

The study results of a report regarding the differences between extroverts and introverts in rapport with social media use

Abstract

This study explored whatever personality, especially extroversion, place the role in how much time we spend on social media. I had hypothesised that extroverted individuals, who naturally crave social stimulation, would report significantly higher levels of usage than introverts. To test this, in this study were recruited 34 undergraduate psychology students, age 18 to 69, using convenient sampling. The participants personality traits were measured using the Big Five Inventory (BFI), and their social media habits were assessed using the Social Media Use Questionnaire (SMUQ). After dividing the participants into high and low extroversion groups, it was conducted an independent sample *t*-test.

The results showed no statistically significant differences in social media use between the two groups, $t(32) = 1.02, p = .16$. These findings contrast with some previous research that suggest extra hours are more active online. The lack of a significant result in this study may be due to small sample size or the specific nature of a student only group. Ultimately, the findings suggest that social media has become such a universal part of daily life that is it may be used equally by all personality types regardless of how outgoing there in the physical world

Introduction

The use of social media has increased so much in the past years, it has become a primary medium for human interactions, yet the way individuals interact with these platforms is not uniform. According to the Big-Five Factor Model, personality traits, especially introverts and extroverts, play a critical role in determining digital behaviour (McCrae & Costa, 2003).

Understanding the connection between personality traits and digital behaviour is essential for capturing the evolving nature of modern social connectivity. Theoretician Frameworks often diverge on how personality dictates social media use. The rich get richer hypothesis suggests that extraverts use the Internet to further enhance their already robust offline social lives (Kraut et al., 2002). Supporting this Gosling et al. (2011) found that extroverts tend to be more active on platforms like Facebook, reporting higher friends counts and more frequent posting of photos and status updates. In this view, social media servers serve as high stimulation tool for extroverts to seek the social reward and hits of dopamine they naturally crave.

Controversially, the “Social compensation” or poor get rich hypothesis suggests that introverts may turn to social media to offset difficulties in face-to-face interactions. Because digital communication is often asynchronous, meaning it does not happen in real life, it allows introverted individual individuals more time to craft their responses and manage their self-preservation (Lee, 2021). While introverts might spend significant time online, their usage patterns are different, focusing more on passive consumption or one-on-one direct messaging rather than broad public broadcasting.

Well extraverts are naturally more social, it is unclear if this translates to a significantly higher number of hours spent on platforms compared to

introverts, you may use the platform just as frequently but for different psychological reasons.

The present study aimed to investigate the relationship between levels of extroversion and the duration of daily social media use. Based on the Social Enhancement theory, it is hypothesised that participants with higher extroversion scores will report significantly higher levels of social media use than those with lower extroversion scores.

Methods

Participants

There were 34 undergraduate psychology students that were recruited via convenience sampling to take part in the study (13 males, 19 females, 2 non-binary).

Participants ranged in age between 18 and 69 ($M=29.26$, $SD=11.34$).

Design

A between-subjects design was employed to examine the impact of extroversion (the independent variable) on levels of social media use (the dependent variable). Participants were categorised into two groups, low extroversion and high extroversion, based on a sample mean. Differences in social media usage between these two groups were then analysed using an independent sample *T*-test.

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 through the Experiment Management System (EMS), Which provided a link to the online study. Upon accessing the link, individuals were presented with an informational sheet (see Appendix B) And the consent form (see Appendix C). Only those who provided informed consent were permitted to proceed.

The study began with demographic questionnaire to collect data on age and gender (see Appendix D). Participants then completed a measure of extroversion (see Appendix A), followed by a questionnaire regarding the social media usage (see Appendix E). After submitting their responses, participants were presented with a debriefing statement (see Appendix F), which detailed the purpose of the study, and were thanked for their time.

Results

An independent sample *T*-tests was conducted to compare the levels of social media use between participants with high and low levels of extraversion. Descriptive statistics for both groups are presented in Table 1.

The results indicated that although participants in the high extroversion group ($M = 15.14$, $SD = 7.45$) Reported higher mean levels of social media use than those in the low extroversion group ($M = 12.62$, $SD = 6.28$), This difference was not statistically significant, $t(32) = 1.02$, $p > .05$.

