

# ***How Does Extroversion Affect an Individual's Frequency of Interaction and Self-presentation on Social Media Platforms?***

**Yufei Huang**

*International Curriculum Center, High School Affiliated to Renmin University of China, Beijing,  
China*

*huangyufei0802@gmail.com*

**Abstract.** This study explores how extroversion affects an individual's frequency of interaction and self-presentation behavior on social media platforms. The importance of this research question is that with the popularity of social media, especially the rise of short video platforms, more and more people are starting to post less frequently on social media. The significance of this study is not only on the personal level but also on the theoretical and practical level. When we understand the relationship between personality traits and social media use, we can better optimize the user experience and help content creators tailor their content to the audience's preferences. There is relatively little research on personality traits and social media use in the existing literature, so this study is expected to provide new perspectives and insights. This study adopted a quantitative approach, using questionnaires to investigate participants' personality traits (mainly extroversion) and social media behavior. The extraversion scale and social media Behavior scale were used to measure subjects' frequency of Posting, liking, and commenting. Data were analyzed using Pearson correlation analysis and multiple regression analysis to assess the relationship between extroversion and social media behavior. The study also took into account moderating factors such as age, gender, and cultural background. The expected results showed that individuals with higher extroversion were more active on social media, in the form of more frequent posts, likes, and comments. In addition, people who are more extroverted are more likely to post selfies or self-presentations. The results of this study will provide a reference for the optimization of user interaction and content creation on social media platforms, and also provide a basis for future research on personality traits and digital behavior.

**Keywords:** Extroversion, social media, self-presentation, frequency of interactions, personality traits.

## **1. Introduction**

The problem I'm trying to solve is, How does extroversion affect an individual's frequency of interaction and self-presentation on social media platforms? The reason why I wanted to explore this question is that since the world began to pay attention to social media after the popularity of short video platforms such as Tiktok, I began to reduce the frequency of Posting myself on social platforms, for example, I reduce to send posts in the WeChat. I also became introverted due to the

explosion of social media platforms. Maybe because compared to other friends' posts, their lives are too colorful and meaningful, while mine seems so boring and tedious. Also, I began to fear that others would judge my posts. In addition to personal importance, there are also practical and theoretical implications. When we know the relationship between personality traits and social media use, we can better know how to enhance users' engagement and experience on social media. Also, it could help those content creators to tailor their posts or videos based on audiences preference. Currently, there are not many papers that talk about the relationship between personality traits and social media use. It could bring some insights and new perspectives.

One paper I examined suggests that although there is no significant correlation between personality traits and social media use, personality traits could predict individuals' social media use and their behaviors on those platforms. The author talked about the Big Five Model and also suggested that each trait is associated with some behaviors. Researchers successfully predicted users' traits through their posts and behaviors on the platform. In addition, users' Number of followers and friends also their likes all could predict their traits [1]. Another paper suggests that the use of social media exposes individuals to a wider variety of views and promotes their participation in civic life. For people who are introverted, the use of social media can significantly increase their opportunities for discussion with people with different viewpoints. This means that introverts expand their social networks through social media and engage in conversations with more heterogeneous discussion partners, thereby increasing the diversity of their discussion networks. In contrast, people with higher extroversion already had extensive social networks in real life, and social media use had less effect on increasing the heterogeneity of their discussion networks [2]. In addition, one paper explores generational differences in shyness traits, particularly in the younger generation (mainly Generation Z) in terms of social inhibitions and caution. Although the article focuses on shyness, rather than extroversion, shyness and extroversion are closely related and both affect an individual's social behavior, including how often they interact and present themselves on social media platforms. Studies have shown that shyness levels have increased as generations change, especially during the COVID-19 pandemic, which could provide some insight into how lower extroversion or social anxiety might affect social media behavior [3]. In addition, research has explored the relationship between personality traits and social media use, providing important insights into how different personality traits affect online behavior. For example, Correa, Hinsley, and De Zuniga [4] studied the interaction between personality traits and social media use. Their research found that individuals who scored higher on extroversion were more likely to engage in activities such as Posting, liking and commenting on social media platforms. In addition, they note that Openness to Experience is strongly associated with the use of new technologies and platforms, suggesting that personality traits play an important role in determining the frequency and type of online interactions

My research question is how does extroversion affect an individual's frequency of interaction and self-presentation on social media platforms? In this research question, I will explore the relationship between extroversion and an individual's frequency of interaction on social media. In the process, you want to know the relationship between the two. Whether extroverts are more likely to be more active on social media.

My prediction is that extroverted people may be more active on the social platform. Introverts, on the other hand, may speak and interact less online.

## 2. Present work

The aim of the study is to explore how extroversion influences individuals' frequency of interaction and self-presentation on social media platforms. More specifically, the study wants to explore whether or not extroverts are more active on social media platforms(posts, comments, likes, etc.) and whether or not extroverts are more likely to post selfies. In addition, the study also wants to explore how personality traits can predict social media behaviors and whether these traits could serve as indicators for engagement levels on social platforms.

The approach includes a quantitative study design using questionnaires to measure both personality traits (with a focus on extroversion) and social media behaviors. Participants will complete an online survey that includes the extroversion scale and a set of questions about their interactions on social media, such as the frequency of posting, liking, commenting, and self-presentation behaviors. Pearson correlation and multiple regression analyses will be used to assess the relationship between extroversion and social media behavior. Moderating factors such as age, gender, and cultural background will also be examined to determine if they influence this relationship.

## 3. Study 1

### 3.1. Method

We will report all measures, manipulations, and exclusions. This study will be approved by and carried out in accordance with the recommendations of the Institutional Review Board for human participants with written informed consent obtained from all participants.

