

University of Wales Trinity Saint David

Exploring the relationship between levels of extraversion and social media use

AI statement

I confirm that I have not used any AI tools in the research and creation of this assignment. I confirm that I have not presented any AI-generated materials as my own work.

I confirm I have copies of my drafts, notes, and other resources I used, which I may be asked to provide in evidence.

Abstract

This study examined whether levels of extraversion influence differences in social media usage (SMU). Participants were assigned to high- and low-extraversion groups, and an independent-samples t-test was conducted to examine differences in social media use between the groups. The results indicated no substantial difference in social media use between people with high and low levels of extraversion, $t(32) = -1.02$, $p = .32$. Although extraverts had a slightly higher average usage, the difference was not much greater. This contrasts with the view that extraverts engage more with social interaction, including online. These findings add to the mixed research within this area and may reflect changes in how social media is used, such as passive browsing. Overall, the results suggest that the relationship between personality and social media use is complex.

Introduction

Social media use is a huge part of everyday life for most people, with widespread prevalence documented across multiple studies and regions (Jungselius, 2024). With communication, interaction, information sharing, and self-expression online. Platforms such as Instagram and Facebook allow others to stay connected from afar (Ellison et al., 2007). As social media use has grown, researchers have become interested in understanding the psychological factors that influence how and why people use social media (Kuss & Griffiths, 2011; Nadkarni & Hoffmann, 2012). One factor is personality, particularly the trait of extraversion, which is commonly associated with sociability, confidence and interpersonal interaction. Understanding how personality relates to social media use may help explain differences in online behaviour and engagement patterns.

Extraversion is one of the five major dimensions within the five-factor model of personality, a well-known model used to explain individual differences (Costa & McCrae, 1999; John & Srivastava, 1999). People who score higher in extraversion tend to enjoy social situations and be more outgoing, whilst those who score lower in extraversion, known as introverts, tend to be quieter and prefer fewer social environments. For this reason, it has been suggested that extraverts may use social media more to communicate, maintain relationships, and receive social feedback through likes and comments (Correa et al., 2010; Burrow & Rainone 2017). This could be really appealing to those who enjoy seeking social engagement and external stimulation.

Previous research supports this theory; Costa et al. (2010) found that extraversion is associated with greater online use, including posting and interacting with others. Amichai-Hamburger and Vinitzky (2010) reported that extraverts are more active on social media. However, not all findings are consistent. Some studies suggest that introverts may also use social media regularly, especially for passive consumption rather than interacting (Ryan & Xenos, 2011). Beyens et al. (2020) suggest a possible explanation for these different findings is that social media offers a range of engagement options, such as active interaction

or passive consumption, which may appeal to both personality types (Orchard et al., 2014). This inconsistency indicates that the relationship between extraversion and social media use may be more complex than originally assumed.

Based on the link between extraversion and social media use, and empirical findings suggesting greater online activity among extraverts, this study aims to determine whether individuals who score higher in extraversion report higher social media use than those with lower levels. The study will focus on self-reported usage levels, including time spent on platforms and interaction frequency. It is hypothesised that participants with higher extraversion will use social media more than those with lower extraversion.

Method

Participants

Thirty-four undergraduate students were recruited using convenience sampling. The sample consisted of 13 males, 19 females and 2 non-binary participants. Their ages ranged from 18 to 69 years ($M = 29.26$, $SD = 11.33$). All participants voluntarily participated in this study and provided informed consent prior to participation.

Design

A between-subjects design was used to investigate differences in social media use based on levels of extraversion. Extraversion was measured, and participants were categorised into low and high groups based on the sample mean. The independent variable (IV) was extraversion level (low vs high), and the dependent variable (DV) was social media use. A t-test was conducted to determine whether there was a statistically significant difference in social media use between the two groups.

Materials

The Big Five Inventory (BFI; John & Srivastava, 1999) was used to assess levels of extraversion in participants (see Appendix A). The full BFI includes 44 items, however only items related to the trait of extraversion were used in this study. A total of eight items, therefore, were used to measure extraversion levels. Participants were instructed to respond to each of the eight statements based on how they generally see themselves, and the anchor 'I see myself as someone who...' was provided at the beginning of the questionnaire. Responses to each statement, including "... generates a lot of enthusiasm", were given on a 5-point Likert scales anchored from 1 = strongly disagree to 5 = strongly agree, with total scores on the scale subsequently ranging from eight to 40. Three items were negatively worded and required reverse scoring prior to analysis. Higher scores for this personality trait indicate a more outgoing and sociable person. Internal reliability for the extraversion scale in this study was initiated to be .56 which is lower than that reported by John, Donahue and Kentle (1991) (Cronbach's alpha = .83).

