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Do Social Media Usage and The Endorsement of Collective Values Predict Loneliness?

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DO SOCIAL MEDIA USAGE AND THE ENDORSEMENT OF COLLECTIVE
VALUES PREDICT LONELINESS?

by

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Department of Psychology

Submitted in Partial Fulfilment

of the requirements for the degree of

Bachelor of Arts

in

Psychology

Faculty of Arts and Social Science

Huron University College

London, Canada

May 1, 2021

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Do Social Media Usage and The Endorsement of Collective Values Predict Loneliness?

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Abstract

It has been suggested that an individual's loneliness is associated with uses of social media as well as with different cultural beliefs (i.e., individualism and collectivism). However, there is little evidence about whether the time spent on social media (e.g., WeChat, Weibo, Facebook, Twitter, Snapchat) and collectivism can predict loneliness in a country that embraces multi-cultures (i.e., Canada). The current study was designed to analyze the relationships between loneliness social media usage (average time spent on social media in a day) as well as the endorsement of collective values. It was expected that the higher endorsement of collective values will offset loneliness and more time spent on social media will facilitate loneliness. Multiple linear regression of data collected from 25 University students in Canada revealed that the score of the endorsement of collective values and average time spent on social media in a day did not predict individuals' perceived loneliness. Future follow-up studies should emphasize motivations and objective measures of using social media regarding the correlation between collectivism and loneliness and causality of social media usage and collectivism on loneliness in a larger size of sample size.

Keyword: Collectivism, Social media usage, Loneliness

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Introduction

Social media use is ubiquitous in modern society and has changed the way people communicate with those around them. Today, nearly 54% of the world's population is using social media, and this percentage is likely to continue to grow in the next few years (Tankovska, 2021). More than 2.8 billion people used social media in 2017, and this number has increased by 28.5% to 3.6 billion people by the end of 2020, and is expected to exceed 4.4 billion in 2050 (Tankovska, 2021). In the past few years, in addition to the massive increase in social media users, the average time people spent on social media each day has also increased. In 2012, people spent 90 minutes per day on social media, and by 2019, it's estimated that people spent 153 minutes per day on social media (Tankovska, 2021). Although more and more people are able to reap the benefits of social media (such as communicating with each other through social network sites (SNS) and applications, anytime and anywhere), the overuse of social media might lead to psychological problems. Several studies have suggested that social media usage (time spent on social media) plays a pivotal role in predicting psychological stress, including levels of loneliness, depression and/or anxiety (e.g., Atroszko et al., 2018; Deters et al., 2014; Ellis et al., 2020; Wang et al., 2018). In general, the more time spent on social media, the more severe psychological stress might be experienced by individuals, especially younger people who use social media most frequently. Smith and Anderson (2018) reported that 88% of young adults aged from 18 to 29 indicated they frequently use social media in their daily lives. Therefore, it is

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important to examine how and why the frequency of usage and time spent using social media is related to an individual's subjective well-being.

Social Media and Loneliness

Loneliness is a common emotional experience, which is characterized as a negative emotional response to the discrepancy between the desired and actual level of an individual's social world (Peplau & Perlman, 1982). According to Hawkley et al (2003) and Masi et al. (2011), loneliness depends on the perceived quality of an individual's relationship, rather than the quantity of one's relationship or time spent with others, and individuals might still feel lonely even when they are surrounded by friends and family. In recent years, a growing number of psychologists have begun to study social media on loneliness. According to some researchers' speculations, the loneliness experienced by young people may be related to the amount of time they spend on social media and the screen, but as to whether this will increase or decrease their loneliness, there is little agreement. On the one hand, some researchers suggest that there is a positive relationship between social media use and loneliness. For instance, Song et al. (2014) suggested that using of social media help reduce perceived loneliness; they also explored a potential causal pathway between loneliness and Facebook use and found that shyness and social support are negatively related to loneliness and higher loneliness predicted less Facebook use. This finding is supported by the theories of the etiology of loneliness. Lonely people show poor social cognition and negative interpersonal evaluations, leading them to avoid opportunities for

