

The Relationships between User Profile Pictures and Narcissism, Depression and Personality

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Abstract—Social media software has changed how people interact with each other. In the cyber world, user profile pictures (UPP) are important for building one's images on social media. This study conducted questionnaire surveys using the Questionnaire on the Choice of Profile Picture (QCPP), Choice of Profile Picture (QCPP), Narcissism Spectrum Scale (NSS), Center for Epidemiologic Studies Depression (CES-D), and Big Five Inventory (BFI) these four questionnaires or scales to examine the relations between UPP and narcissism, depression, and personality. This study found that (1) study participants do not change their UPP frequently because of identity concerns, (2) study participants of healthy narcissism (HD) often use the general type of UPP, (3) the UPP of people without depression usually show happiness (emotion), (4) neurotic subjects usually use the default type of UPP, and (5) in terms of the type of emotion, male participants' UPP often display anticipation, while female participants' UPP are mostly about fondness. UPP are our social images in the virtual world, and they reveal our personality traits. Decoding the messages hidden in UPP may help us better understand the changes and difficulties experienced by the social media users of those UPP.

Keywords— Social media software, User profile pictures, Narcissism, Depression, Personality.

I. INTRODUCTION

Gathering people together on the Internet, social media software not only offers a means for social interactions but also satisfies many of our needs like hobbies, imagination, social activities and trading [1]. With the booming of social media platforms, we gradually get used to interacting with others in the virtual world. The boundary between reality and virtuality blurs, and more and more people like to share their real stories on the Internet. According to Global Digital Trends Report in 2023 [2], Facebook (29.6 billion), YouTube (25.1 billion), WhatsApp (20 billion), Instagram (20 billion), WeChat (13.1 billion), and TikTok (10.5 billion) these top six social media software apps each has as many as ten billion active users every month. Three of the six software apps mentioned above are owned by Meta Platforms, Inc., a pioneer ushering in the metaverse.

Facebook allows users to use their own photos for UPP, and users can use names as well as UPP to search for their acquaintance. The pandemic of COVID 19 starting in 2019 had completely altered many of our daily habits. According to The Word Bank [3], the percent of personal Internet users worldwide had increased from 49% to 60% from 2019 to

2020. Carrying out social activities through social media platforms is now an irreversible trend in social communication.

In the age of the Internet, social media software has changed how we interact with other people. According to Royal Society of Public Health [4], people of 16 to 24 years old are the most active social media users. They receive and share information using social media software, and they also use social media for entertainment. Nevertheless, these active young users start to show depression, anxiety, and stress. Kanyinga and Lewis [5] pointed out that spending more than two hours every day on social media is associated with poor mental health. Instead of facilitating expressing oneself, building a sense of identity, and forming relationships, social media turn out making young users feel lost or bullied and fear of missing out. These negative conditions may affect social media users' confidence if they unhealthily compare their real lives to those "ideal" ones displayed on the Internet [6].

Confidence is defined as an individual's faith in oneself [7], and it is a synonym for self-efficacy [8]. Self-efficacy is about an individual's belief in being capable of reaching specific goals [9]. Marquez and McAuley [10] suggested that confidence enables people to believe that their performance matches their anticipations and that they can make others accept their distinct images. Confident individuals hold a positive attitude and believe that they can adequately reach their potential [11-12].

Social media user profile pictures (UPP) play a critical role in shaping the first impression. Rosen et al. [13] statistically analyzed Twitter users' UPP and found that there are roughly seven types of UPP and five types of personality. For example, those who use a group photo for UPP are usually extroverts and enjoy happiness social activities. People paying attention to the height and width ratio of their UPP are highly self-disciplined. As for those who intentionally use UPP showing only part of their faces, they are either more negative emotionally or lack a sense of security.

LINE, a type of social media software, enables its users to communicate by text, images, and voice or video calls for free. LINE is popular and develops rapidly in Japan, Korea and South East Asia [14]. LINE is now a full-fledged social media platform with billions of active users monthly worldwide. In 2019, the company released big data related to its Taiwanese users, and according to the data, there were as many as 21

million monthly active LINE users in Taiwan (the total population of Taiwan was 23 million). In other words, nearly 91% of Taiwanese people used LINE for communication [15-16].

Farnan et al. [17] suggested that teenagers seek affective support through social me-dia. Sgalin et al. [18] pointed out that social media users' UPP reveal their mental state. This study chose LINE, highly popular social media software in Asia, to explore whether users' UPP are associated with narcissism, depression, and personality.

