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Media Multitasking and Big Five Personality Traits: Moderating Impact of Cognitive Flexibility Among Young Adults

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Abstract: *The current research aims to explore the relationship between Big Five personality traits and media multitasking, along with the moderating role of cognitive flexibility in young adults. It is hypothesized that higher openness and extraversion will be associated with greater media multitasking; higher conscientiousness and agreeableness will be associated with lower media multitasking; higher neuroticism and greater cognitive flexibility will be associated with higher media multitasking; and cognitive flexibility will moderate the relationship between personality traits and media multitasking. A quantitative correlational design was used. The sample consisted of 402 college and university students aged 18–25 years, recruited from educational institutes in Pakistan through purposive-convenience sampling. The Media Multitasking–Revised (MMT-R) Scale (Lopez et al., 2018), Short Big Five Inventory (BFI-S) (Frieder et al., 2011), and Cognitive Flexibility Scale (Martin & Rubin, 1995) were used. Data were analyzed using correlation and moderation tests on SPSS. Results showed significant positive correlations between media multitasking and openness (r = .71*), agreeableness (r = .66) extraversion (r = .70); neuroticism (r = .65); and significant negative correlation with conscientiousness (r = –.69). Cognitive flexibility showed a moderate positive correlation with media multitasking (r = .50*). However, no significant moderation effect of cognitive flexibility was found. These findings highlight how personality traits and cognitive flexibility relate to media multitasking in young adults.*

Introduction

The advancement and widespread availability of media devices have fundamentally altered their role in society, influencing various aspects of human life and goals (Valkenburg et al., 2016). The global society now relies extensively on Internet-connected devices for all kinds of interactions (Nord et al., 2019). Media have seamlessly integrated into mundane of daily activities. Nevertheless, these transformative changes have created an unhealthy chain of problematic behaviors. Over the past ten years, media

multitasking has become increasingly popular, drawing significant attention from researchers across various fields. This behavior, known for its substantial and exhaustive demands on cognitive resources, has sparked a revolutionary surge in academic exploration. Researchers have delved into understanding the patterns of when, how, and why individuals engage in media multitasking, unraveling its impact on diverse aspects such as task performance, socio emotional outcomes, and working memory. Adler and Benbunan-Fich in 2012 defined multitasking as engaging in multiple tasks concurrently, each serving a distinct purpose and demanding focused attention (Poplawska et al., 2021). The term "media multitasking" has two dimensions - either of which is followed by all the researchers who have explored this topic.

On one hand, according to Jeong and Fishbein, in 2007, media multitasking involves engaging in an online medium whilst simultaneously completing a non-media task. An example could be: watching a TV show while eating a meal, listening to music while studying etc. (Duff et al., 2014). Similarly, Domoff et al. in 2020 also described it as a behavior in which any type of screen media is being consumed during the performance of any other daily task. On the other hand, this term can have another aspect. According to Ophir and his partners in 2009, media multitasking can also be described as the consumption of at least two media concurrently (Duff et al., 2014). Another research has also highlighted this aspect by defining the behavior as using two types of media at the same time (Domoff et al., 2020). This may involve the involvement of various devices like browsing on a laptop while checking social media on the phone. It could also involve one device with various media, like researching on your thesis whilst listening to music with multiple browser tabs. Other researchers have highlighted how media multitasking could involve media activities or the constant switching between two or more media activities (Baumgartner et al., 2017; Chen et al., 2021). Media multitasking is a complex behavior that is heavily influenced by several factors, specifically individual personality traits.

The Five Factor Model (FFM), represent a widely accepted framework for understanding personality. This model categorizes personality into five broad dimensions: extraversion, agreeableness, neuroticism, openness to experience, and conscientiousness. The evolution of definitions and theories surrounding these traits has been significant, with roots tracing back to early psychological research and continuing to develop through contemporary studies. Historically, the conceptualization of personality traits can be seen at the work of early theorists such as Gordon Allport and Raymond Cattell. Allport (1937) emphasized the uniqueness of individuals and proposed a trait theory that focused on personal dispositions, while Cattell (1943) developed a more systematic approach by identifying 16 primary personality factors through factor analysis. This foundational work laid the groundwork for later models, including the Big Five, which emerged from the technical lexical hypothesis that the most significant personality traits are translated in language (Rammstedt 2023). The Big Five model itself was popularized in the 1980s by researchers such as Costa and McCrae. Their work established a clear framework for understanding personality as a combination of these five dimensions, with each trait representing a continuum rather than a dichotomy (John et al., 2020). The definitions provided by Costa and McCrae have been foundational in the field, characterizing extraversion as sociability and assertiveness, agreeableness as cooperativeness, conscientiousness as dependability, neuroticism as emotional instability, and openness to experience as a willingness to engage with experiences (John et al., 2020).