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social connection and therefore feel lonely (Masi et al., 2011). Thus, people who actively use social media might feel less lonely since they have more opportunities for social connection. In line with the finding, according to the stimulation hypothesis (e.g., Valkenburg & Peter, 2007), online communication benefits well-being through its positive correlation on time spent with existing friends and the quality of these friendships. On the other hand, some researchers have argued that time spent on social media might be negatively related to loneliness. According to Phu and Gow (2019), more persistent usage (defined as the emotional connectedness an individual has towards Facebook) is associated with higher levels of loneliness. In the line with this finding, another study conducted by Wang et al. (2018) suggested that active Facebook use (defined as the frequency of three public Facebook activities including posting a message, posting a photo, and posting something else (e.g., a picture or video) on Facebook timeline) predicted decreased social/emotional loneliness among low to moderate users, whereas among heavy users, such posting activities predicted increased levels of social/emotional loneliness. For those heavily active Facebook users, the result confirms the displacement hypothesis (e.g., Kraut et al., 1998) that the more time people spend on social media the less time they spend with friends in an offline setting. Given such trends reported on social media such as Facebook, it is important to conduct more studies on the topic of social media and loneliness.

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Loneliness and Collectivism

Collectivism is one of the most-widely-studied cultural orientations. Collectivism highlights the value of the ingroup and its goals over the self and one's personal goals (Triandis & Gelfand, 1998). Thus, people who endorse collectivistic values tend to place more importance on the welfare of their ingroups (such as family and friends. (Triandis et al., 1988; Triandis & Gelfand, 1998). In addition, Triandis et al. (1995) and Triandis and Gelfand (1998) argued that collectivism by itself is not enough to account for the individual cultural differences among members of a collectivist culture. Consequently, Singelis et al., (1995), Triandis, (1995), and Triandis and Gelfand (1998) divided collectivism into two subtypes including a vertical orientation (i.e., beliefs that hierarchy is important, and individuals at different hierarchical levels are fundamentally different) and a horizontal orientation (i.e., beliefs that hierarchy is not important, and individuals at different hierarchical levels are fundamentally the same).

Furthermore, several studies have demonstrated that collectivism might positively related to loneliness. Ellis et al. (2020) found that spending more time with family and connecting to friends is correlated with lower loneliness, beyond COVID-19 stress. This finding supports the idea that there might be an association between loneliness and the belief in collective values because spending more time with family and connecting with friends are the embodiment of collectivism. In the line with this idea, Jackson and Wang (2013) suggested that the positive relationship between social media use and loneliness is stronger for American college students, relative to Chinese college students. It is possible that the Chinese college students in the Jackson

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and Wang (2013) study did not experience a link between their social media use and loneliness, as compared to their American counterparts, due to their embracing of more collectivistic values. According to McHugh Power et al. (2017), people who strongly embrace collectivism might have a stronger expectation of social connectedness than people who strongly endorse individualism, as the belief in collectivism creates a strong expectation of social connectedness. Therefore, people with a strong connection to collectivism might be more likely to experience loneliness than those with a strong connection to individualism. However, Heu et al. (2018) disagreed with that statement and suggested higher collectivism is related to lower loneliness due to high levels of *actual* social embeddedness accessed by the number of relationships in different categories (e.g., friends, partner, children) and closeness to the subjectively most important person in each category. In their second study, they found that higher collectivism was generally associated with higher *actual* social embeddedness, actual social embeddedness was indeed related to lower loneliness, and that higher ideal–actual discrepancies (desired–actual discrepancy and socially expected–actual discrepancy) of social embeddedness might be a risk factor for loneliness implied in higher collectivism. Moreover, Johnson and Mullins (1987) and Jylhä and Jokela (1990) also found a similar finding that such high discrepancies implied by higher collectivism may increase the risk for loneliness. However, Heu et al. (2018) argued that higher actual social embeddedness implied by higher collectivism could successfully overcome the detriment of high discrepancies implied by higher ideal social embeddedness, leading to less perceived loneliness. Nevertheless, there is a potential limitation in the previous study. Heu et al.