To measure level of social media use, the Social Media Use Questionnaire (SMUQ; Xanidis & Brignell., 2016) was used. This questionnaire contained nine items that aimed to assess levels of dependence to social networking sites (SNS). Participants were asked to provide a response to statements, such as "I spend a large proportion of my day using social network sites", on a five-point scale anchored between zero (never) to five (always). Final scores ranged between zero and 36, with higher scores indicative of higher levels of dependence on SNS. Internal reliability for this scale was .90, which corresponds with previous research using this scale (e.g., Xanidis & Brignell, 2016)

Procedure

Participants were recruited via the Experiment Management System (EMS) through a link distributed by the lead researcher. Upon accessing the online study, participants were

presented with an information sheet (see Appendix B) and a consent form (see Appendix C). Participants were required to read this information and provide informed consent before proceeding.

Following consent, participants completed a series of demographic questions, including age and gender. They then completed the extraversion questionnaire, followed by the social media use questionnaire (see Appendix D).

Upon completion of all measures, participants were presented with a debriefing statement (see Appendix E) outlining the aims and hypotheses of the study and reiterating their right to withdraw their data. Participants were then given the option to submit their responses by selecting a final submission button. Once the study was completed, participants were thanked for their participation.

Results

An independent-samples t-test was conducted (see Appendix F) to examine differences in social media use between introverts and extraverts. Descriptive statistics are presented in Table 1 below.

Table 1.

Descriptive Statistics Relating to Level of Social Media Use.

Extraversion level	<i>M</i>	<i>SD</i>	<i>N</i>
Low	12.62	6.28	13
High	15.14	7.45	21

The *t*-test showed that there was no significant difference in levels of social media use between participants categorised as introverts and extraverts; $t(32) = 1.02$, $p = .16$. The hypothesis that participants categorised as extraverts would use social media more than those categorised as introverts must therefore be rejected.

Discussion

This study examined whether individuals with higher extraversion levels report greater social media use than those with lower levels. It was hypothesised that extraverts would show significantly higher usage. However, these results did not support this prediction, as no significant difference was found between the two groups. Extraverts had a slightly higher mean score, but the difference was not statistically significant. Therefore, the hypothesis is rejected.

The results of the study continue to add to research that the relationship between social media use and extraversion is complex. Whilst some studies have found a link between extraversion and higher levels of interaction and online activity (Amichai-Hamburger & Vinitzky; Costa et al., 2010), the current results are more consistent, showing no clear difference in overall usage between personality types (Ryan & Xenos, 2011). This suggests that extraverts and introverts use social media similarly.

One explanation for this was that different social media platforms offer a variety of interaction options, from liking and commenting to passively scrolling through content. Prior research had suggested that extraverts are more likely to engage in active use, such as maintaining relationships online through communication (Correa et al., 2010; Burrow & Rainone, 2017). In contrast, introverts may prefer passive consumption to direct communication. As suggested by Beyens et al. (2020) and Orchard et al. (2014), the different types of engagement could explain why overall usage differs, even if behaviour patterns do not.

Another explanation could possibly be that social media is prevalent and is part of everyday life for many people. Jungselius (2024) highlights the widespread use of social media across regions, which may reduce the influence of personality traits such as extraversion. Facebook and Instagram, social media platforms, allow interaction and passive use which appeals to both introverts and extraverts (Ellison et al., 2007). Meaning, differences in total usage will be barely noticeable.

However, there are some limitations. The sample size was small ($N = 34$), which may have limited the ability to detect significant differences. Participants were also divided into low- and high-extraversion groups, which may oversimplify personality traits, as they are usually measured on a continuum (Costa & McCrae, 1999). This may have limited the analysis's sensitivity. The study also relied on self-reported social media use, which may not always be accurate and can introduce bias.

Future research should explore differences in how social media is used rather than focusing solely on its use. Studies could examine active versus passive consumption, preferred platforms, or the reasons people use social media. Larger samples and detailed personality measures may also improve the validity of the findings.

In conclusion, this study found no statistically significant differences in social media use between introverts and extraverts. This suggests that extraverts may not strongly predict overall use. Instead, personality differences may be more important for understanding how people engage with social media than how much they use it.

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Appendices

Appendix A

The Big Five Inventory (BFI; John & Srivastava, 1999)

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

Disagree strongly	Disagree	Neither agree nor disagree	Agree	Agree strongly
1	2	3	4	5

I see Myself as Someone Who...

_____ 1. Is talkative

_____ 2. Is reserved

_____ 3. Is full of energy

_____ 4. Generates a lot of enthusiasm

_____ 5. Tends to be quiet

_____ 6. Has an assertive personality

_____ 7. Is sometimes shy, inhibited

_____ 8. Is outgoing, sociable

Scoring information:

R denotes reverse-scored items

$1 + 2R + 3 + 4 + 5R + 6 + 7R + 8$

Appendix B

Study Information Sheet

This document provides key information regarding the study and provides details about what will be expected of you as a participant. Therefore, please read this information carefully before providing consent to take part.

The purpose of this study is to explore the effect of the personality trait of extraversion on social media use.

