential for false-positive results, as many people shift interests and activities routinely as a normal course of life. Ending participation in one activity to spend more time in another is not unusual, however, if the activity was highly valued by the individual or ceasing the activity results in potential regret or harm, then it should be considered a negative outcome (Griffiths et al., 2016).

Moreover, slightly fewer participants (i.e., about 10 in every 100 people) would gain 15lbs, have acne, shave their head, be unpopular, give up their favourite food or movie, or have no air conditioning rather than give up SM. It is not surprising that more people would be willing to give up food and hobbies than appearance-related items as appearance is closely linked to self-esteem (Crocker et al., 2004; Steinsbekk et al., 2021) and self-worth (Adams et al., 2017; Teng et al., 2017). In addition, the drive towards materialism and consumption is more prevalent now than ever before (Cleveland et al., 2015; Hill, 2011). As such, it is understandable why some participants were more willing to give up experiences and/or hobbies compared to money or object-related trade-offs.

Furthermore, about 10 in every 100 participants would live in a different city than their significant other for one year or have no face-to-face contact with anyone but their household for one year rather than give up their SM. These and other trade-off reasonings could potentially be explained by the fact that this study was conducted during the COVID-19 lockdown. In Canada, federal and provincial governments began implementing lockdown measures in mid-March 2020 including restricted travel, school/childcare closures, restricted access to senior residences/hospitals, mandatory working from home, restrictions on group gatherings, and temporary suspension of non-essential health and public shops (e.g., retail stores, gyms, salons, restaurants; Government of Canada, 2021; Vogel, 2020). These restrictions were placed into and out of effect over the course of about two years (Stoecklin et al.,

2021), forcing Canadians to find alternate ways of connecting with others (e.g., SM; Meisner, 2020). The roles and impacts of SM during the pandemic may have affected the results of the current study. For example, it could be that SM enabled individuals to sustain personal relationships in the absence of in-person contact during the pandemic (Schimmele et al., 2021). In addition, more people reported higher rates of SM during this time while already having to give up many common activities (e.g., restaurants, gyms) to pass the time.

Even though the mean ratings of agreement for trade-offs related to relationships, health, and life were low overall, a few noteworthy findings emerged when examining the proportion of respondents who agreed with certain statements. Some participants were willing to drastically alter their lives and make huge sacrifices to maintain their SM connection (e.g., give up sex/pet(s), ability to have children, years of their life, be clinically depressed, be an alcoholic). This is notable as it shows the extent in which individuals are willing to go to keep using their SM accounts. The fact that some participants would choose SM over critical aspects of life (i.e., relationships, health) suggests that being addicted to SM can potentially be just as destructive as other types of addictions (e.g., substance abuse, gambling). In contrast, there are some sacrifices that the participants generally seemed to be unwilling to make. Some of these sacrifices included having a criminal record, losing their best friend/family member, being blind, contracting a sexually transmitted disease, or having a life-threatening illness. Surprisingly, among all the results, losing a limb was the sacrifice that had the lowest mean agreement rates across the sample (i.e., people would be least willing to make) to keep their SM.

Another interesting finding from the current study is that individuals who had higher SM usage patterns or signs of problematic behaviours (i.e., addiction) were willing to make more personal sacrifices to remain on SM. This may be explained by research that has shown that individuals who frequently use SM also have greater activation in their amygdala (i.e., the part of the brain that is responsible for impulsive behaviour; He et al., 2017). This part of the brain is also activated by people who use substances problematically (He et al., 2017) or have other forms of addictive behaviours (Den Eijinden et al., 2016). Past research has already suggested that there is a positive correlation between higher SM usage rates and the level of SM addiction (Andreassen, 2015; Marino et al., 2017; Simsek et al., 2019). Therefore, it is not surprising that the results of the current study indicate that increases in the number of SM checks per day, time per day spent on SM, and BSMAS score all significantly predicted the number of total trade-offs participants would be willing to make to remain on SM. In simpler terms, the higher the participant's BSMAS score (i.e., level of predicted addiction), the more personal sacrifices they would be willing to make to keep their SM. In 2006, Schwartz and colleagues conducted a study with a similar design where respondents indicated a willingness to endure aversive life events to avoid being obese and, in each case, thinner people were willing to sacrifice more compared to heavier people. Findings from the current study followed the same trend as Schwartz et al. (2006), whereby individuals who had a greater SM addiction score were willing to make more sacrifices to keep their SM accounts.