THE FACTORS PREDICT LONELINESS: SOCIAL MEDIA USAGE AND COLLECTIVISM (2018) suggested that future studies should try to replicate their finding in more collectivistic contexts because their research was focused on European countries, which advocate autonomy, independence, and uniqueness (individualistic values) in general, so that, become less collectivistic compared to Asian countries such as China, Japan, North Korea.

Compared to China and U.S.A, however, Canada is a country that embraces cross-cultural differences, which include the valuing of individualism or collectivism. In Canada, the majority of new immigrants were born in Asia (61.8%) and Africa (13.4%), geographical areas that have cultures that promote collectivistic values (Kawamura, 2012; Singh & Baack, 2006) and together with former permanent immigrants, account for 21.5% of the total population of Canada (2016 Canadian Census). Thus, the Canadian population contains individuals who likely vary considerably in the extent to which they identify with collectivistic versus individualistic cultural values.

The Present Study

In order to contribute to a better understanding of factors related to the psychological wellbeing of students in a society in which there has been a rapid development of information, the present study was designed to investigate the relationship between the endorsement of collective values and social media usage (average time spent on social media in a day) in individuals' loneliness among Canadian university students. Based on the evidence above, I believed that the endorsement of collective values will offset loneliness and the time spent on

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social media will facilitate loneliness. Thus, it is expected that, among Canadian university students, the endorsement of collective values and the average time spent on social media will significantly predict individuals' perceived loneliness. Accordingly, it was hypothesized that:

H1: The lower score of the endorsement of collective values (lower collectivism) will predict increased perceived levels of loneliness.

H2: The less time spent on social media on average in a day will predict decreases in perceived levels of loneliness.

Method

Participants

I surveyed students from the University of Western Ontario in February and March of 2021. A total of $N=45$ responses were gathered. After screening out respondents who did not fully complete the questionnaire ($N=17$) and who did not agree to participate in the study ($N=3$) (see Appendix A), a total of $N=25$ valid responses remained (mean age $M=21.6$ years, $SD=1.93$ consisting of 12% males; and 84% females, and 4% unspecified). The sample was recruited from the researcher's acquaintances and friends from WeChat and Facebook and no participants received any monetary compensation.

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Materials

Social Media Use.

Social media use was measured by responding to a statement with eight possible answers (Ellis et al., 2020) that assessed the amount of time spent on social media:

“Please indicate how much time do you spent on social media (e.g., Wechat, Weibo, Facebook, Twitter and Snapchat) on average in a day.”

Respondents were asked to rate the amount of time they spent in social media in a day on average on an 8-point scale from 1 (less than 10 minutes) to 8 (more than 10 hours).

UCLA Loneliness Scale (Version 3) (Russell,1996).

The UCLA Loneliness Scale (Version 3) includes 20 items (e.g., "How often do you feel that you are 'in tune' with the people around you?") and participants were asked to rate each item on a scale from 1 (Never) to 4 (Often). The entire scale appears in Appendix A. Items 1, 5, 6, 9, 10, 15, 16, 19, and 20 (e.g., "How often do you feel outgoing and friendly?") were negatively keyed, hence reverse scored (i.e., 1 = 4, 2 = 3, 3 = 2, 4 = 1) and the scores for all items were summed together. As a result, higher scores on the UCLA Loneliness Scale indicate a greater degree of loneliness. The scale has a high internal consistency ($\alpha = .96$) and high test-retest reliability ($r = .81$) in the sample of 117 undergraduate students (Russell,1996). Scores on The UCLA loneliness scale (Version 3) are also strongly correlated with scores on NYU Loneliness score and the Differential Loneliness Scale, with correlation coefficients of .65 and .72, respectively (Russell,1996).

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Collectivism.

Collectivism was measured by the Collectivism Subscale of the Reduced Version of the Horizontal and Vertical Individualism and Collectivism scale developed by Sivadas et al. (2008). It includes seven items (e.g., “I would do what would please my family, even if I detested that activity”), and participants were asked to rate the items on a 9-point scale, ranging from 1= never or definitely no and 9 = always or definitely yes. The complete scale appears in Appendix A. The scores of all items were summed together to yield an overall measure of collectivism.