In addition, Media Multitasking is also influenced by a cognitive flexibility. The Cognitive flexibility is a multifaceted construct that has garnered increasing attention in psychological research, particularly in the context of executive functions and adaptive behavior. The historical roots of cognitive flexibility can

be traced back to early cognitive theories, where it was initially conceptualized as the ability to transfer between different cognitive strategies with respect to changing environmental demands. One of the earliest definitions, as articulated by Demirtà ş and Kara (2022), describes cognitive flexibility as the "ability to switch cognitive sets to adapt to the changing environmental stimuli" DEMİRTAŞ & Kara (2022). This foundational understanding laid the groundwork for subsequent explorations into the broader implications of cognitive flexibility. As research progressed, cognitive flexibility began to be recognized as an essential component of executive functions, which encompass a range of higher-order cognitive processes that facilitate goal directed behavior. Miyake et al. (2000) identified cognitive flexibility as one of the three core components of executive function, alongside working memory and inhibitory control, emphasizing its role in enabling individuals to adapt their thinking and behavior in dynamic contexts. Although the specific reference to Miyake et al. (2000) is not included in the provided references, it is widely recognized in the literature (Whiting et al., 2015). This tripartite model underscored the importance of cognitive flexibility in facilitating adaptive responses to novel situations and challenges.

Literature Review

The relationship between traits of personality and media multitasking behavior has been a focal point of research in recent years, particularly as digital media consumption continues to rise among young adults and adolescents. The implications of these findings extend to educational settings, where media multitasking is prevalent among students. It has been shown by the research that media multitasking actions can hinder academic performance, as students engaging frequently in multitasking may struggle to maintain attention and adapt to shifting academic demands (Schuur et al., 2019). For example, Lei (2023) found that social media multitasking negatively affects college students' academic performance, primarily through cognitive distraction (Schuur et al., 2019). This relationship is further investigated by findings (Parveen, 2022), which indicate that media multitasking can hinder cognitive control, as evidenced by poorer performance on tasks requiring focused attention (Parveen, 2022). Furthermore, neuroimaging studies have begun to elucidate the neural correlates of media multitasking and cognitive flexibility. For instance, Kobayashi et al. (2020) examined, in the dorsal attention network, the relationship between media multitasking and functional connectivity, revealing that regular media multitaskers exhibit altered neural patterns linked with attention and cognitive control (Kobayashi et al., 2020). The findings give a biological basis for comprehending how media multitasking can impact cognitive flexibility and executive function.

The Big Five personality traits; openness, conscientiousness, extraversion, agreeableness, and neuroticism, gives a robust network for understanding personality differences in media multitasking. Each trait influences how individuals engage with multiple media sources, and recent studies have provided insights into these relationships.

Openness to experience is defined by traits such as curiosity, imagination, and a willingness to feel engaged with novel ideas. Study indicates that people high in openness are mostly engaged in media multitasking, as they tend to seek diverse information and experiences across various media platforms Ma (2024). This propensity for exploration facilitates a greater likelihood of engaging with multiple media sources simultaneously, as open individuals often exhibit a preference for novelty and complexity in their media consumption. For instance, Ma (2024) found that people with high openness are more inclined to multitask with media, driven by a desire for varied experiences and information (Ma, 2024). This exploratory nature may lead to increased engagement with multimedia content, thereby fostering multitasking behaviors. Conversely, individuals low in openness may prefer more focused and less

diverse media experiences, resulting in lower scores of media multitasking (Baumgartner & Wiradhany, 2022). Conscientiousness, associated with self-discipline, organization, and goal-directed behavior, has been shown to relate negatively with media multitasking. Higher levels of conscientiousness are generally linked to lower levels of media multitasking, as conscientious individuals often prioritize tasks and prefer to be attentive on one activity at a time (Iftikhar, 2023). This emphasis on organization and planning may lead conscientious individuals to avoid multitasking in favor of more structured and efficient media consumption. Baumgartner and Wiradhany (2022) highlighted that conscientiousness is an important predictor of media multitasking behaviors, suggesting that individuals high in this trait may perceive multitasking as a hindrance to achieving their goals (Iftikhar, 2023). Moreover, conscientiousness has been linked to better time management skills, which may further discourage multitasking behaviors, as individuals high in conscientiousness might view multitasking as detrimental to their productivity (Ma, 2024).