II. MATERIALS AND METHODS

A. Subjects

This study conducted a questionnaire survey and collected a total of 205 questionnaires completed by 57 males (27.8%) and 148 females (72.2%). For the choice of UPP, 95.6% of the study participants picked their UPP themselves and only 4.4% of the study participants were assisted by other people in choosing their UPP. In terms of the study participants' UPP changing frequency, 33.7% didn't have their UPP changed for in aver-age of more than nine months, 26.3% had their UPP changed every four to six months, 21% had their UPP changed every three months, 15.1 % had their UPP changed every seven to nine months, and 3.9% had their UPP changed in less than a month.

B. Samples

This study asked the 205 participants to provide their LINE UPP. The participants' UPP were classified into three types: the creative type, the general type, and the default type. (1) The creative type of UPP: These UPP chosen by the study participants are either creatively designed or designed to show ideas that users want to share with others. (2) The general type of UPP: These UPP are photos of the users' or pictures of landscapes, people, animals, or anime characters, and their users might use them to express their feelings. (3) The default type of UPP: These UPP are provided by the social media, and users choosing this type do not want to reveal their moods or any information of theirs.

In addition to these three types of UPP, this study also asked the study participants to describe themselves to find out the type of emotion associated with their UPP. There were eleven types of emotion: anger, anticipation, disgust, fear, happiness, fondness, sadness, surprise, longing, and annoyance.

C. Instruments

This study used four types of questionnaires or scales: (1) Questionnaire on the Choice of Profile Picture (QCPP), (2) Narcissism Spectrum Scale (NSS), (3) Center for Epidemiologic Studies Depression (CES-D), and (4) Big Five Inventory (BFI).

QCPP covers some basic questions, and it collects the study participants' UPP. NSS covers narcissism deficit (ND), healthy narcissism (HD), and extreme narcissism (EN), and each has ten questions, adding up to a total of 30 questions. A 5-point scale ranging from 1 to 5 was used. CES-D has a total of 20 questions, which are rated by a 4-point scale ranging

from 1 to 4. BFI has a total of 44 questions, which are rated by a 5-point scale ranging from 1 to 5.

D. Statistics

For QCPP, the three types of UPP are the creative type of UPP, the general type of UPP, and the default type of UPP, and there were a total of 11 types of emotion associated with the study participants' UPP based on study participants' self-description: anger, anticipation, disgust, fear, happiness, fondness, sadness, surprise, longing, and annoyance [19]. NSS is further classified into narcissism deficit (ND), healthy narcissism (HD), and extreme narcissism (EN) [20]. CES-D is divided into no depression, mild depression, moderate depression, and severe depression these four levels [21-22]. As for BIF, it is divided into extraversion, agreeableness, conscientiousness, neuroticism, and openness these five types of personalities [23].

Chi-square tests are used to examine the relationships between two variables. In this study, the relationships between UPP (in terms of the type of UPP and the type of emotion) and narcissism, depression, and personality were tested by the chi-squared test.

III. RESULTS

A. Descriptive statistics

For the three types of UPP, the majority of the 205 study participants (80.5%) used the general type of UPP and 17.6% used the creative type of UPP. This finding suggests that less than 1/5 of the participants designed or created their UPP. Among the 11 types of emotion, most study participants described themselves using words related to happiness (48.3%) and fondness (22.9%), and less than 10% of the study participants used negative words. According to the finding above, the study participants, probably because of the social function of UPP, tended to choose photos of themselves to display their optimistic characteristic, which is valued by the mainstream.

Most of the 205 study participants were healthy narcissism (HN, 76.1%), and as much as 21.5% of the study participants were narcissism deficit (ND). Among the four depression levels, most of the study participants had no depression (51.2%), while the rest (48.8%) had various levels of depression. In terms of the five types of personality, the majority participants were openness (62.4%), followed by agreeableness (26.3%). For more details of the descriptive statistical data discussed above, see Table I.

TABLE I. Descriptive Statistics.