The scale was demonstrated to have adequate internal consistency for horizontal-collectivism scores ($\alpha = .65$) and vertical collectivism ($\alpha = .75$) in a sample of 73 American undergraduates (Sivadas et al., 2008).

Procedure

An online questionnaire created using “Qualtrics” was distributed to participants. Upon accessing the online questionnaire, the participants were presented with the objectives of the study in the Letter of Information. Participants were informed that responses on the questionnaire were anonymous and confidential, and they were given the right to withdraw at any point. Then participants were presented with a consent form. Upon completion of the questionnaire, a debriefing sheet was presented to the participants. It was estimated that the procedure of this present study takes no more than 20 minutes to complete.

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Results

All statistical analyses were conducted by using the IBM Statistical Package for the Social Sciences (SPSS) software. The outcome variable (loneliness) was tested for normality using the Kolmogorov–Smirnov test. The normality was checked; no violations were found in the outcome variable (see Appendix for details).

The Variance Inflation Factor values of the two models (average time spent on social media in a day and collectivism) were below the 3.0 (the threshold of multicollinearity) (see Appendix B for details), indicating that the multicollinearity assumption was met.

A multiple linear regression was run to predict loneliness from the endorsement of collective values and the time spent on social media in a day on average. The results of the regression indicated that the model explained 5.9% of the variance and did not statistically predict loneliness, $F(2, 22) = 1.75, p > .05, R^2 = .14$. And both average time spent on social media in a day ($\beta = .31, t(22) = 1.55, p = .136$) and collectivism ($\beta = .23, t(22) = 1.15, p = .264$) did not add statistically significantly to the prediction. Therefore, H1 and H2 were not supported. The results of a multiple regression are shown in Table 1.

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Table 1*Summary of Multiple Regression Analyses for Variables Predicting Loneliness*

Variable	Loneliness		
	<i>B</i>	<i>SE B</i>	β
Average time spent on social media in a day	2.09	1.35	.31
Collectivism	.20	.17	.23
R^2		.14	
F		1.75	

Note: $N=25$; SE =Standard error, Collectivism: the sum of vertical and horizontal collectivism.

Table 2 shows more details with respect to the data collected.

Table 2*Descriptive Statistics*

	N	Minimum	Maximum	Mean	SD
Loneliness	25	29	62	46.20	10.10
Collectivism	25	9	56	35.20	11.51
Average time spent on social media in a day	25	2	8	5.12	1.48

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Descriptive Statistics

The *UCLA Loneliness* scores ranged from 29-62 ($M= 46.20.16$, $SD= 10.10$), indicating the sample of participants is slightly lonelier if the median score (40) is the average for a population in the world.

The Collectivism scores ranged from 9-56 ($M= 35.16$, $SD= 11.51$), suggesting the sample of participants was not with either high or low endorsement of collectivistic values in general, even most of the participants are Chinese. The average time spent on social media in a day ranged from 2 (10 –30 minutes) to 8 (more than 10 hours) ($M= 5.12$ (approximately 120 minutes to 180 minutes), $SD= 1.48$), which accords with the average time spent on social media estimation of Tankovska (153 minutes) in 2021.

Discussion

The purpose of the present study was to explore whether the endorsement of collective values and the time spent on social media among college students who study in Canada can predict loneliness. First, the present study revealed that the amount of time spent on social media, on average, in a day did not predict individuals' perceived loneliness which was inconsistent with previous findings regarding using Facebook (Song et al., 2014; Phu & Gow, 2019). One possible reason might be that the present study provided participants with various social media choices (such as Wechat, Weibo, Facebook, Twitter, Snapchat) rather than just Facebook when the researcher asked about their social media usage. There were three reasons for providing

