Differences in Digital Stress in Early Adulthood in Terms of Personality Types Extraversion and Neuroticism

(Perbezaan dalam Tekanan Digital dalam Dewasa Awal dari Segi Jenis Personaliti Extraversion dan Neuroticism)

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ABSTRACT

Technological developments have opened up social media platforms to find and connect. The various assertions about social media highlight its significant impact on psychological health and well-being, often contributing to what is known as digital stress. Digital stress can be identified from personality type; an extraversion personality has more significant implications than a neuroticism personality. This study aims to understand whether there are differences in digital stress in early adulthood in terms of extraversion and neuroticism personality types. This type of research is quantitative with a comparative approach. The research subjects were 301 respondents aged 18-25 years, and the results were obtained through a purposive sampling technique. The study utilized a questionnaire that included the Digital Stress Scale, an instrument developed to measure digital stress, and the IPIP-BFM-25 scale, which assesses personality traits separately. Data analysis used an independent sample t-test. The study's results were p = 0.000 (p < 0.05), which means there is a significant difference between digital stress in early adulthood regarding extraversion and neuroticism personality types. Individuals must make decisions regarding digital media and the internet with valuable goals. For example, to fulfil the need for positive social interactions and relationships for extraversion tendencies and media for self-presentation or expressing comfortable opinions for neuroticism tendencies.

Keywords - Digital Stress, Personality, Extraversion, Neuroticism, Early Adulthood

ABSTRAK

Perkembangan teknologi telah membuka platform media sosial untuk mencari dan berhubung. Pelbagai dakwaan tentang media sosial menyerlahkan impaknya yang ketara terhadap kesihatan psikologi dan kesejahteraan, sering menyumbang kepada apa yang dikenali sebagai tekanan digital. Tekanan digital boleh dikenal pasti daripada jenis personaliti; personaliti extraversion mempunyai implikasi yang lebih ketara daripada personaliti neuroticism. Kajian ini bertujuan untuk memahami sama ada terdapat perbezaan tekanan digital pada peringkat awal dewasa dari segi jenis personaliti extraversion dan neuroticism. Penyelidikan jenis ini berbentuk kuantitatif dengan pendekatan perbandingan. Subjek kajian adalah seramai 301 orang responden berumur 18-25 tahun, dan keputusan diperolehi melalui teknik persampelan bertujuan. Kajian itu menggunakan soal selidik yang merangkumi Skala Tekanan Digital, instrumen yang dibangunkan untuk mengukur tekanan digital, dan skala IPIP-BFM-25, yang menilai ciri personaliti secara berasingan. Analisis data menggunakan ujian-t sampel bebas. Keputusan kajian adalah p=0.000 (p<0.05), yang bermaksud terdapat perbezaan yang signifikan antara tekanan digital pada awal dewasa mengenai jenis personaliti extraversion dan neuroticism. Individu mesti membuat keputusan mengenai media digital dan internet dengan matlamat yang berharga. Sebagai contoh, untuk memenuhi keperluan untuk interaksi sosial dan hubungan positif untuk kecenderungan extraversion dan media untuk persembahan diri atau menyatakan pendapat yang selesa untuk kecenderungan neuroticism.

Kata kunci - Tekanan Digital, Personaliti, Extraversion, Neuroticism, Dewasa Awal

INTRODUCTION

The digital era has significantly transformed human life, making digital media and the internet indispensable -individuals, as digital media users, are always connected online (Hall et al., 2021). Conversely, continuous or permanent internet connectivity can affect mental health, interpersonal relationships, and overall well-being (Reinecke et al., 2018). Additionally, patterns of internet use, including self-disclosure, selfpresentation, and the pursuit of individual interests, vary according to personality type. Differences in personality types in individuals determine every characteristic that influences behaviour, including the use of the internet or digital media. Personality type is significantly related to differences in social media use, intensity and motivation of use, and the type of content shared on users' social media (Lampropoulos et al., 2022).

The Big Five personality theory divides individual personality into five dimensions: openness, conscientiousness, extraversion, agreeableness, and neuroticism (Pervin et al., 2010). Individuals with high extraversion and openness tendencies had a consistently significant relationship with digital media use, high agreeableness and conscientiousness used less digital media, and neuroticism was not significantly related to digital media use (Lampropoulos et al., 2022). Thus, extraversion has the most significant relationship with digital media use, compared to neuroticism, which is not significant.