Type	Subtype	Frequency	Percent
UPP	Creative	36	17.6
	General	165	80.5
	Default	4	2
Emotion	Anticipation	16	7.8
	Disgust	2	1
	Fear	1	0.5
	Happiness	99	48.3
	Fondness	47	22.9
	Sadness	4	2
	longing	3	1.5

	Annoyance	9	4.4
	Others	24	11.7
Narcissism	Narcissism Deficit, ND	44	21.5
	Healthy Narcissism, HD	156	76.1
	Extreme Narcissism, EN	5	2.4
Depression	No depression	105	51.2
	Mild depression	69	33.7
	Moderate depression	29	14.1
	Severe depression	2	1
Personality	Extraversion	2	1
	Agreeableness	54	26.3
	Conscientiousness	5	2.4
	Neuroticism	16	7.8
	Openness	128	62.4
Total	--	205	100

B. Chi-squared test for UPP and narcissism

The type of narcissism was determined based on the NSS score of each study participant, and the three types of narcissism are narcissism deficit (ND), healthy narcissism (HD), and extreme narcissism (EN).

Table II shows the chi-squared test results of the type of UPP and the type of narcissism. The Pearson chi-square is 0.012, suggesting that these two are significantly related. In terms of the anticipation value and the adjusted residual, most HD participants chose the general type of UPP, while ND participants tended to choose the creative type of UPP.

TABLE II. Chi-Squared Test for UPP Type and Narcissism Type.

Type	Count/ Expected Count	Narcissism Deficit, ND	Healthy Narcissism, HD	Extreme Narcissism, EN	Total
Creative	Count	12	23	1	36
	Expected Count	7.7	27.4	0.9	36
	Adjusted Residual	1.9	-1.9	0.1	
General	Count	31	131	3	165
	Expected Count	35.4	125.6	4	165
	Adjusted Residual	-1.9	2.2	-1.2	
Default	Count	1	2	1	4
	Expected Count	0.9	3	0.1	4
	Adjusted Residual	0.2	-1.2	3	
Total	Count	44	156	5	205
	Expected Count	44	156	5	205

Table III shows the chi-squared test results of the type of emotion and the type of narcissism. The Pearson chi-square is 0.127, suggesting that these two are not significantly related.

TABLE III. Chi-Squared Test for Emotion Type and Narcissism Type.

Type	Count/ Expected Count	Narcissism Deficit, ND	Healthy Narcissism, HD	Extreme Narcissism, EN	Total
Anticipation	Count	5	11	0	16
	Expected Count	3.4	12.2	0.4	16
	Adjusted Residual	1	-0.7	-0.7	
Disgust	Count	0	2	0	2
	Expected Count	0.4	1.5	0	2
	Adjusted Residual	-0.7	0.8	-0.2	

Fear	Residual Count	1	0	0	1
	Expected Count	0.2	0.8	0	1
	Adjusted Residual	1.9	-1.8	-0.2	
Happiness	Count	15	83	1	99
	Expected Count	21.2	75.3	2.4	99
	Adjusted Residual	-2.1	2.5	-1.3	
Fondness	Count	9	35	3	47
	Expected Count	10.1	35.8	1.1	47
	Adjusted Residual	-0.4	-0.3	2	
Sadness	Count	2	2	0	4
	Expected Count	0.9	3	0.1	4
	Adjusted Residual	1.4	-1.2	-0.3	
Longing	Count	0	3	0	3
	Expected Count	0.6	2.3	0.1	3
	Adjusted Residual	-0.9	1	-0.3	
Annoyance	Count	5	4	0	9
	Expected Count	1.9	6.8	0.2	9
	Adjusted Residual	2.5	-2.3	-0.5	
Others	Count	7	16	1	24
	Expected Count	5.2	18.3	0.6	24
	Adjusted Residual	1	-1.2	0.6	
Total	Count	44	156	5	205
	Expected Count	44	156	5	205

C. Chi-squared test for UPP type and depression level

The participants' depression level was determined by their CES-D scores. There were four levels: no depression (0 to 16 points), mild depression (17 to 28 points), moderate depression (29 to 40 points), and severe depression (41 to 60 points).

Table IV shows the chi-squared test results of the type of UPP and the level of depression. The Pearson chi-square is 0.220, suggesting that these two are not significantly related.

TABLE IV. Chi-Squared Test for UPP Type and Depression Level.