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participants with a variety of social media choices rather than just Facebook. First, the majority of participants were Chinese who might be not using Facebook but rather a Chinese social media platform such as WeChat. As of December 31, 2019, the number of WeChat monthly active accounts reached 11.7 billion which accounts for 83% of the total Chinese population (Mansoor, 2021). Second, it was worthwhile to test that whether the previous finding in Facebook can be extended to other social media platforms in general. Third, some people might use various social media platforms in a day and prefer using a platform other than Facebook. Therefore, only using Facebook as the assigned social media might not have reflected people's real social media usage. However, providing various choices of social media when measuring social media usage may have led to additional problems. For example, using Facebook for 8 hours might have a different impact than using WeChat for 8 hours in a day on individual perceived loneliness. Compared to Facebook, WeChat is not only a social medium that satisfies people's need for social connection but is also a useful tool in daily life. WeChat has several functions including but not limited to, electronic payments (WeChat pay), ride-hailing services, financial services, live streaming, online shopping, online video games, and so on. As a result, the use of diversified social media might have led to a different outcome with respect to reported loneliness, which might explain why the time spent on social media did not predict loneliness. In other words, social media platforms are not limited to providing people only with communication functions and using different social media functions might lead to a complicated impact of using social media as a whole on loneliness. Empirically, according to Smock et al. (2011), the use of specific Facebook

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features is determined by different motivations, suggesting that social media use should not be conceptualized as a uniform entity. And different motivations of social media use might also have different influences on loneliness. For instance, Burke et al. (2010) found that certain types of Facebook use (not including the overall time spent on the site) are positively or negatively correlated with loneliness (i.e., the number of Facebook friend, directed communication interactions on the site between the focal user and another friend, consumption (attention paid to the general broadcasts shared by his or her friends)). Thus, various motivations might be counted as a possible explanation of why H2 was not supported in the present study.

In addition, the present study also revealed that the endorsement of collective values did not predict individuals' loneliness. This was not in agreement with the findings reported by Heu et al. (2018) who found that higher internalized collectivism (being individually more collectivistic) is related to lower loneliness in both collectivistic countries (Italy and Portugal) and individualistic countries (Sweden and The Netherlands). They explained the results by arguing that high actual social embeddedness might be a protection for loneliness implied in individualism, whereas higher ideal–actual discrepancies might be a risk implied in collectivism, more specifically, they believed that the positive impact of actual embeddedness exceeds the negative influence of the discrepancies between ideal and actual embeddedness implied by collectivism, leading to less loneliness. However, in the present study, the participants' actual embeddedness might not positively relate to the level of collectivism but stay at a relatively low stable level due to the impact of COVID-19 pandemic. People might have difficulty in meeting

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the ones they would like to meet, such as their friends and even family members, in an offline setting due to governments social and physical restrictions, thus leading to an alienated relationship with those people due to less amount of daily relationship maintenance than the past. As a result, the positive impact of less actual embeddedness might be weak enough to be counteracted by the negative impact of the discrepancies, leading to a nonsignificant trend of collectivism in loneliness. Another possible reason for that is the unequal self-identified gender ratio (12% males, 84% females, and 4% unspecified) of the sample participants. According to Nolen-Hoeksema and Rusting (1999), women now are more willing to explore, admit, and report feelings like loneliness than in the past. In addition, Ang (2016) found that female adolescents reported being lonelier than males, which might indicate that they have a higher expectation of social and interpersonal relationships. According to Heu et al. (2018), a higher ideal of social embeddedness is correlated to a higher discrepancy between actual and social embeddedness which is correlated to higher loneliness. As a result, the participants in the present study might have overall high discrepancies between ideal and actual social embeddedness which is not correlated with the level of collectivism, and the negative high discrepancy impact might be strong enough to counteract the benefits of actual embeddedness, leading to an insignificant conclusion of collectivism. However, it should be noted, however, that the relationship between gender (male and female) and loneliness is still controversial. For instance, Mahon et al. (2006) found that 19 studies reported no gender difference, nine reported males are typically lonelier,

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and two reported that females are more likely to experience loneliness among 30 meta-analyses of loneliness.