Extraversion is defined by sociability, assertiveness, and a tendency to seek stimulation in the company of others. Research indicates that extraverted individuals are more likely to be engaged in media multitasking, as they thrive in dynamic environments that require simultaneous engagement with multiple stimuli (Toyama & Hayashi, 2021). The social nature of extraversion may drive individuals to interact with various media platforms concurrently, such as engaging in social media while watching videos or playing games. This tendency is supported by findings from Zhang et al. (2019), which demonstrate that extraverted individuals often seek out multiple interactions simultaneously, leading to increased media multitasking (Toyama & Hayashi, 2021). However, this propensity for multitasking may also come with drawbacks, as extraverted individuals may struggle with attention regulation, leading to potential cognitive overload and decreased task performance (Li & Fan, 2022).

Agreeableness, associated with traits such as compassion, cooperativeness, and a concern for social harmony, may also influence media multitasking behaviors. Research suggests that individuals high in agreeableness may engage in media multitasking to maintain social connections and fulfill social obligations (Eg & Krumsvik, 2019). For instance, agreeable individuals may find themselves balancing multiple communication platforms to stay connected with friends and family, leading to increased multitasking behaviors. However, the relationship between agreeableness and media multitasking behavior is complicated. While agreeableness may drive individuals to engage with multiple media sources to foster social relationships, it may also lead to difficulties in setting boundaries around media consumption, resulting in potential distractions and reduced focus on primary tasks (Parveen, 2022).

Neuroticism, defined by emotional instability, anxiety, and moodiness, has been consistently related to media multitasking behaviors. Individuals high in neuroticism are more likely to engage in media multitasking, often as a coping mechanism for managing their emotions (Shukla, 2021). For instance, neurotic individuals may turn to multiple media sources to distract themselves from negative feelings or to seek validation and reassurance through social media interactions. This behavior is supported by research from (Li & Fan, 2022), which found that neuroticism significantly influences media multitasking tendencies, as individuals high in this trait may struggle to manage their media use effectively (Li & Fan, 2022). Moreover, the impulsivity often associated with high neuroticism may lead to a tendency to switch between tasks rapidly, resulting in fragmented attention and decreased cognitive performance (Drody et al., 2022). This relationship underscores the potential for neuroticism to act as both a motivator for media multitasking and a contributor to the cognitive challenges that arise from such behaviors (Matthews et al., 2022).

Recent researches have also highlighted the role of cognitive flexibility in influencing both personality

traits and media multitasking. Cognitive flexibility, defined as the ability to adapt one's cognitive strategies in response to changing demands, has been shown to be negatively impacted by frequent media multitasking (Chen, 2021). Study indicates that people with higher cognitive flexibility may be better equipped to manage multiple media streams without detrimental effects on performance, suggesting that cognitive flexibility can mitigate the negative impacts of media multitasking (Parry et al., 2020). Moreover, personality types such as openness and conscientiousness can impact how individuals engage with media multitasking and its subsequent effects on cognitive ability (Shin et al., 2019). This underscores the importance of considering individual differences when examining the cognitive implications of media multitasking. The impact of media multitasking on cognitive flexibility is also evident in the context of academic performance.

The influence of cognitive flexibility in media multitasking is further highlighted by study on attention control and impulsivity. Seddon et al. (2021) found that individual differences in cognitive flexibility significantly influence media multitasking abilities, suggesting that those with higher cognitive flexibility may be better equipped to manage multiple media streams without detrimental effects on performance (Parry et al., 2020). This highlights the potential for training and interventions aimed at enhancing cognitive flexibility to reduce the negative impacts of media multitasking. Additionally, researches have shown that mindfulness can improve cognitive control and reduce the negative effects of media multitasking on attention (Brand et al., 2022). This suggests that techniques and interventions focusing cognitive flexibility and attention regulation may be rewarding for people who frequently involve in media multitasking.

In conclusion, the relationship between traits of personality, cognitive flexibility, and media multitasking is complex and multifaceted. Each personality trait influences media multitasking behaviors in distinct ways, with openness and extraversion promoting multitasking tendencies, while conscientiousness serves as a deterrent. Neuroticism may drive individuals to multitask as a coping mechanism, while agreeableness can lead to increased multitasking to maintain social connections. Cognitive flexibility plays a significant role in moderating these relationships, as it can either exacerbate or alleviate the cognitive challenges associated with media multitasking.