Type	Count/ Expected Count	No depression	Mild depression	Moderate depression	Severe depression	Total
Creative	Count	19	9	8	0	36
	Expected Count	18.4	12.1	5.1	0.4	36
	Adjusted Residual	0.2	-1.2	1.5	-0.7	
General	Count	85	59	19	2	165
	Expected Count	84.5	55.5	23.3	1.6	165
	Adjusted Residual	0.2	1.3	-2.2	0.7	
Default	Count	1	1	2	0	4
	Expected Count	2	1.3	0.6	0	4
	Adjusted Residual	-1.1	-0.4	2.1	-0.2	
Total	Count	105	69	29	2	205

Expected Count	105	69	29	2	205
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Table V shows the chi-squared test results of the type of emotion and the level of depression. The Pearson chi-square is 0.15, suggesting that these two are significantly related. In terms of the anticipation value and the adjusted residual, most UPP of those without depression showed happiness. As for study participants with mild depression, most of their UPP showed anticipation and fear. For those with moderate depression, most of their UPP showed annoyance, while most of the UPP of study participants with severe depression showed anticipation. In other words, when an individual's UPP shows anticipation, fear, or annoyance, he or she might be suffering from a certain level of depression.

TABLE V. Chi-Squared Test for Emotion Type and Depression Level.

Type	Count/Expected Count	No depression	Mild depression	Moderate depression	Severe depression	Total
Anticipation	Count	5	8	2	1	16
	Expected Count	8.2	5.4	2.3	0.2	16
	Adjusted Residual	-1.7	1.4	-0.2	2.2	
Disgust	Count	2	0	0	0	2
	Expected Count	1	0.7	0.3	0	2
	Adjusted Residual	1.4	-1	-0.6	-0.1	
Fear	Count	0	1	0	0	1
	Expected Count	0.5	0.3	0.1	0	1
	Adjusted Residual	-1	1.4	-0.4	-0.1	
Happiness	Count	67	25	7	0	99
	Expected Count	50.7	33.3	14	1	99
	Adjusted Residual	4.6	-2.5	-2.8	-1.4	
Fondness	Count	19	19	8	1	47
	Expected Count	24.1	15.8	6.6	0.5	47
	Adjusted Residual	-1.7	1.1	0.6	0.9	
Sadness	Count	2	2	0	0	4
	Expected Count	2	1.3	0.6	0	4
	Adjusted Residual	0	0.7	-0.8	-0.2	
Longing	Count	1	1	1	0	3
	Expected Count	1.5	1	0.4	0	3
	Adjusted Residual	-0.6	0	1	-0.2	
Annoyance	Count	2	3	4	0	9
	Expected Count	4.6	3	1.3	0.1	9
	Adjusted Residual	-1.8	0	2.7	-0.3	
Others	Count	7	10	7	0	24
	Expected Count	12.3	8.1	3.4	0.2	24
	Adjusted Residual	-2.3	0.9	2.2	-0.5	
Total	Count	105	69	29	2	205
	Expected Count	105	69	29	2	205

D. Chi-squared test for UPP type and personality type

The participants' personality type was determined by their BIF scores, and the five personality types are extroversion, agreeableness, conscientiousness, neuroticism, and openness.

Table VI shows the chi-squared test results of the type of UPP and the type of personality. The Pearson chi-square is 0.024, suggesting that these two are significantly related. In terms of the anticipation value and the adjusted residual, most study participants of extroversion, conscientiousness, and openness chose the general type of UPP. The agreeableness type of study participants preferred the creative type of UPP, whereas those of neuroticism tended to choose the default type of UPP.

TABLE VI. Chi-Squared Test for UPP Type and Personality Type.

Type	Count/Expected Count	Extroversion	Agreeableness	Conscientiousness	Neuroticism	Openness	Total
Creative	Count	0	10	0	6	20	36
	Expected Count	0.4	9.5	0.9	2.8	22.5	36
	Adjusted Residual	-0.7	0.2	-1	2.2	-0.9	
General	Count	2	43	5	8	107	165
	Expected Count	1.6	43.5	4	12.9	103	165
	Adjusted Residual	0.7	-0.2	1.1	-3.2	1.4	
Default	Count	0	1	0	2	1	4
	Expected Count	0	1.1	0.1	0.3	2.5	4
	Adjusted Residual	-0.2	-0.1	-0.3	3.2	-1.6	
Total	Count	2	54	5	16	128	205
	Expected Count	2	54	5	16	128	205

Table VII shows the chi-squared test results of the type of emotion and the type of personality. The Pearson chi-square is 0.089, suggesting that these two are not significantly related.

TABLE VII. Chi-Squared Test for Emotion Type and Personality Type.