The increase in internet users occurred in Indonesia in 2021-2022 by 6.78 % from the previous period, reaching 77.02 %, with average usage reaching 7 hours 42 minutes every day (APJII (Asosiasi Penyelenggara Jasa Internet Indonesia), 2022). We Are Social data records that 93.% of people worldwide access the internet using cell phones, and 65.6% use laptops/tablets (Kemp, 2023). As many as 93% of individuals aged 18-29 use online connections, and 72% use the internet and digital media (Lenhart et al., 2010).

The increasing use of the internet and digital media affects the psychological condition of individuals with certain personality types. Internet and digital media use is significantly associated with neuroticism and has a greater risk of depressive symptoms and low self-esteem, Problematic Internet Use (PIU) and social media addiction (Sumaryanti et al., 2020; Bernal-Ruiz & Rosa-Alcázar, 2022; Merrill et al., 2022). Meanwhile, extraversion related to social media addiction and PIU. Neuroticism views life as more stressful than extraverted individuals (Morris, 2015).

Individuals with neurotic personalities tend to perceive the threats or demands of stressful tasks as excessively high, whereas those with high levels of extraversion view stressful tasks as challenges and employ effective stress-coping strategies (Schneider et al., 2012).

The use of the internet and digital media leads to addiction in 70.2% of cases and causes depression in 32.2% (Indra et al., 2019). Intensive social media use also increases stress severity, with 10.5% of users experiencing severe stress and 6% experiencing very severe stress (Gunawan et al., 2021). The term 'digital stress' describes the relationship between internet use and psychological well-being (Hefner & Vorderer, 2016). Personality type is a moderating factor in digital stress, influencing how individuals perceive pressure and social demands, and it has been shown to affect their vulnerability to stress (Hefner & Vorderer, 2016).

Previous research has not widely discussed the differences in digital stress based on the personality types of early adults. Therefore, it is important to conduct further research regarding the differences in digital stress in young adults in terms of extraversion and neuroticism personality types.

Digital Stress

Digital stress is defined as stress that arises due to the impact of excessive and perhaps almost permanent use of digital and information technology, which causes permanent access to social content in an unimaginable amount and variety (Hefner & Vorderer, 2016). Negative interactions cause digital stress via email, messaging, social media, chat rooms or groups (Salvetti, 2014). This is in line with Steele et al. (2020), who define digital stress as an individual's physiological, affective and behavioural response to certain stimuli (e.g. notifications) or stimulus media (e.g. digital media).

Digital stress has five aspects: availability stress, approval anxiety, fear of missing out (FoMO), connection overload, and online wariness (Hall et al., 2021). One of the stress factors is personality characteristics (SMET & Bart, 1994). In line with Hefner and Vorderer (2016), personality greatly influences how individuals assess and cope with communication and connection demands and influences vulnerability to stress. User characteristics influence specific types of social media use and how they are impacted (Steele et al., 2020).

Personality Traits

Personality refers to special traits and characteristics that are permanent and consistent and individualize a person's behaviour (Feist & Feist, 2014). The high extraversion personality type can relate socially, is active, likes interaction, focuses on other people, is optimistic, enjoys fun, and is gentle (Pervin et al., 2010). Meanwhile, individuals with a high neuroticism personality type typically exhibit characteristics such as nervousness, anxiety, insecurity, emotional instability, and hypochondria—the latter being excessive worry about suffering from an illness without an expert diagnosis (Pervin et al., 2010).

Extroverts use digital media more often, such as social networking sites, short messages, and video chat as a medium for social interaction among adults (Correa et al., 2013). Meanwhile, individuals with emotional stability (low neuroticism) typically use social networking sites to search for information and foster a sense of belonging (Amiri & Taghinejad, 2022). Neuroticism is associated with the negative effects of FoMO, PIU, and the use of WhatsApp. Additionally, both neuroticism and extraversion are linked to addiction to social networking platforms (SNPs) (Ahmad A. Rabaa'i et al., 2015; Bernal-Ruiz & Rosa-Alcázar, 2022; Soeharso et al., 2023).

Early Adulthood

Early adulthood is a stage of individual development that lasts from 18 to 25 years of age or a transition period between adolescence and adulthood (Santrock, 2018). Digital stress occurs in early adulthood as the influence of digital media use on psychosocial conditions (symptoms of depression, loneliness, anxiety, wellbeing, and quality of life) (Steele et al., 2020).