The current research is not without limitations. First, although I aimed to explore what might cause individuals' loneliness, the present study was not able to provide conclusions about causality since the research was purely correlational. Nevertheless, both loneliness and collectivism are difficult to study in an experiment setting. Future follow-up studies could use a longitudinal design to investigate the specific causal paths to loneliness. For example, future studies might investigate how a change of a collectivist belief in a person over time affects individuals' loneliness (measuring how loneliness changes over time when a person, who used to live in a collectivistic society, has immigrated to an individualistic society for years). Second, the time spent on social media in a day on average was measured via self-report. There might be a significant difference between the reported time and the actual time spent on social media. Future researchers might use more objective techniques such as a screen time analysis from phones to measure the time spent on social media on average in a day. Third, there were many more female participants ($N=21$) than male participants ($N=3$). It is possible that the failure to support the hypotheses might only apply to the female population due. Therefore, future investigators might investigate whether the present study's conclusion can be replicated for the male population. Last but not least, the sample size of the present paper only included the student at the University of Western Ontario, which leads to poor statistical power to detect correlations.

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In conclusion, in the sample of Canadian College students, the finding was that the time spent on social media on average in a day and the endorsement of collective values did not predict individual perceived loneliness, suggesting that social media use should not be conceptualized as a uniform entity. In addition, the finding regarding collectivism of the present paper indicates how collectivism is complicated in terms of impacts of actual social embeddedness and ideal-actual discrepancies in loneliness based on the Heu et al.'s (2018) collectivism framework. Overall, the present study increases an understanding of the correlations between loneliness and social media usage as well as collectivism in an Asian context under the stress of COVID-19 pandemic.

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Appendix A**The Questionnaire in The Study****Social Media Use**

INSTRUCTIONS: Please indicate how much time do you spent on social media (e.g., Wechat, Weibo, Facebook, Twitter and Snapchat) on average in a day.

1. less than 10 minutes, 2. 10 –30 minutes, 3. 1– 60 minutes, 4. 1–2 hours, 5. 2–3 hours,
6. 3–5 hours, 7. 5–10 hours, 8. more than 10 hours.

Vertical and Horizontal collectivism scale

INSTRUCTIONS: Please indicate how often each of the statements below is descriptive of you, ranged from 1- (Never or definitely no) to 9 (Always or definitely yes)

1. My happiness depends very much on the happiness of those around me.
2. I would do what would please my family, even if I detested that activity.
3. I usually sacrifice my self-interest for the benefit of my group.
4. The well-being of my co-workers is important to me.
5. Children should feel honored if their parents receive a distinguished award.
6. If a co-worker gets a prize, I would feel proud.

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7. I would sacrifice an activity that I enjoy very much if my family did not approve of it

UCLA Loneliness Scale (Version 3)

See an online PDF link:

https://fetzer.org/sites/default/files/images/stories/pdf/selfmeasures/Self_Measures_for_Loneliness_and_Interpersonal_Problems_VERSION_3_UCLA_LONELINESS.pdf

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Appendix B**The Detailed Information in Results Section****Table 1***The Test of Normality on Loneliness Scores*

	Shapiro-Wilk		
	Statistic	df	Sig.
Loneliness	.95	25	.216*

*Note. N = 25; *p > .05***Table 2***The Variance Inflation Factor of average time spent on social media and*

	Collinearity Tolerance	Statistics VIF
Average time spent on social media in a day	0.98	1.00
Collectivism	0.98	1.00

Note: Dependent variable: Loneliness

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Curriculum Vitae

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ACADEMIC RESEARCH & PROJECTS

Research on the Effect of The Availability of Glucose in the Bloodstream on Children's Self-control

Leader

Apr-2020

- ◆ Collected and sorted out the information about preschool children and then designed research methods;
- ◆ Organized team members to discuss the problems during the research and figure out a solution;
- ◆ Transformed the form of self-report into the objective evaluation to conceptualize children's self-control and blood glucose content without harming their health;
- ◆ Observed the children's behaviors at each hour after lunch and scored their level of self-control based on the 15-Items Teacher's Self-Control Rating Scale.

Questionnaire for the London (Canada) Urban Planning Department, City Studio

Participant

Sep 2019-Apr 2020

- ◆ Aimed to obtain feedback from citizens in London on the satisfaction for the use of public facilities in London;
- ◆ Designed the questionnaire with scientific methods based on the psychological research.