Type	Count/Expected Count	Extroversion	Agreeableness	Conscientiousness	Neuroticism	Openness	Total
Anticipation	Count	0	6	0	0	10	16
	Expected Count	0.2	4.2	0.4	1.2	10	16
	Adjusted Residual	-0.4	1.1	-0.7	-1.2	0	
Disgust	Count	0	1	0	0	1	2
	Expected Count	0	0.5	0	0.2	1.2	2
	Adjusted Residual	-0.1	0.8	-0.2	-0.4	-0.4	
Fear	Count	0	0	0	1	0	1
	Expected Count	0	0.3	0	0.1	0.6	1
	Adjusted Residual	-0.1	-0.6	-0.2	3.4	-1.3	
Happiness	Count	1	29	4	6	59	99
	Expected Count	1	26.1	2.4	7.7	61.8	99
	Adjusted Residual	0	0.9	1.4	-0.9	-0.8	
Fondness	Count	1	11	0	3	32	47
	Expected Count	0.5	12.4	1.1	3.7	29.3	47
	Adjusted	0.9	-0.5	-1.2	-0.4	0.9	

	Residual						
Sadness	Count	0	0	1	1	2	4
	Expected Count	0	1.1	0.1	0.3	2.5	4
	Adjusted Residual	-0.2	-1.2	3	1.3	-0.5	
Longing	Count	0	0	0	0	3	3
	Expected Count	0	0.8	0.1	0.2	1.9	3
	Adjusted Residual	-0.2	-1	-0.3	-0.5	1.4	
Annoyance	Count	0	0	0	3	6	9
	Expected Count	0.1	2.4	0.2	0.7	5.6	9
	Adjusted Residual	-0.3	-1.8	-0.5	2.9	0.3	
Others	Count	0	7	0	2	15	24
	Expected Count	0.2	6.3	0.6	1.9	15	24
	Adjusted Residual	-0.5	0.3	-0.8	0.1	0	
Total	Count	2	54	5	16	128	205
	Expected Count	2	54	5	16	128	205

E. Effect of gender by chi-squared test

This study further examined the effect of gender. Table VIII shows that gender is associated with emotion ($p = 0.001$) only. For the type of emotion, most male participants' UPP showed anticipation, while most female participants' UPP showed fondness.

TABLE VIII. Effect of Gender by Chi-Squared Test.

Type	Subtype	Count/Expected Count	Male	Female	Total	Pears on Chi-Square
UPP	Creative	Count	5	31	36	0.118
		Expected Count	10	26	36	
		Adjusted Residual	-2.1	2.1		
	General	Count	51	114	165	
		Expected Count	45.9	119.1	165	
		Adjusted Residual	2	-2		
	Default	Count	1	3	4	
		Expected Count	1.1	2.9	4	
		Adjusted Residual	-0.1	0.1		
Emotion	Anticipation	Count	9	7	16	0.001
		Expected Count	4.4	11.6	16	
		Adjusted Residual	2.6	-2.6		
	Disgust	Count	1	1	2	
		Expected Count	0.6	1.4	2	
		Adjusted Residual	0.7	-0.7		
	Fear	Count	0	1	1	
		Expected Count	0.3	0.7	1	
		Adjusted Residual	-0.6	0.6		
	Happiness	Count	26	73	99	
		Expected Count	27.5	71.5	99	
		Adjusted Residual	-0.5	0.5		
	Fondness	Count	4	43	47	
		Expected Count	13.1	33.9	47	
		Adjusted	-3.4	3.4		

		Residual				
	Sadness	Count	3	1	4	
		Expected Count	1.1	2.9	4	
		Adjusted Residual	2.1	-2.1		
	Longing	Count	1	2	3	
		Expected Count	0.8	2.2	3	
		Adjusted Residual	0.2	-0.2		
	Annoyance	Count	1	8	9	
		Expected Count	2.5	6.5	9	
		Adjusted Residual	-1.1	1.1		
	Others	Count	12	12	24	
		Expected Count	6.7	17.3	24	
		Adjusted Residual	2.6	-2.6		
Narcissism	Narcissism deficient	Count	12	32	44	0.918
		Expected Count	12.2	31.8	44	
		Adjusted Residual	-0.1	0.1		
	Healthy narcissism	Count	44	112	156	
		Expected Count	43.4	112.6	156	
		Adjusted Residual	0.2	-0.2		
	Extreme narcissism	Count	1	4	5	
		Expected Count	1.4	3.6	5	
		Adjusted Residual	-0.4	0.4		
Depression	No depression	Count	28	77	105	0.454
		Expected Count	29.2	75.8	105	
		Adjusted Residual	-0.4	0.4		
	Mild depression	Count	23	46	69	
		Expected Count	19.2	49.8	69	
		Adjusted Residual	1.3	-1.3		
	Moderate depression	Count	6	23	29	
		Expected Count	8.1	20.9	29	
		Adjusted Residual	-0.9	0.9		
	Severe depression	Count	0	2	2	
		Expected Count	0.6	1.4	2	
		Adjusted Residual	-0.9	0.9		
Personality	Extraversion	Count	1	1	2	0.578
		Expected Count	0.6	1.4	2	
		Adjusted Residual	0.7	-0.7		
	Agreeableness	Count	17	37	54	
		Expected Count	15	39	54	
		Adjusted Residual	0.7	-0.7		
	Conscientiousness	Count	1	4	5	
		Expected Count	1.4	3.6	5	
		Adjusted Residual	-0.4	0.4		

