



Research on User Social Platform Selection Preferences in the Big Five Personality Dimension

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Abstract

This study, based on the Big Five Personality Theory, explores the influence of personality traits on the choice of social platforms. Existing research indicates that there is a correlation between personality and online behavior, but studies on the characteristics of different platforms are still insufficient. The research adopted the questionnaire survey method, using the revised NEO-FFI scale and the platform usage preference questionnaire. A total of 1024 valid samples were collected through online and offline channels, covering different age and occupational groups. Data analysis reveals that users with a higher level of extroversion tend to prefer instant messaging platforms such as WeChat and QQ. The trait of openness significantly influences users' choices of content creation platforms like Xiaohongshu and Bilibili. The neurotic dimension is positively correlated with the frequency of social platform usage. Agreeableness traits promote interactive behaviors such as likes and comments, while users with high conscientiousness have a shorter usage duration. Age plays a moderating role in the relationship between personality traits and platform choice. For instance, the openness of the younger group is more strongly associated with the use of innovative platform functions. This study innovatively constructed a personal-platform selection model, revealing the functional requirements of users with different traits for social platforms. The results have practical value for the personalized service design of the platform, such as the development of stress-relieving functions for neurotic users, or providing content creation tools for highly open-minded users. This research fills the gap in platform-specific studies, and in the future, longitudinal tracking can be combined to further verify the validity of the model.

Keywords

Big Five Personality Traits; Social Media Platforms; Choose Preferences; Behavioral Patterns

Introduction

This study is based on the Big Five personality theory framework and systematically explores the intrinsic relationship between individual trait differences of users and functional preferences of multiple types of social platforms. By introducing demographic variables as moderating factors, this study reveals the boundary conditions under which personality traits affect platform selection, providing theoretical support for the precise design of social services. With the rapid development of computer information technology, the number of social network users is increasing

day by day, and online social networking is rapidly becoming popular worldwide. With the development of technologies such as 5G, knowledge graphs, artificial intelligence, and big data, social networks have further integrated virtual digital social networking with the real world. However, the spread of online water armies, online rumors, and false information has brought severe challenges to national security ideology.

1. Literature Review

1.1 Development of the Big Five Personality Trait Theory

The development of the Big Five personality trait theory has gone through a process from early personality classification to systematic dimension construction. This theory originated from mid-20th century psycholexical research, which extracted the basic dimensions of personality description from natural language through factor analysis methods. After theoretical exploration and empirical verification by multiple psychologists, a stable framework consisting of five core dimensions including neuroticism, extroversion, openness, agreeableness, and conscientiousness gradually formed by the 1980s. The NEO personality scale proposed by Costa and McCrae in 1985 marked the maturity of this theory, making the Big Five personality model one of the most influential theoretical systems in the field of personality psychology. With the deepening of research, the application scope of the Big Five personality theory has expanded from the initial personality assessment to multiple fields such as organizational behavior and educational psychology. In terms of Internet behavior research, this theory provides a reliable theoretical basis for explaining individual differences, especially for the behavior differences of different user groups in the digital environment. Current research generally believes that these five relatively independent yet interrelated trait dimensions can effectively predict stable patterns of individual differences in cognition, emotion, and behavior (Zhang & Li, 2022).

1.2 Research on the Relationship between Personality Traits and Behavioral Patterns

The relationship between personality traits and behavioral patterns has formed a relatively systematic theoretical system in the field of psychology. Existing research indicates that the Big Five personality traits have a stable predictive effect on an individual's cognitive style, emotional responses, and behavioral tendencies. The extraversion trait is significantly positively correlated with the level of social activity, and individuals in this category often exhibit stronger social needs and interaction frequency. The trait of openness is closely related to innovative behavior and diversified information acquisition, and tends to favor platforms with rich and diverse content in media selection. The dimension of neuroticism affects an individual's emotional stability, which in turn affects their risk aversion tendency and negative emotional coping strategies in online use. There is a positive correlation between agreeableness traits and prosocial behavior, manifested as stronger willingness to cooperate and more positive interaction patterns. The trait of conscientiousness is usually associated with self-management ability, reflected in aspects such as behavior planning and time control. These trait dimensions together form the intrinsic basis for individual behavioral differences, providing a theoretical basis for explaining the behavioral choices of different users in the digital environment.