Theoretical Framework

The Limited Capacity Model of Mediated Message Processing, originally proposed by Lang (2000), posits that individuals possess a less amount of cognitive resources for processing information. In media multitasking scenarios, these resources can become rapidly overwhelmed due to competing demands, resulting in a decline in information processing efficiency. This is particularly evident in environments saturated with stimuli from multiple digital sources. A recent study by Chiossi et al. (2023) empirically supports this framework, demonstrating that short-form; attention-fragmenting media (such as TikTok) can impair memory and task performance. Within this context, individual differences based on personality become relevant: individuals high in conscientiousness tend to show better attentional control and self-regulation, allowing them to allocate cognitive resources more effectively. Moreover, individuals with greater cognitive flexibility are better equipped to adapt and shift their focus between competing tasks, thereby reducing the impact of cognitive overload. However, when multitasking is frequent and unregulated, it may gradually deteriorate cognitive flexibility itself (Shukla, 2021).

The Uses and Gratifications Theory (Katz, Blumler, & Gurevitch, 1973) suggests that media use is an active process in which individuals choose specific media to fulfill various psychological needs, such as social connection, identity formation, or entertainment. This framework has been reaffirmed in recent literature, particularly in relation to personality traits. Bleidorn et al. (2022) found that individuals high

in extraversion are significantly more likely to engage in media multitasking due to their social orientation and desire for stimulation. Their multitasking behaviors are often goal-driven, aimed at maximizing engagement and connectivity across platforms. Therefore, personality-based motivations—rather than cognitive limitations alone—can substantially shape media use patterns in multitasking contexts.

The Scattered Attention Hypothesis, originally introduced by Ophir, Nass, and Wagner (2009), argues that chronic media multitasking may result in fragmented attention and reduced cognitive control. According to this hypothesis, individuals who frequently multitask tend to develop habitual patterns of shallow focus and diminished task engagement. This has been validated in recent empirical work by Wammes et al. (2020), who reported higher levels of mind-wandering and attentional lapses among heavy media multitaskers. Furthermore, personality traits such as low conscientiousness can increase susceptibility to such patterns, as these individuals typically exhibit poorer task prioritization and organization. In contrast, individuals high in conscientiousness tend to avoid behaviors that fragment attention. Cognitive flexibility again emerges as a protective factor; individuals who are more cognitively flexible are able to deploy adaptive switching strategies that reduce the cognitive costs of multitasking, though excessive multitasking may still diminish their attentional control over time (Shukla, 2021).

The Media Use Behavior Conceptual Framework developed by Parry (2019) presents a holistic view by considering the interaction of dispositional traits, situational factors, and media affordances in shaping media engagement. This model emphasizes that personality traits influence not only what media individuals use, but also how and why they use it. For instance, extraverted individuals may prefer socially interactive platforms, while conscientious users may gravitate toward tools that support productivity and structure. A study by Baumgartner and Wiradhany (2022) supports this model by showing that media multitasking behavior varies according to personality-driven preferences and goals. Cognitive flexibility plays a key role in this framework by allowing individuals to adapt their media use strategies based on contextual demands, thereby enhancing task performance and emotional regulation in complex multitasking environments.

Finally, the Theories of Stress and Flow, originating from the works of Csikszentmihalyi (1990) and Lazarus and Folkman (1984), offer valuable insights into how subjective experiences of task demands shape emotional and cognitive outcomes. These theories suggest that when individuals perceive they have sufficient resources to manage task demands, they may enter a flow state—marked by deep focus and intrinsic motivation. However, if tasks are perceived as overwhelming, stress may emerge, impairing both cognitive and emotional functioning. Iftikhar (2023) applied these theories to media multitasking, revealing that individuals high in neuroticism tend to experience greater stress under multitasking pressures due to their emotional reactivity. In contrast, those with higher cognitive flexibility are more likely to engage in effective task-switching, allowing them to maintain composure and even experience flow in high-demand situations. This distinction also impacts academic performance: students with strong flexibility and lower neuroticism typically perform better in multitasking environments, while those with emotional vulnerability may suffer cognitive and emotional consequences.

In conclusion, these theoretical perspectives—each supported by recent empirical studies—provide a comprehensive framework for understanding how personality traits and cognitive flexibility interact to influence media multitasking behaviors. They demonstrate that media multitasking is not merely a cognitive phenomenon but is deeply shaped by individual differences in motivation, emotion regulation, and adaptive capability.