Therefore, the null hypothesis failed to be rejected, suggesting that extroversion levels did not significantly impact the duration of social media use with this specific sample.

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

Discussion

The primary aim of this study was to explore whatever the personality traits of extroversion significantly influenced duration of daily social media use. I initially predicted that extraverts would report substantially higher levels of engagement due to their inherent need for social stimulation and external validation. However, the results of the independent sample t-test, ($t(32) = 1.02$, $p > .05$) failed to support this hypothesis. While the high extroversion group did maintain a slightly higher mean usage ($M = 15.14$) compared with the low extroversion group ($M = 12.62$), The difference was statistically negligible.

One potential explanation for these findings is that social media has evolved from a purely social luxury into a functional necessity. In 2026, these platforms are the primary hubs for news, education, and professional networking. This creates a digital equaliser effect. Digital equaliser effect consists with the social compensation hypothesis (Kraut et al., 2002), which proposed that the Internet allows individuals with lower offline sociability to achieve similar levels of digital engagement as their extroverted peers. Regardless of whatever an individual is an introvert or an extrovert; the environment demands to stay connected remains the same. An introvert may spend three hours on Reddit or

YouTube for information and entertainment, meanwhile the extroverts spend the same three hours on TikTok or Instagram for social validation. Because this study focused solely on duration rather than function, this distinct psychological drivers likely cancelled each other out in the final data.

From a researcher perspective, I must also acknowledge the limitation of the study power. With only 34 participants, the study was small. In statistics, a small sample size acts like a blurry lens, it makes it very hard to see a clear picture unless the effect is massive. The high standard deviation ($SD = 7.45$ and 6.28) show that with each group, there was a huge variety of behaviour. We had social introvert and quiet extroverts, which blurred the lines even further. Perhaps the biggest takeaway it is that time is a blunt instrument for measuring human behaviour. The difference it is not in how long we stay logged in, but what we do while we are there. An extrovert hour is likely filled with active outbound energy posting, liking and commenting. Introverts might be inbound, observing, reading and processing. Because my study only measured the total minutes, these vital psychological differences remain hidden. Also, the reliance on self-report data is another impediment for the accuracy of this study. Participants underestimated their screen time or provide “socially desirable” answers. If I were to repeat this study, I would consider using objective screen time logs to gain a more accurate picture of reality.

In conclusion, this study serves as a reminder that human personality is far too complex to be captured by a single metric. While I initially hypothesise that extrovert would be the dominant user of social media, the lack of significant findings suggest that digital spaces has become a universal home for all personality types. Wherever we are seeking the spotlight or seeking a quiet corner to observe the world, we are all using the same platforms. Moving forward, psychology should shift its focus away from “how many minutes” we spend online and start looking at digital footprints we leave behind. While

extroversion and introversion define how we recharge our batteries in the physical world, the digital world appears to be a place where those boundaries overlap, leaving us all regardless of our personality equally glued to our screens.

References

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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.



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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.



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Study Consent Form

I understand that this research study is being carried 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@uwtsd.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.

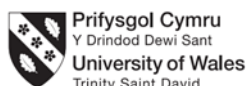
A screenshot of a Qualtrics survey form titled "Qualtrics link - Extraversion and Social Media Use Study". The form is displayed in a web browser window. The first question is "Please state your gender below" with four radio button options: "Male", "Female", "Non-binary / Third gender", and "Prefer not to say". Below this is a second question, "Please state your age:", followed by a text input field. At the bottom of the form, there is a small note: "If the external website refuses to connect in the window above, use this alternative link".

Appendix E.

**Social Media Use Questionnaire (SMUQ; Xanidis & Brignell, 2015) final items after
Principal Component Analysis**

	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 F.



**Seicoleg a Cwnsela
Psychology and Counselling**

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 G.

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

Appendix H.

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

AI statement

I confirm that I have not presented any AI generated text as my own work.

I confirm I have copies of my drafts, notes, and other resources I used before, and after the use of AI tools which I may be asked to provide in evidence.