In addition, males were significantly more likely to make a higher number of trade-offs compared to females. This finding is conflicting since research has consistently shown that problematic or addictive use of SM is more prevalent among females (Andreassen, 2015; De-Sola Gutiérrez et al., 2016; Griffiths et al., 2014). However, although addictive usage is more prevalent among females, males tend to become more problematic users (Takao et al., 2009), which may explain why they are more willing to make a greater number of trade-offs. Literature has also shown that, compared with females, males have less self-control over technology and are expected to be more compulsive users, compared to females (Lee et al., 2016). Another possible explanation for why males were more likely to make personal sacrifices could be that males tend to exhibit greater risk-taking and lower risk perception in ethical, financial, health, safety, and recreational risk domains (Hosker-Field et al., 2016).

Furthermore, the current results indicated that age was inversely related to the total number of trade-offs participants would be willing to make to remain on SM, with younger participants more willing to make personal sacrifices to remain on SM compared to older participants. These

findings are consistent with other studies that have reported higher scores on SM addiction scales in younger compared to older participants (e.g., Andreassen et al., 2012; Kuss et al., 2014). This was expected considering many popular SM platforms are geared towards the younger populations such as YouTube, Snapchat, TikTok, and Instagram which are attracting an increasing number of users (Müller et al., 2016). Adolescents also have greater exposure to electronic gadgets like smartphones at a much younger age, and hence, are more prone to overuse SM or develop a SM addiction (Ramesh Masthi et al., 2018).

Limitations

A significant outcome of this research is that higher SM usage patterns and addiction scores can increase the number of trade-offs the participant was willing to make in their personal lives. The current exploratory study is the first of its kind to examine the relationship between SM usage patterns and what sacrifices a person would be willing to make to remain connected on SM. Considering this is a novel concept, there is a lack of prior research on the topic, creating limitations for the study.

First, the authors acknowledge that the list of trade-offs discussed is not exhaustive and that there are likely other interesting trade-offs that should be considered and included in future work. Second, although attempts were made to decrease disparity in gender, efforts were unsuccessful and resulted in a sample that was majority made up of women. Future research should thus prioritize the recruitment of men participants. Additionally, we did not account for personality type or other measures of how important the trade-off activities were to each individual. This would have provided a better understanding of the degree to which people would be willing to sacrifice certain aspects of their life. Therefore, future research is needed to better understand the difference between why some participants were willing to give up certain trade-offs compared to others.

Another limitation of the current study is that the research depended exclusively on participant's self-reports, which is prone to reporting biases, error, and memory recall (Althubaiti, 2016). This could have led to underestimating the prevalence of problematic SM use and the number of trade-offs participant were willing to make. Future research should attempt to include more objective measure of SM use; however, self-reporting is a relatively simple way to collect data from a large sample at a low cost and, therefore, it was utilized for the current study.

Finally, it is also important to note that data collection for this study was conducted during the COVID-19 pandemic. Some of the trade-offs that the study mentioned were already a reality in Canada due to the federal and provincial governments implementing lockdown measures. For example, Canadians were forced to give up travel, school, work, social gatherings, and non-essential health and public shops (e.g., retail stores, gyms, salons, restaurants; Government of Canada, 2021; Vogel, 2020). Therefore, the participants may have not found the trade-offs to be that important as they already had to experience life without certain items/activities.

CONCLUSION

In conclusion, the associations among SM addiction and usage patterns and behaviours were explored. The most significant outcome of this research is that that higher SM usage patterns and behaviours can increase the number of trade-offs a person is willing to make in their personal lives. Addiction scores, number of SM checks per day, time per day spent on SM, gender, and age all significantly predicted the total number of trade-offs a person was willing to make. This is important for researchers and clinicians to be able to understand the degree of SM addiction among young adults. Health promotion efforts should aim to include awareness of these types of psychological, mental, and social issues in the future (Kocak et al., 2021).

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The authors do not have any conflicts of interest to report.

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