Research Objectives

1. To explore the relationship between media multi-tasking & openness to experience
2. To explore the relationship between media multi-tasking & conscientiousness
3. To explore the relationship between media multi-tasking & extraversion
4. To explore the relationship between media multi-tasking & agreeableness
5. To explore the relationship between media multi-tasking & neuroticism
6. To explore the relationship between media multi-tasking & cognitive flexibility
7. To explore the relationship between media multi-tasking & big five personality traits whilst moderated by cognitive flexibility

Research Questions

1. Will there be a relationship between media multi-tasking & openness to experience?
2. Will there be a relationship between media multi-tasking & conscientiousness?
3. Will there be a relationship between media multi-tasking & extraversion?
4. Will there be a relationship between media multi-tasking & agreeableness?
5. Will there be a relationship between media multi-tasking & neuroticism?
6. Will there be a relationship between media multi-tasking & cognitive flexibility?
7. Will there be a relationship between media multi-tasking & big five personality traits whilst moderated by cognitive flexibility?

Research Hypotheses

H1: Higher openness to experience will be associated with greater media multitasking.

H2: Higher conscientiousness will be associated with lower media multitasking.

H3: Higher extraversion will be associated with greater media multitasking.

H4: Higher agreeableness will be associated with lower media multitasking.

H5: Higher neuroticism will be associated with greater media multitasking.

H6: Greater cognitive flexibility will be associated with higher media multitasking.

H7: Cognitive flexibility will moderate the relationships between the Big Five personality traits and media multitasking.

Significance

The significance of this study extends beyond academic inquiry; it has practical implications for various stakeholders, including educators, psychologists, and society at large. For educators, understanding the relationship between personality traits, cognitive flexibility, and media multitasking can inform teaching strategies that accommodate diverse learning styles. For instance, educators could develop tailored interventions that enhance cognitive flexibility among students, thereby improving their ability to manage media multitasking effectively (Ispas, 2023). Furthermore, insights from this research could guide the development of educational programs that promote healthier media consumption habits, ultimately fostering better academic outcomes.

Psychologists can also benefit from this research by gaining a deeper understanding of how personality traits influence cognitive processes related to media multitasking. This knowledge can inform therapeutic approaches aimed at individuals struggling with media-related issues, such as addiction or anxiety. By recognizing the role of cognitive flexibility, psychologists can develop targeted interventions that enhance clients' adaptability and coping strategies in the face of media distractions (Liu et al., 2022). Moreover, the societal implications of this research are profound. As media consumption continues to rise, understanding the psychological and cognitive factors that influence multitasking behaviors can help in crafting public health messages aimed at promoting balanced media usage. By

identifying personality traits that predispose individuals to problematic multitasking, public health campaigns can be designed to raise awareness and encourage healthier media habits among different demographic groups (He et al., 2022).

Methodology

Research Design

The current research is a quantitative approach based on correlational design and the data is gathered through validated questionnaires.

Participants

The participants were 402 young adults residing in Pakistan who were college and university-going students aged 18-25 years. They were recruited from different educational institutes through purposive-convenience sampling technique.

Procedure

A total of 402 participants were identified via purposive-convenience sampling and were reached through various educational institutions such as colleges and universities. Permission to collect data was taken accordingly from the educational institutions. Respective permissions were also acquired from the authors to use their scales. The participants were provided with the consent form, demographic form, media multitasking inventory- short (MMT-I), Short Assessment of the Big Five and Cognitive Flexibility Scale. The administration of the questionnaires took approximately 10-15 minutes maximum. The data was gathered from the filled forms and then was further analyzed on SPSS for correlation between media multitasking and big five personality traits and the moderating role of cognitive flexibility was also explored through statistics.

RESULTS

Results for this research were calculated by conducting a series of statistical analysis using Statistical Package for Social Sciences (SPSS 26).

Table 1

Demographics of the Participants (N=402)

Variables	*M*	*SD*	*f*	*%*
Age	21.6	2.3		
Gender				
Male			156	38.8
Female			246	61.2
Education				
O'Levels/Matric			62	15.4
A'Levels/Intermediate			158	39.3
Graduate			121	30.1
Post Graduate			61	15.2
Employment				
Employed			185	46.0
Unemployed			217	54.0
Socio Economic Status				
Lower Class			29	7.2
Lower Middle Class			65	16.2
Middle Class			151	37.6

Upper Middle Class	105	26.1
Upper Class	52	12.9

Note. n = no. of responses, % = percentage of responses

The aforementioned Table 5.1 provides the demographics of the participants with age, gender, university year, current ward/rotation and marital status.