1.3 Research on User Behavior of Existing Social Platforms

The research on user behavior on existing social platforms has preliminarily revealed the differences in usage patterns between different platforms. Research has shown that users exhibit significant functional preference differentiation when choosing social platforms: platforms that prioritize real-time interaction are more favored by high-frequency social demanders, while content sharing platforms attract user groups with information acquisition tendencies. In terms of usage duration, short video platforms exhibit fragmented characteristics, while graphic and text platforms show stronger temporal concentration. In terms of interactive mode, young users tend to prefer expressive interaction, while mature users tend to prefer informative interaction. The differences in platform functional design lead to the differentiation of user behavior. For example, algorithm recommendation mechanisms strengthen the passivity of content consumption, while attention mechanisms maintain stronger social initiative. These behavioral differences are not only influenced by platform characteristics, but also have potential associations with individual user characteristics, providing a practical basis for exploring the interaction between personality traits and platform selection (Yu & Yang, 2023).

1.4 Research Gaps and Innovation Points

There are still several research gaps in the correlation between personality traits and social platform selection in existing studies. Most studies only focus on a single platform or general online usage behavior, without systematically examining the differential selection mechanisms of different functional types of social platforms. Meanwhile, existing studies often overlook the moderating effect of demographic variables, which limits the generalizability of conclusions. This study innovatively constructed a correspondence model between the Big Five personality traits and the selection of multiple types of social platforms, focusing on examining the differential effects of various personality dimensions on platform functional preferences. By introducing demographic variables as moderating factors, the study will reveal the intrinsic boundary conditions of personality traits affecting platform selection, providing a more accurate theoretical basis for the design of personalized social platforms. This research perspective helps to address the lack of platform specificity in existing literature on personality behavior relationships.

2. Research Methods

2.1 Research Design and Assumptions

This study adopts quantitative research methods and collects data through questionnaire surveys to explore the relationship between the personality traits of the Big Five and their preferences for social platforms. The study proposes five core hypotheses: extraversion traits positively predict preference for using instant messaging platforms; The trait of openness is positively correlated with the choice of content creation platforms; Users with higher levels of neuroticism are more inclined to use low-frequency social platforms; The agreeableness trait positively influences the preference for interactive friendly platforms; There is a correlation between the trait of conscientiousness and the self-management ability of platform usage duration. The research design controls for demographic variables such as age, gender, and education level. A cross-sectional survey method is used to measure personality traits using standardized scales, and comprehensive analysis is conducted in conjunction with platform usage behavior data. Hypothesis testing will reveal the specific pathways through which personality traits influence platform selection.

2.2 Measuring Tools

The personality trait measurement adopts the Chinese revised version of the NEO-FFI scale, which includes 60 items covering five dimensions: extraversion, openness, neuroticism, agreeableness, and conscientiousness. The Likert five-point scoring method is used. The social platform usage preference questionnaire includes four modules: platform type selection, usage frequency, interaction mode, and duration management. Platform types are further divided into six categories: instant messaging, content creation, and information acquisition. The questionnaire design has undergone expert validity testing and pre-testing, and the Cronbach's alpha coefficients are all above 0.7, indicating good reliability and validity. The measurement tools are distributed through online platforms, and all items are randomly arranged to avoid sequential effects (Wang & Liu, 2024).

2.3 Sample Selection and Data Collection

This study used a stratified random sampling method to collect data through an online questionnaire platform. The sample covers the active user group of social media platforms aged 18-45, with stratified quotas based on age, gender, and education level to ensure the representativeness of the sample in terms of demographic characteristics. The data collection process lasted for two months, resulting in 1024 valid samples, of which 48.2% were male and 51.8% were female. The sample age distribution is 18-25 years old (32.1%), 26-35 years old (41.3%), and 36-45 years old (26.6%). All participants signed the informed consent form, and the questionnaire took an average of 8 minutes to fill out. During the data collection process, measures such as IP address restrictions and logical check items are used to ensure data quality (Wang & Chen, 2024).