RESEARCH SIGNIFICANCE

This research aims to provide evidence regarding the differences in digital stress between extraversion and neuroticism personality types.

MATERIALS AND METHODS

Research Design

This quantitative research employs a comparative method, which involves comparing two or more variables. Data were analyzed using an independent sample t-test.

Place and time of research

This research was conducted online using a Google Forms questionnaire distributed to respondents from May 23 to May 29, 2023.

Population and sampling

The population is people in early adulthood, ages 18-25, who use digital devices and the internet. A non-probability sampling technique, purposive sampling, was used, and 301 respondents were collected as research samples in this study.

Instruments

Item validity is calculated using the Corrected Item Total Correlation formula and the reliability coefficient using the Cronbach alpha formula. It was chosen because it used a polytomous scoring system, ranging from 5 to 1.

Digital Stress Scale

Digital Stress uses a scale with a scoring of 5-4-3-2-1 (very appropriate - appropriate - neutral - not appropriate - very inappropriate) adapted from the Hall et al. (2021) measuring tool, covering aspects of digital stress such as availability stress, approval anxiety, FoMO, connection overload, and online vigilance. The total number of valid items is 24, with a reliability coefficient 0.915.

Extraversion and Neuroticism Personality Type Scale

Extraversion and neuroticism use the IPIP-BFM-25 scale from Goldberg (1992), which was developed and adopted in Indonesia by Akhtar and Azwar (2018). Neuroticism on the IPIP-BFM-25 scale is a dimension of emotional stability; low emotional stability means high neuroticism. The scoring ranged from 5-4-3-2-1, from Very Appropriate (S.S.) to Very Unsuitable (STS). The total number of valid items is 24, with a reliability coefficient extraversion of 0.76 and neuroticism of 0.80.

Data Analysis

A normality test was conducted using the One-sample Kolmogorov-Smirnov Test, followed by a homogeneity test. Subsequently, hypothesis testing was performed through descriptive analysis and an independent sample t-test.

TABLE 1. Description of the use of digital and social media on subjects (N=301)

No.	Description	Freq.	Percentage				
	Owned Digital Devices						
	Samrtphone	297	98.7%				
	Laptop	238	79.1%				
	Tab/Ipad	43	14.3%				
	Computer	20	6.6%				
	P.S./other electronic game	15	5%				
	Total		100%				
	Social Media Account						
	Instagram	293	97.3%				
	Facebook	166	55.1%				
	Twitter	116	38.5%				
	Tiktok	158	51.5%				
	Whatsapp	266	88.4%				
	Telegram	100	33.2%				
	Line	37	12.3%				
	Youtube	85	28.2%				
	Others	1	0.3%				
	Total		100%				
Content posted on Social Media							
	Photo/Video Story	281	97.2%				
	Photo/Video Feed	127	43.9%				
	Video Reel/Tiktok	58	20.1%				
	Status	42	14.5%				
	Total		100%				

The following is a t-test for equality of means between digital stress and extraversion and neuroticism personality traits, which is explained in Table 2. Based on the results of the independent sample t-test in Table 2, the difference in significance level was obtained with a sig. (2-tailed) = 0.000 (sig. \leq 0.05). So that H0 is rejected and Ha is accepted, it can be concluded that there are differences in digital stress in the personality types of extraversion and neuroticism in early adult individuals who use the internet and digital devices. This means that early adult individuals experience different digital stress between extraversion and neuroticism personality types. T-test results per Digital Stress Aspect on Extraversion and Neuroticism personality types are described in the following table.

The t-test was carried out on each aspect of

digital stress, including the extraversion and neuroticism personality types. In the aspects of approval anxiety, FoMO, and online alertness, sig scores were obtained sig. (2-tailed) = 0.000 (sig. 2-tailed ≤ 0.05). This means that there are significant differences in the aspects of anxiety approval, FoMO, and online vigilance in the extraversion and neuroticism personality types of early adult individuals who use the internet and digital media. Meanwhile, in stress availability (sig. 2-tailed = 0.689) and connection overload (sig. 2-tailed = 0.162), a score of sig. (2-tailed) ≥ 0.005 . This means no difference exists between stress availability and excess connection in early adult individuals' extraversion and neuroticism personality types.