Table 2

Psychometric Properties for Scales and Subscales of Big 5 Personality Factors, Cognitive Flexibility and Media Multitasking (N=402)

Variable	*α*	*M*	*SD*	*SK*	*K*	Range	
						Actual	Potential
Big 5 – Openness	.79	11.47	4.74	.18	-1.36	3-21	3-21
Big 5 – Extraversion	.79	11.49	4.62	.15	-1.35	3-20	3-21
Big 5 – Neuroticism	.91	11.54	5.16	.41	-.89	3-21	3-21
Big 5 – Agreeableness	.85	12.53	4.81	-.10	-.95	3-21	3-21
Big 5 – Conscientiousness	.85	12.54	4.81	-.16	-.97	3-21	3-21
Cognitive Flexibility	.88	43.08	13.48	-.19	-.73	16-66	12-72
Media Multitasking	.88	51.72	12.28	.06	-1.22	29-77	18-90

Note. M= Mean, SD= Standard Deviation, SK = Skewness, K = Kurtosis

The aforementioned Table 5.2 provides psychometric properties including reliability of scale and subscales of Big 5 Personality Factors, Cognitive Flexibility and Media Multitasking. Reliability of all scales lie in the acceptable range, scales having a good alpha reliability include Big 5 – Openness (*α*=.79), Big 5 – Extraversion (*α*=.79), Big 5 – Neuroticism (*α*=.91), Big 5 – Agreeableness (*α*=.85), Big 5 – Conscientiousness (*α*=.85), Cognitive Flexibility (*α*=.88), and Media Multitasking (*α*=.88). Furthermore, the data shows normal distribution for all variables.

Table 3

Correlational Analysis between Big 5 Personality Factors and Media Multitasking (N=402)

Variable	1	2	3	4	5	6
1. Big 5 – Openness	-	.92**	.86**	-.72**	-.77**	.71**
2. Big 5 – Extraversion		-	.86**	-.69**	-.76**	.70**
3. Big 5 – Neuroticism			-	-.62**	-.69**	.65**
4. Big 5 – Agreeableness				-	.73**	-.66**
5. Big 5 – Conscientiousness					-	-.69**
6. Media Multitasking						-

Note. **p < .01.

The above-mentioned Table shows that there is a high significant positive correlation between Media Multitasking and Big 5 – Openness (r = .71) and Big 5 – Extraversion (r = .70). Furthermore, a moderate significant positive correlation between Media Multitasking Big 5 – Neuroticism (r = .65) is also observed. However, a significant but moderate negative correlation is observed between Media Multitasking and Big 5 – Agreeableness (r= -.66) and Big 5 – Conscientiousness (r=-.69).

Table 4

Correlational Analysis between Big 5 Personality Factors and Cognitive Flexibility (N=402)

Variable	1	2	3	4	5	6
1. Big 5 – Openness	-	.92**	.86**	-.72**	-.77**	.55**
2. Big 5 – Extraversion		-	.86**	-.69**	-.76**	.57**

3. Big 5 – Neuroticism	-	-.62**	-.69**	.50**
4. Big 5 – Agreeableness		-	.73**	-.52**
5. Big 5 – Conscientiousness			-	-.54**
6. Cognitive Flexibility				-

Note. **p < .01.

The above-mentioned Table shows that there is a moderate significant positive correlation between Cognitive Flexibility and Big 5 – Openness (r = .55), Big 5 – Extraversion (r = .57) and Big 5 – Neuroticism (r = .50). However, a significant but moderate negative correlation is observed between Cognitive Flexibility and Big 5 – Agreeableness (r= -.52) and Big 5 – Conscientiousness (r=-.54).

Table 5

Correlational Analysis between Cognitive Flexibility and Media Multitasking (N=402)

Variable	1	2
1. Cognitive Flexibility	-	.50**
2. Media Multitasking		-

Note. **p < .01.

The above-mentioned Table shows that Cognitive Flexibility has a significant moderate positive correlation with Media Multitasking (r= -.50).

Table 6

Moderation Analysis for Cognitive Flexibility on the Relationship between Big 5 - Extraversion and Media Multitasking (N=402)

Variables	*R*	R^2	*F*	ΔR^2	*p*	*β*	95% CI	
							LL	*UL*
Constant	.72	.51	83.21		.00	17.68	4.83	30.52
Big 5-E					.00	2.13	1.17	3.09
CF					.04	.24	.01	.48
Big 5-E* CF				.00	.47	–.007	–.028	.01
Covariate (Age)					.60	.12	–.31	.54
Covariate (Education)					.68	.22	–.85	1.29

Note. Big 5-E= Big 5 - Extraversion, CF= Cognitive Flexibility, *β* = Standardized beta, R^2= Coefficient of determination, *F*= Statistics, ΔR^2= Adjusted R-square

As shown in Table 4.1, no significant moderation effect was found between Big 5 - Extraversion and Media Multitasking. Therefore, there is no role of Cognitive Flexibility as a moderator in the relationship between Big 5 - Extraversion and Media Multitasking.

