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Exploring the difference in levels of social media use between extraverts and introverts.

Abstract

Research shows a link between the five-factor trait theory and social media use (Bowden-Green et al., 2020). The five-factor trait theory states that personality is made up of five basic traits, these are openness to experience, neuroticism, conscientiousness, agreeableness and extraversion (McCrae & John, 1992). This study focused on the relationship between extraversion and social media usage. Research shows that extraverts are more likely to engage in social media frequently (Blackwell et al., 2017). This study used 34 participants, who completed a questionnaire to assess level of extraversion. The questions came from the big five inventory (BFI; John & Srivastava, 1999). They also completed a questionnaire to assess their level of social media use. The results found that there was no significant difference in social media use between those with high and low levels of extraversion $t(32) = 1.02, p = .16$. The results contradict the research findings presented.

Introduction

In psychology personality refers to the system that makes an individual unique, the system includes an individual's characteristics, behaviour patterns, their thoughts and feelings (Allport, 1961, cited in Maltby et al., 2017). Within personality theory there are theories on personality traits which is where the term extraversion originates (Maltby et al., 2017). Extraversion is one of the five basic traits that have been proposed to make up personality (Costa & McCrae, 2010). Extraversion is viewed as the focus of individuals hobbies and interactions to the external environment rather than internal (APA Dictionary of Psychology, 2018). Someone who is highly extraverted would be sociable, outgoing and expressive (APA Dictionary of Psychology, 2018).

Individuals with high levels of extraversion tend to post more frequently on their social media pages, this may be due to the idea that extraverts are sociable and lively which shows in their posting (Bowden-Green et al., 2020). They also use Facebook groups and social functions significantly more than introverts (Kuss & Griffiths, 2011). Extraverts use social media as an enhancement to their social life whereas introverts tend to use it to make up for the low levels of social interaction (Kuss & Griffiths, 2011).

Individuals with high levels of extraversion tend to have a high number of friendships. They seek out ways to socialise and interact with their close friends, and this results in high levels of social media usage (Gil de Zúñiga et al., 2017). Due to extraverts being comfortable conversing with others, they will regularly use social media overall and to connect with current friends as well meet new people. (Gil de Zúñiga et al., 2017).

Both male and females that have high levels of extraversion use social media frequently (Lampropoulos et al., 2022). As mentioned above this is assumed to be because of the socialisation aspects of social media which allows extraverts to engage with others instantly (Correa et al., 2019). Research conducted by Correa et al. (2019) shows the personality traits that have the strongest positive relationship with social media use are extraversion and openness.

Not only do extraverts spend more time on social media for the instant messaging services, they also frequently use entertainment platforms such as Netflix (Deng et al., 2013, cited in Bowden-Green et al., 2020) and use gaming platforms such as Fortnite (Wang et al, 2012, cited in Bowden-Green et al., 2020). This reflects the tendency extraverts have to seek out stimulation and engage in social activities with others (Bowden-Green et al., 2020).

The goal of this study is to further explore the relationship between the personality trait extraversion and the use of social media. Based on the research above, it is hypothesised that there will be a positive relationship between extraversion and social media usage.

Method

Participants

Thirty four participants were recruited by the experimental management system to take part in this study (13 males, 19 females, two non-binary). Participants ranged in age between 18 and 69 ($M = 29.26$, $SD = 11.34$).

Design

The design of this study was a between-subjects study. The independent variable in this study was the levels of extraversion; the dependent variable was social media use. The participants were categorised into two groups based on the sample mean; the groups were high and low levels of extraversion. Independent samples t-test was used to analyse the data.

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 from the experimental management system (EMS). Once participants signed up for the study, they were provided with the link to the online study. The first thing participants were presented was the information sheet; this includes a clear step by step overview of the study (see appendix A). The participants then read and completed the consent form (see appendix B). Once consent was given the participants filled out their demographic information, this includes gender and age. The participants then filled out the extraversion questionnaire (see appendix C) and after that filled out the questionnaire measuring social media use (see appendix D). Finally, the participants were presented with the debrief sheet and given the final opportunity to withdraw their data (see appendix E). The debrief sheet clearly stated

that this was the final chance for the participants to withdraw their data. If participants were happy to submit their data, they then selected the final submit button.

Participants were then thanked for their participation in the study.

Results

An independent samples t-test was conducted to explore the relationship between extraversion and social media usage (see appendix F). The t-test results showed that there was no significant difference in social media use between individuals with high levels of extraversion ($M= 15.14$, $SD= 7.45$) and those with low levels of extraversion ($M= 12.62$, $SD= 6.28$); $t(32) = 1.02$, $p= .16$. The hypothesis that participants with high levels of extraversion would interact more with social media than those with lower levels of extraversion is to be rejected.

Discussion

As stated above, the hypothesis must be rejected due to the study results showing no significant difference between those with high and low levels of extraversion and social media usage. These results do not support the previous research findings discussed in the introduction. Bowden-Green et al. (2020) found that studies consistently show that extraverts use social media frequently and spend most of their time on one or more social media platforms. Results from Gil de Zúñiga et al. (2017) also show that individuals with high levels of extraversion will use social media more frequently.

One of the main factors that may have influenced the results of this study is that only university students took part in the study. Young adults are one of the most

frequent social media users (Alhajjaj et al., 2025) and this could have had an impact on the results. A high number of social media users are students. Students can use social media to enhance their studies (Alhajjaj et al., 2025). Students use social media to collaborate and work with peers and share learning resources (Alhajjaj et al., 2025). This could influence the study results as it provides introverts with social interactions online they may have not had without academic relationships.

Another factor that could have influenced an extravert's social media use is the amount of face-to-face interaction they engage in. A study had found that introverts tend to communicate and socialise online, whereas extroverts tend to prefer face-to-face connections (Amichai-Hamburger, Wainapel, and Fox, 2002, cited in Özgüven & Mucan, 2013). This is important because if extraverts prefer to socialise face-to-face, their social media use is going to decrease as they are going to be socialising face-to-face often.

One of the limitations of the study is that it only explored one personality trait. There may be other personality traits that can influence social media usage. Everyone has different levels of each personality trait and all the traits combined is what makes up an individual's personality (Novikova, 2013). There are many different personalities with different trait combination that could cause high levels of social media use. An extravert with high levels of openness is much more likely to have higher levels of social media usage than an extravert with low levels of openness. This is because studies have shown that openness is positively related to social media use (Özgüven & Mucan, 2013). Conscientiousness is another trait that can influence social media use,

individuals with high levels of conscientiousness use social media more frequently and post more on social media platforms (Özgüven & Mucan, 2013).

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Appendices

A- Information sheet



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Psychology and Counselling

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.

B- Consent form

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

C- Extraversion questionnaire

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

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

D- Social media use questionnaire

**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	0	1	2	3	4

	network account					
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

E- Debrief form

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

F- T-test

Independent Samples Test

		Levene's Test for Equality of Variances				t-test for Equality of Means				95% Confidence Interval of the Difference	
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Total_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

Group Statistics

	ex_groups	N	Mean	Std. Deviation	Std. Error Mean
Total_SMU	1.00	13	12.6154	6.27878	1.74142
	2.00	21	15.1429	7.44504	1.62464