

The Moderating Role of Personality in the Relationship between Temporal Perspectives and Facebook Addiction

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Abstract. In the present paper, we tested the hypothesis that neuroticism moderates the relationship between past-negative or present-fatalistic temporal perspectives and Facebook addiction. A sample of 233 Facebook users (Female: 66%, mean age: 21.4 years) filled self-reports measures of temporal perspective, personality traits, and Facebook Addiction. Results at two moderation models showed that only past-negative significantly predicts Facebook addiction through neuroticism's moderation effect. Individuals with a negative temporal orientation to the past, who are also characterized by a high neuroticism level, were more addicted to Facebook. Peculiar associations between past-negative temporal perspective with neuroticism personality trait in determining Facebook addiction were theoretically discussed. Practical implications of the study are also highlighted.

Keywords. Temporal perspective; personality; Facebook addiction; neuroticism; social media.

1. Introduction

Zimbardo and Boyd [1] defined temporal perspective (TP) as non-conscious processes that help people give order, coherence, and meaning to personal and social experiences. They also distinguished five temporal dimensions referred to present (i.e., Present-Fatalistic and Present-Hedonistic), past (i.e., Past-Negative and Past-Positive), and future (i.e., Future). The direct association between TP and personality traits have been mostly evidenced. Studies based on the Five-Factor Model [2] have evidenced that Past-Negative is positively associated with neuroticism and negatively with extraversion. As well, Past-Positive and Future correlate with agreeableness, conscientiousness, and openness [3] positively. Whereas Present-Hedonistic positively correlated with extraversion. The Future is positively associated with conscientiousness [4]. There is recently increasing evidence that Present-Fatalistic and Past-Negative are the most significant positive predictors for individuals' General Problematic Internet Use, Internet addiction, Facebook intensity use, or addictive Facebook use [5]. Also, Present-Hedonistic is a precursor for Facebook addiction, but results are mixed [6]. As a possible explanation of the relationship between TP and social media addiction, scholars referred to personality traits and specifically to neuroticism [7].

In the current study, we aimed at deeply exploring the reciprocal associations between five dimensions of TP, personality traits, and Facebook addiction (FA), measured by the Facebook Addiction Italian Questionnaire (FAIQ) [8], which is a standardized questionnaire based on a four-factor model offering both a total score of FA and a multidimensional measure of four peculiar dimensions related to users' behaviors. We analyzed the moderating role of neuroticism in the relationship between Past negative or Present Fatalistic and Facebook addiction (total score and subscales scores).

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We expect to find that people more oriented to Past-Negative (Hypothesis 1) or Present Fatalistic (Hypothesis 2) will show higher levels of Facebook addiction (total score and subscales scores) than people less oriented to both dimensions because of neuroticism

2. Method

2.1. Participants

A sample of 248 participants (66% female; $M_{age} = 21.5$; $SD = 4.4$) voluntarily enrolled in the study. Fifteen participants were removed from the data analysis because of missing data in line with methods recommended in the scientific literature [9], leaving the final sample at 233 participants (66% female; $M_{age} = 21.4$; $SD = 4.2$). All the data handling was conducted agreeing with the Ethical Principles for Conducting Research with Human Participant and the Italian Law on Privacy. All participants gave informed written consent.

2.2. Measures and Procedure

Data were collected automatically during the class hours of participants when they filled an electronic version of demographic questions (i.e., gender, age, instruction) and the following three self-report instruments:

- The *Zimbardo Time Perspective Inventor* (ZTPI) [1] is a 56 items questionnaire on a 5-point Likert scale ranging from 1 (very uncharacteristic) to 5 (very characteristic). The score obtained on each subscale is independent of those gathered on the other subscales. A high score on a subscale reveals a temporal orientation of an individual on that temporal frame.
- The *Personality Inventory* (PI) [10] is a 20-item scale questionnaire that measures personality concerning five large dimensions under the FFM [2]. The PI has five subscales, each consisting of four items related to one of the personality factors. Each item is rated on a 5-point scale with anchors 1: Strongly disagree and 5: Strongly agree. The total score was computed by averaging participants' scores in each item of the scale.
- The *Facebook Addiction Italian Questionnaire* (FAIQ) [8] is a 16-item questionnaire on a 5-point Likert scale with anchors 1: Strongly disagree and 5: Strongly agree that offers both a full measure of FA and four subscales scores: Interpersonal Irritability (II; i.e., adverse consequences in daily life), Elapsed Time (ET; i.e., dysfunctional time perception and time management), Social Performance Impairment (SPI; i.e., difficulties into integrating Facebook in life contexts), and Facebook Anxiety (FANX; i.e., feelings of being nervous and anxious when not connected). The total and subscales scores were computed by averaging participants' scores for each item of the scales.