Table 7

Moderation Analysis for Cognitive Flexibility on the Relationship between Big 5 - Openness and Media Multitasking (N=402)

Variables	*R*	R^2	*F*	ΔR^2	*p*	*β*	95% CI	
							LL	*UL*
Constant	.73	.53	111.10		.00	18.32	8.65	27.99
Big 5-O					.00	2.12	1.21	3.03
CF					.02	.26	0.04	.48
Big 5-O* CF				.00	.42	–.008	–.027	.01
Covariate (Education)					.11	.82	–.17	1.81

Note. Big 5-O= Big 5 -Openness, CF= Cognitive Flexibility, β = Standardized beta, R2= Coefficient of determination, F= Statistics, ΔR^2= Adjusted R-square

As shown in Table 4.2, no significant moderation effect was found between Big 5 -Openness and Media Multitasking. Therefore, there is no role of Cognitive Flexibility as a moderator in the relationship between Big 5 - Openness and Media Multitasking.

Table 8

Moderation Analysis for Cognitive Flexibility on the Relationship between Big 5 - Conscientiousness and Media Multitasking (N=402)

Variables	*R*	R^2	*F*	ΔR^2	*p*	*β*	95% CI	
							LL	*UL*
Constant	.71	.50	101.05		.00	61.02	45.82	76.22
Big 5-C					.00	–1.83	–2.69	–0.97
CF					.28	.14	–.12	.40
Big 5-C* CF				.00	.68	.00	–.014	.02
Covariate (Age)					.21	.26	–.15	.67

Note. Big 5-C= Big 5 - Conscientiousness, CF= Cognitive Flexibility, β = Standardized beta, R2= Coefficient of determination, F= Statistics, ΔR^2= Adjusted R-square

As shown in Table 4.2, no significant moderation effect was found between Big 5 - Conscientiousness and Media Multitasking. Therefore, there is no role of Cognitive Flexibility as a moderator in the relationship between Big 5 - Conscientiousness and Media Multitasking.

ism and Media Multitasking (N=402)

Variables	*R*	R^2	*F*	ΔR^2	*p*	*β*	95% CI	
							LL	*UL*
Constant	.68	.46	114.22		.00	20.33	10.99	29.68
Big 5-N					.00	1.78	.90	2.66
CF					.00	.36	.14	.58
Big 5-N* CF				.00	.35	–.009	–.027	.01

Note. Big 5-N= Big 5 - Neuroticism, CF= Cognitive Flexibility, β = Standardized beta, R2= Coefficient of determination, F= Statistics, ΔR^2= Adjusted R-square

As shown in Table 4.2, no significant moderation effect was found between Big 5 - Neuroticism and Media Multitasking. Therefore, there is no role of Cognitive Flexibility as a moderator in the relationship between Big 5 - Neuroticism and Media Multitasking.

Table 10

Moderation Analysis for Cognitive Flexibility on the Relationship between Big 5 - Agreeableness and Media Multitasking (N=402)

Variables	*R*	R^2	*F*	ΔR^2	*p*	*β*	95% CI	
							LL	*UL*
Constant	.68	.47	87.34		.00	52.13	37.12	67.15
Big 5-A					.00	–1.41	–2.25	–.57
CF					.04	.27	.01	.52
Big 5-A* CF				.00	.81	–.002	–.020	.02
Covariate (Age)					.14	.32	–.10	.74

Note. Big 5-A= Big 5 -Agreeableness, CF= Cognitive Flexibility, β = Standardized beta, R2= Coefficient of

determination, F= Statistics, ΔR^2= Adjusted R-square

As shown in Table 4.2, no significant moderation effect was found between Big 5 - Agreeableness and Media Multitasking. Therefore, there is no role of Cognitive Flexibility as a moderator in the relationship between Big 5 - Agreeableness and Media Multitasking.

Discussion

The present chapter interprets the findings from the previous chapter, placing them within current literature and examining their implications. This study investigated how the Big Five personality traits and cognitive flexibility influence media multitasking (MMT), testing seven hypotheses.

Hypothesis 1 predicted that higher openness to experience would be associated with greater media multitasking. This was confirmed, with a strong positive correlation ($r = .711$, $p < .01$) observed between openness and MMT (Table 3). Openness reflects curiosity, creativity, and a preference for novelty—traits that align with handling multiple media streams simultaneously. Correa et al. (2022) demonstrated that individuals high in openness engaged more frequently in social media and cross-platform multitasking. Stanley and Mostafavi (2020) found extraversion and openness jointly predicted increased concurrent media use. Additionally, Seddon et al. (2023) noted that openness enhances cognitive strategies that facilitate multitasking performance.