3. Empirical Analysis

3.1 The Correlation between Personality Traits and Social Media Usage Preferences

Empirical analysis results show that there is a systematic association between personality traits and social media usage behavior. Extraversion traits are significantly positively correlated with the use of instant messaging platforms

($r=0.32$, $p<0.01$), a finding that is consistent with previous research conclusions that extroverted individuals tend to obtain emotional support through frequent social interactions. The trait of openness has a predictive effect on the choice of content creation platforms ($\beta=0.41$, $p<0.001$), indicating that highly open users are more inclined to express themselves through complex forms such as graphic and text creation. The neurotic dimension demonstrated unique behavioral patterns. Those with higher scores had an average daily usage frequency that increased by 1.8 times compared to the control group (95%CI [1.2,2.4]), which might stem from a compensatory usage mechanism driven by emotional regulation needs. These findings provide new evidence to support the “trait-behavior matching theory” (Wu & He, 2021).

3.2 Manifestations of Personality Differences Using Behavioral Patterns

Data analysis shows that personality traits have differentiated influences on specific usage behaviors. The traits of affability were moderately positively correlated with the number of interactive comments ($r=0.26$, $p<0.05$), indicating that users with high affability were more inclined to maintain social harmony, which was reflected in the significantly higher frequency of positive emotional words in the comment content than the mean ($t=3.21$, $df=112$, $p=0.002$). The trait of conscientiousness has a negative correlation with the duration of single use ($\beta=-0.29$, $p<0.01$), which is in line with the behavioral characteristics of this trait group that focus on efficiency, and their use behavior shows obvious goal-oriented. It is worth noting that the fragmented usage characteristics of neurotic users are prominent, with the single usage interval shortened to 23 minutes ($SD=4.7$), which is significantly lower than the sample mean ($t=4.03$, $p<0.001$). These quantitative results provide a parametric basis for constructing a personal-oriented usage behavior prediction model (Yu, 2021).

3.3 Analysis of the Moderating Effects of Demographic Variables

The hierarchical regression model ($\Delta R^2=0.15$, $p<0.001$) revealed the moderating effect of age on the relationship between traits and behavior (Lu, Xu & Zhang, 2022). The variance of personality trait explanations in the group under 25 years old reached 38.7%, significantly higher than that in the older group ($F=6.79$, $p=0.01$), which might be related to the higher personality plasticity in this age group. The main effect of educational attainment was significant ($\beta=0.18$, $p<0.05$), but the interaction term of gender $\times$ educational attainment did not reach a significant level ($p=0.34$), indicating that there was no gender difference in the moderating effect of digital literacy. Further analysis revealed that in the lower age group, the predictive power of extroversion for platform selection increased by 1.7 times (95%CI [1.2,2.3]), while the influence of open traits remained stable ($\beta=0.39$ vs 0.37), suggesting heterogeneity in the development trajectories of different traits. These findings provide empirical evidence for the design of personalized services tailored to specific groups of people (Bauman, 2002).

Conclusion

In summary, this study confirms that the Big Five personality traits significantly influence users' preferences for social media platforms. Extraversion traits positively predict the use of instant messaging platforms, openness traits drive content creation platform preferences, neuroticism dimensions increase usage frequency, agreeableness traits promote positive interaction, and conscientiousness traits are related to self-management of usage duration. The age variable moderates the effect of personality traits, with this effect being more significant in the group under 25 years old. The research results have constructed a corresponding relationship model between personality traits and the selection of multiple types of social platforms, which fills the gap of previous studies neglecting the differences in platform functions and the moderating effect of demographic variables, and provides a theoretical basis for personalized platform design. The research deepens the understanding of individual differences in digital behavior and has practical significance for optimizing social media services.

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