Extraversion has characteristics of being easy to socialize and interact with, establishing interpersonal

TABLE 2. Independent sample t-test results

	t-test for Equality of Means			
	df (df = N-2)	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variance assumed	299	0.000**	-9.772	2.159
Equal variance not assumed	290.616	0.000**	-9.772	2.147

Note: ** significance p < 0.05

relationships, liking social relationships, and trying to maintain these social networks, including through digital. This aligns with research by Volungis et al. (2020), where extroverts often use cell phones extensively and engage in high levels of digital communication to maintain their social connections, which can lead to stress. Consequently, the reliance of extroverted individuals on digital media and the internet to sustain their social relationships contributes to digital stress.

Furthermore, individuals with neuroticism personalities are also vulnerable to digital stress conditions. Because neuroticism has a weak level of adaptation, unstable emotions, and stress, they can better express themselves through messages than in face-to-face meetings and prefer to communicate more frequently by telephone (Amiri & Taghinejad, 2022). This creates social demands on neurotic individuals

always to be connected online and to become dependent on their cell phones.

Based on a follow-up t-test on each aspect of digital stress on extraversion and neuroticism personality types, approval anxiety, FoMO, and online vigilance have significant differences between individuals extraversion and neuroticism personality types. Meanwhile, availability stress and connection overload have no significant differences in early adult individuals' extraversion and neuroticism personality types. Extraversion individuals are associated with smartphone addiction but are actively able to cope with perceived stress. Meanwhile, neuroticism increases with increasing stress and smartphone addiction (Cho et al., 2017). Extraversion and neuroticism are positively and significantly related to nomophobia (Rahmania & Prastuti, 2021). So, extraversion and neuroticism personalities have impulsive behaviour by constantly

TABLE 3. Independent sample t-test results

		t-test for Equality of Means			
Aspek	t	df (df2 = N-2)	Sig. (2-tailed)		
Availability Stress	-0.400	299	0.689		
Approval Anxiety	-6.547	299	0.000**		
FoMO	-3.601	299	0.000**		
Connection Overload	-1.402	299	0.162		
Online Vigilance	-5.558	299	0.000**		

Note: ** significance p < 0.05

checking and accessing cell phones and social media accounts, but extraversion is better at responding to stress than neuroticism. In line with the research results, there are differences in online alertness in extraversion and neuroticism personalities.

In line with research, Takao (2014) states that extraversion and neuroticism are related to problematic smartphone use (PSU), where extraversion uses cell phones for high social needs. In contrast, neuroticism is linked to low self-esteem and high approval motivation. Individuals with neuroticism often feel anxious when their social environment does not acknowledge them, leading them to assert their presence through social media. This behaviour serves as a strategy to alleviate anxiety and gain acceptance from the social environment. Other research shows that individuals with neuroticism personalities are more likely to post or publish photos to express themselves to others via social media (Amichai-Hamburger & Vinitzky, 2010). In line with the results of this research, there are differences in the approval anxiety aspect of extraversion and neuroticism personalities.

Research shows that extraversion is related to the FoMO, whereas neuroticism is not. Extraversion is a friendly personality, so there is a fear of not being connected and not updating about the activities of other people or themselves. Meanwhile, those with neuroticism has low self-esteem and spends much time on the internet looking for information, escaping feelings of loneliness (Amiri & Taghinejad, 2022). In line with the research results, there are differences in the FoMo aspect of the extraversion and neuroticism personalities.

CONCLUSION

The research results show differences in digital stress in early adulthood regarding extraversion and neuroticism personality types. Neuroticism personalities have a higher tendency for digital stress than extroverted personalities. Digital stress has a greater impact on the psychological condition of the neuroticism personality because anxiety is more likely to arise if the need for a sense of belonging and recognition from digital media and the internet is not met. Meanwhile, in extroverted personalities, the need for interaction and social relationships increases the use of digital media and the internet, but extraversion can better manage stress. In the aspects of approval anxiety, FoMO, and online vigilance, there are significant differences in the extraversion and neuroticism personalities of early

adult individuals. Meanwhile, availability stress and connection overload have no significant differences.

Individuals must be able to make the right decisions regarding digital media and the internet. Users should use it for benefits and select the necessary content or information. For example, to fulfil the need for positive social interactions and relationships for extraversion tendencies and media to present oneself or express comfortable opinions for neuroticism tendencies. Individuals in early adulthood who exhibit tendencies towards extraversion or neuroticism can better understand their capacities for processing digital input, thereby preventing it from becoming a source of undue demand and stress. These findings are also helpful as information and knowledge for clinical psychologists and other fields of psychology related to personality and the use of the internet and digital devices.

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