	Neuroticism	Count	2	14	16	
		Expected Count	4.4	11.6	16	
		Adjusted Residual	-1.4	1.4		
	Openness	Count	36	92	128	
		Expected Count	35.6	92.4	128	
		Adjusted Residual	0.1	-0.1		
Total	--	Count	57	148	205	--

IV. DISCUSSION AND CONCLUSION

This study investigated whether the type of user profile pictures (UPP) and the type of emotion of social media users are related to narcissism, depression, and personality. The initial findings of this study showed that 75.1% of study participants had not changed their UPP in three months, which suggests that UPP function like users’ identity, so users would use the same profile pictures to avoid identity-related problems.

Among the three types of UPP, mostly study participants chose the general type of UPP (80.5%). The two main types of emotion are happiness (48.3%) and fondness (22.9%), which are positive emotions. Less than 10% of the participants used negative words, e.g., disgust, to describe their emotion. As much as 91% of people in Taiwan are LINE users, and for Taiwanese people, LINE is not only social media software for keeping in touch with one’s families and friends, but also a popular instrument for communication used at work or among family members. Because of the above-mentioned social functions of LINE, users when selecting their UPP for LINE would prefer photos of themselves, their families or pets, or landscapes. When the study participants describing their emotion, they ex-pressed positive emotion like happiness (48.3%) and fondness (22.9%), which facilitate building positive social relationships. Therefore, UPP have a social communication function, and most people would pick UPP that meet social anticipations in order to establish proper and stable social relationships with others.

According to the chi-squared test results of the type of UPP and the type of narcissism, these two factors reached statistical significance. What is worth noting is that most study participants with healthy narcissism (HN) used the general type of UPP, whereas those with narcissism deficit (ND) preferred the creative type of UPP. This finding should be further investigated.

According to the chi-squared test result of the type of emotion and the level of depression, these two were significantly related statistically (p=.015). More specifically, study participants without depression showed happiness, participants with mild depression showed both anticipation and fear, participants with moderate depression showed annoyance, and participants with severe depression showed anticipation. It can be found that those with more severe depression tended to show more negative emotion. In contrast, more positive emotion was shown by study participants with milder depression. It seems that people with more severe

depression wish to grab the attention of others. Therefore, an individual's UPP may reveal his or her level of depression, and those using UPP to ex-press anticipation might be suffering from depression.

According to the chi-squared test result of the type of UPP and the type of personality, these two factors were significantly related (p=.024). More specifically, study participants with the openness type of personality tended to use the general type of UPP, while those with neuroticism preferred the default type. The former supports the social need function of UPP, while the latter implies that those with neuroticism would intentionally pick the default type of UPP to protect themselves when they feel uncertainty in a social interaction. This finding will be explored more in depth later.

As for the chi-squared test result of gender and the type of emotion, these two factors were significantly related (p=.001). For the type of emotion, most male participants’ UPP showed anticipation, while most female participants’ UPP showed fondness. As mentioned earlier that individuals expressing the anticipation type of emotion may be suffering from depression. When the researchers of this study examining the association be-tween gender and level of depression, they discovered that even though these two were not significantly related, more male (N = 23) than female participants had mild depression (N = 19.2). Taken together, gender, emotion, and depression to a certain degree may be associated, and it is a topic that should be further explored.

This study investigated how UPP are related to narcissism, depression, and personality. Social media UPP can be viewed as our social image in the virtual world, and they also reveal our personality traits. Don’t miss the hidden message in UPP when we interact with others using social media software because they may reveal changes we are under-going or challenges we are facing.

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