Hypothesis 2 proposed that higher conscientiousness would predict lower media multitasking, and this was supported: conscientiousness showed a strong negative relationship with MMT ($r = –.692$, $p < .01$). Conscientious individuals exhibit high self-control and task-focus, reducing the likelihood of fragmented media activity. Toyama and Hayashi (2021) found conscientious students minimized off-task digital behaviors. Alzahabi and Becker (2022) showed conscientiousness mitigated impulsive media switching. Correa et al. (2022) further echoed this, highlighting discipline and planning as protective factors against MMT.

Hypothesis 3 anticipated that extraversion would positively relate to MMT, which was supported with a strong positive correlation ($r = .704$, $p < .01$). Extraverts' social engagement and sensation-seeking appear to drive concurrent platform usage. Stanley and Mostafavi (2020) found extraversion was a significant predictor of social media multitasking. Correa et al. (2022) also aligned with this, noting extraverts multitask more during digital communication. Additionally, Ma et al. (2024) reported that extraverted learners employed multiple media concurrently to socialize while studying.

Hypothesis 4 suggested that higher agreeableness would correlate with lower MMT. This was also supported, showing a strong negative correlation ($r = –.655$, $p < .01$). Although previous studies presented mixed findings, this result indicates that agreeable individuals may intentionally reduce multitasking to maintain focus and harmony. Shukla (2021) previously showed agreeableness did not predict MMT in Indian students, while Zhou et al. (2023) observed no buffering effect of agreeableness on multitasking outcomes. However, the current findings suggest a context-specific influence, possibly shaped by personal values and digital habits.

Hypothesis 5 predicted that higher neuroticism would be associated with greater MMT. This was confirmed with a strong positive correlation ($r = .647$, $p < .01$). High emotional instability may lead individuals to switch media as a coping mechanism for anxiety or stress. Alzahabi and Becker (2022) reported neurotic individuals engage more in media-switching during emotional distress. Correa et al. (2022) corroborated this, linking neuroticism to increased digital interruptions. Stanley and Mostafavi (2020) described neurotic users using media multitasking to manage rumination.

Hypothesis 6 posited that cognitive flexibility would positively relate to MMT, and this was supported with a moderate positive correlation ($r = .504$, $p < .01$). Cognitive flexibility—the ability to shift attention

and adapt—facilitates efficient media switching. Seddon et al. (2023) identified cognitive flexibility as a primary predictor of multitasking retention in experimental contexts. Matthews et al. (2022) observed heightened multitasking performance in individuals with better cognitive control across the lifespan. Himi et al. (2023) also demonstrated flexibility as a key factor in proficient media multitasking.

Hypothesis 7 tested whether cognitive flexibility moderates the relationship between the Big Five personality traits and media multitasking. Contrary to expectations, this hypothesis was not supported, as no significant interaction effects were found. While prior studies suggested that cognitive flexibility may intensify or buffer the influence of personality traits on multitasking behaviors, the current findings indicate that its role as a moderator may be overstated. This discrepancy could stem from differences in sample characteristics or measurement methods. For instance, Himi et al. (2023) found cognitive flexibility moderated digital behavior only under specific task demands, which may not have been present here. Similarly, Matthews et al. (2022) noted that flexibility's influence on media habits weakens in routine contexts. Zhou et al. (2023) also concluded that although cognitive flexibility predicts multitasking, it does not consistently interact with personality dimensions in naturalistic settings. Thus, while cognitive flexibility was positively related to MMT, it did not significantly alter the trait–behavior links, suggesting a more direct than moderating influence in this population.

Conclusion

This research aimed to examine the relationship between media multitasking and personality traits based on the Big Five model, along with the role of cognitive flexibility. Seven hypotheses were tested based on the objectives of the study, addressing both correlational and predictive dynamics between the variables. The results showed a strong and significant positive relationship between openness to experience and media multitasking (r = .711, strong). Similarly, extraversion (r = .704, strong) and neuroticism (r = .647, strong) also showed significant positive correlations with media multitasking, suggesting that individuals high in stimulation-seeking and emotional reactivity are more likely to engage in concurrent media use. In contrast, agreeableness (r = –.655, strong) and conscientiousness (r = –.692, strong) were significantly and negatively related to media multitasking, indicating that individuals with cooperative or disciplined temperaments tend to avoid fragmented attention. Furthermore, cognitive flexibility demonstrated a significant moderate positive relationship with media multitasking (r = .504). However, the final hypothesis, which tested cognitive flexibility as a moderator between personality traits and media multitasking, was not supported. These findings offer insight into how core personality dimensions shape digital behavior patterns.

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