3. Results

First, bivariate correlations between the studied variables were calculated and results showed that all variables correlated in expected directions. Then, a series of moderation models using Hayes's [11] PROCESS macro (Model 1) were conducted to verify our hypotheses. We found that neuroticism showed a moderation effect between Past-Negative and FA and between Past-Negative and II. Past-negative significantly predicts FA, and neuroticism moderates this relationship between Past-Negative and FA, so corroborating H1. Besides, Present-Fatalistic is associated with FA. Individuals with high scores in a fatalistic view of the present are also subjects with high FA levels.

However, neither neuroticism nor the interaction variable proves to contribute significantly to corroborating H2 (see Table 1).

Table 1. The moderating role of neuroticism on the relationship between Past-Negative or Present-Fatalistic and Facebook addiction.

	B	SE	t	LLCI	ULCI	
<i>Covariate</i>						
Gender	.28	.05	5.17***	.17	.39	
Age	-.36	.05	-6.44***	-.47	-.25	
<i>Independent variable</i>						
Past-Negative (PN)	.19	.07	2.61**	.05	.33	
<i>Moderator</i>						
Neuroticism (NEU)	.08	.08	.99	-.08	.24	
<i>Interaction</i>						
PN*NEU	-.23	.08	-2.69**	-.39	-.06	R ² Change = .001 (F=.09, p=n.s.); R ² =.46
<i>Covariate</i>						
Gender	.25	.05	5.26***	.16	.35	
Age	-.29	.05	-5.83***	-.39	-.19	
<i>Independent variable</i>						
Present Fatalistic (PF)	.50	.06	8.40***	.38	.61	
<i>Moderator</i>						
Neuroticism (NEU)	.05	.07	.71	-.09	.19	
<i>Interaction</i>						
NEUxPF	-.02	.07	-.32	-.16	.12	R ² Change = .023 (F=7.26, p<.01); R ² =.33
<i>Covariate</i>						
Gender	.24	.06	4.34***	.13	.35	
Age	-.31	.06	-5.58***	-.43	-.20	
<i>Independent variable</i>						
Past-Negative	.10	.07	1.44	-.04	.25	
<i>Moderator</i>						
Neuroticism	.08	.08	.89	-.09	.24	
<i>Interaction</i>						
NEUxPN	-.26	.06	-2.95**	-.43	.08	R ² Change = .03 (F=8.69, p<.01); R ² =.25

Note - N = 233; Dependent Variable: Facebook Addiction total score; LLCI = Lower Limit Confidence Interval; ULCI = Upper Limit Confidence Interval

Simple slope analysis shows that individuals with a high negative temporal orientation to the past, who are also characterized by high or low levels of neuroticism, show similar levels of FA. Conversely, individuals with a low negative temporal orientation to the past show high FA levels only if they have high levels of neuroticism, so corroborating H1. This analysis is also confirmed by the conditional effect of focal predictors shown in Table 2.

Table 2. Conditional effect of neuroticism on the relationship between Past-Negative and Facebook Addiction or Interpersonal Irritability.

Neuroticism	Effect	SE	t	LLCI	ULCI
Facebook Addiction					
Low level	.47	.10	4.66***	.27	.66
Middle level	.31	.07	4.55***	.17	.44
High level	.07	.10	.49	-.12	.26
Interpersonal Irritability					
Low level	.41	.10	4.09***	.22	.62
Middle level	.24	.07	3.48**	.10	.37
High level	-.03	.10	-.29	-.22	.16

When we performed analyses on FAIQ subscale scores, data show a significant negative relation between interaction term and II. Simple slope analyses evidence that individuals with a high negative temporal orientation to the past, who are also characterized by high or low neuroticism levels, show similar levels of II. On the contrary, individuals with a low past-negative temporal orientation show high II levels only if they have high levels of neuroticism, as confirmed by the conditional effect of focal predictors shown in Table 2.

4. Discussion

Neuroticism is the only compound personality variable that predisposes people to experience more stressful events [12-13]. Thus, it might moderate Facebook addiction levels on individuals who are negatively oriented to the past. Considering that neurotic people also have high levels of self-monitoring [14] and interpersonal surveillance [15], we might explain results as an effect of the neurotic tendency to supervise and control what is happening into the lifetime. Moreover, when we analyze FAIQ subscales scores, we found that only Interpersonal Irritability is deeply affected. Such a behavioral dimension is concerned with Facebook's influence on the quality of users' social relationships [8]. Individuals who adopt a fatalistic view of the present are low impulsive and tend more to depression [16]. In contrast, Facebook addiction is excessive and compulsive behavioral addiction [17].

Thus, neuroticism is an impulsivity trait that might be less effective in moderating the relation between a more passive orientation toward current life events and a behavioral addiction that requests an active and robust impulse control. It must be noted that results about the conditional effect of focal predictors allow us to affirm that low neuroticism levels prevent the risk of developing FA, both considering total or Interpersonal irritability scores. Still, we cannot state the specular result that high neuroticism levels lead people to become more addicted to Facebook. As practical implications, our findings could be useful for psychologists or psychiatrists in the stages of both assessments and clinical intervention on social media addiction. Because of neuroticism's moderating role, clinical or prevention programs might also be aimed at enhancing impulse control, emotion regulation, and stress management.

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