During this study, you will be required to do the following:

- Fill in your demographic information of age and gender.
- Complete the Extraversion sub-scale of the Big Five Inventory (John et al., 1991).
 - This is an eight-item questionnaire designed to assess the personality trait of extraversion.
 - Each item has a five-point response option ranging from Disagree strongly to Agree strongly.
 - You should choose which response option best describes your thoughts/feelings in relation to each of the statements presented.
 - Further instructions on how to complete this questionnaire will be presented at the top of the page.
- You will also be required to complete a questionnaire that aims to assess your level of social media use.
 - This is a nine-item questionnaire, and each item has a five-point response option ranging from Never to Always.
- At the end of the study, you will be provided with the study debrief.

If you have any questions or concerns about this study, please contact the research supervisor, Stacey Coleman on stacey.coleman@uwtsd.ac.uk

You can download a copy of this information sheet for your records here: [Information Sheet](#)

If you feel you want to withdraw your participation from the study, you can do so at any time by closing the browser on your device. If you withdraw, your data will be deleted and not used, as partial data will not be analysed.

As this study involves the completion of an extraversion questionnaire, if you feel you would not be comfortable answering questions about your extraversion levels, then you are advised not to take part in this study.

If you are happy to take part in this study, please select below to continue to the consent form.

Appendix C

Study Consent Form

I understand that this research study is being carried out to collect data for a group of 1st year Psychology students for a research report. I understand that taking part in this study will involve providing details about my age and gender, completing a short personality questionnaire, and a questionnaire assessing my social media usage.

This study will take approximately 10 minutes to complete.

I understand that participation in this study is voluntary, and I am free to withdraw my participation at any time during or before the end of the study without giving a reason and without penalty by closing the computer browser.

I understand that once I complete the study, I will not be able to withdraw my data, as it will be anonymised and the researcher will be unable to trace my data back to me.

I am aware that if I have any questions or concerns about the study, I can contact the researcher supervisor, Stacey Coleman at any time before, during, or after the study on stacey.coleman@uwtisd.ac.uk

I understand that the information provided by me will be held confidentially, with a code assigned in place of my name. These data will be stored indefinitely in accordance with the Data Protection Act.

I also understand that at the end of the study, I will be provided with a debrief form.

You can download a copy of this consent form by clicking here: [Consent Form](#)

Please tick all boxes below to confirm your consent into participating in this study:

☐ **I am 18 years of age or over**

☐ **I understand I can withdraw at any time without penalty by closing the browser**

☐ **I understand my data will be held confidentially and my identity will remain anonymous**

☐ **I understand all the above information on this consent form**

☐ **I consent to taking part in this study**

Appendix D

Social Media Use Questionnaire (SMUQ; Xanidis & Brignell, 2015)

	Never	Rarely	Sometimes	Often	Always
1. I struggle to stay in places, where I won't be able to access social network sites.	0	1	2	3	4
2. I feel angry, when I am not able to access my social network account	0	1	2	3	4
3. My relatives and friends complain that I spend too much time using social network sites.	0	1	2	3	4
4. I lose track of time, when using social network sites	0	1	2	3	4
5. I use social network sites, when I am in the company of friends	0	1	2	3	4
6. I feel anxious, when I am not able to check my social network account	0	1	2	3	4
7. I stay online longer than initially intended.	0	1	2	3	4
8. I spend a large proportion of my day using social network sites.	0	1	2	3	4

9. I feel guilty about
the time that I
spend on social
network sites

0

1

2

3

4

Appendix E

Study Debrief Sheet

Exploring the effect of extraversion on social media use.

Thank you for taking part in this study.

The purpose of this study is to explore the effect of the personality trait of extraversion on their social media use. Specifically, the aim of the study is to examine whether individuals who report high levels of extraversion are significantly more likely to engage in higher levels of social media use.

If you wish to withdraw your data from the study you must close your computer browser now. After this point, your data will become anonymous and it will not be possible to trace it back to you. The data you submit will remain confidential.

If taking part in this study has raised any concerns or if you have any questions about the study, please contact the academic supervisor Stacey Coleman: stacey.coleman@uwtsd.ac.uk

You can download a copy of this debrief sheet for your records by clicking here: [Debrief](#)

If you are happy for your data to be included in this study, please click the arrow below to confirm.

Thank you once again for taking time to participate in this study.

BSc Psychology

BSc Psychology and Counselling

BSc Psychology and Criminology

University of Wales Trinity Saint David, Swansea

Appendix F

SPSS output: Independent samples t-test

Independent Samples Test											
		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
SMU	Equal variances assumed	1.667	.206	-1.019	32	.158	.316	-2.52747	2.48106	-7.58124	2.52629
	Equal variances not assumed			-1.061	28.861	.149	.297	-2.52747	2.38160	-7.39940	2.34446

Table 1

Descriptive results of mean testing between high and low levels of extraversion

Group Statistics					
	Ex_Groups	N	Mean	Std. Deviation	Std. Error Mean
SMU	1.00	13	12.6154	6.27878	1.74142
	2.00	21	15.1429	7.44504	1.62464