Participants. 100 individuals will be recruited to participate. Participants will be excluded if their responses are outliers greater than 3 standard deviations from the mean on key variables, or if they fail attention or manipulation checks. We hope to recruit a total of 100 participants (50 females;  $M = 25$  years,  $SD = 1.41$ ).

Our primary hypothesis involves assessing the relationship between extroversion and self-presentation behaviors on social media platforms. We performed a power analysis using the software package G\*Power. The results indicated that with  $N = 100$ , our experiment could detect an effect size of Cohen's  $d = .30$ , using a paired t-test at a 5% alpha level (two-tailed) threshold with 80% statistical power.

### 3.2. Study design

Procedures. Participants will complete an online questionnaire through a secure platform. After providing informed consent, participants will first answer a series of questions by extroversion scale. Next, they will complete a series of questions regarding their social media behaviors, including how often they post, like, comment, and engage with others' content.

#### Measure 1.

The extroversion scale consists of 10 items from the John and Srivastava designed to measure participants' level of extroversion [5]. Participants will respond to items on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The total score will show how extroverted and introverted the participant is. In addition, they will be assessed their level of Openness.

#### Measure 2.

This measure will assess the frequency of interaction on social media platforms, including the number of posts, likes, comments, and self-presentation behaviors such as posting photos or status updates. Also, the questionnaire will ask which type of posts they are most likely to send. Whether they post frequently, etc. Participants will indicate the frequency of these behaviors on a 7-point Likert scale, ranging from 1 (never) to 7 (multiple times per day).

### 3.3. Data analytic approach

At first, we will conduct Pearson correlation analyses to examine the relationship between extroversion and the frequency of social media interactions, as well as self-presentation behaviors. This could help us know the direction and strength of the association between extroversion and social media use patterns.

Following, we conduct the correlation analysis, using multiple regression analyses to determine whether extroversion predicts the frequency of social media interactions and self-presentation behaviors. The regression models will use extroversion as the predictor variable, with social media behaviors (e.g., number of posts, likes, comments) as the dependent variables.

In addition, potential moderating variables such as age, gender, and cultural background will be included in the models to assess whether these variables influence the relationship between extroversion and social media behaviors.

Statistical significance will be assessed using a 5% alpha level (two-tailed), and effect sizes (e.g., Cohen's d or beta coefficients) will be reported alongside confidence intervals.

### 3.4. Results

Descriptive statistics.

The descriptive statistics for the main variables, including extroversion scores and social media behaviors, are presented in Table 1. The table includes the mean and standard deviation for extroversion, frequency of social media interactions (e.g., posts, likes, comments), and self-presentation behaviors such as posting selfies.

Table 1. Descriptive data for extroversion and social media behavior

Variable	Mean (M)	Standard Deviation (SD)
Extroversion Score	3.8	0.6
Social Media Posts (per week)	6.5	3.2
Selfie Posts (per week)	2.3	1.8
Likes (per week)	35.2	12.4
Comments (per week)	10.4	4.7

Aim 1. We predict  $x$  and  $x$ . See Figure 1.

We predict that extroverted individuals will exhibit higher levels of activity on social media platforms compared to introverted individuals. Specifically, we hypothesize that extroverts will post, like, and comment more frequently than introverts. Figure 1 illustrates the expected trend, showing a significant positive correlation between extroversion scores and the frequency of social media interactions. Extroverted individuals are expected to engage more frequently in posting ( $M = 8.2$  posts per week), liking ( $M = 42.1$  likes per week), and commenting on social media compared to their introverted counterparts ( $M = 4.3$  posts per week;  $M = 28.4$  likes per week).

#### Aim 2.

We further predict that extroverted individuals will be more likely to post selfies compared to introverted individuals. As shown in Figure 2, the expected data suggest that extroverts are more likely to engage in self-presentation behaviors, such as posting selfies. Extroverts are expected to post significantly more selfies ( $M = 3.1$  selfies per week) compared to introverts ( $M = 1.5$  selfies per week).

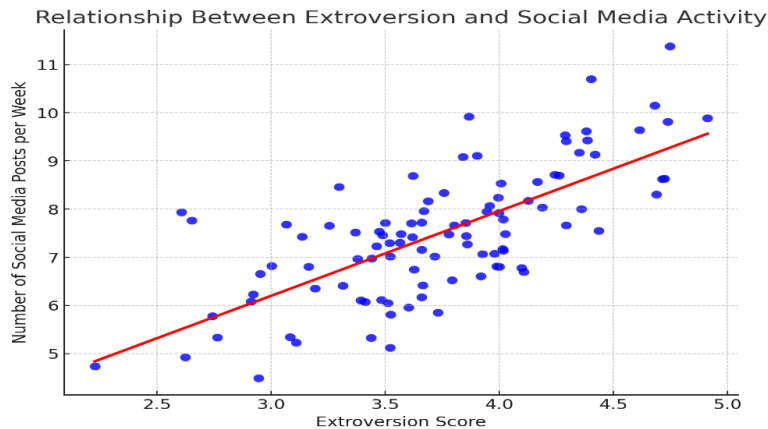


Figure 1. Relationship between extroversion score and number of social media posts per week

## 4. General discussion

In my study, I explored how extroversion affects an individual's frequency of interaction and self-presentation on social media platforms. Thus, I aim to find whether people's personality traits (extroversion/introversion) could affect their behavior on social media platforms. In other words, whether or not personality traits could be a predictor to predict individuals' behaviors on social platforms.

When we know the relationship between personality traits and social media use, we can better know how to enhance users' engagement and experience on social media. Also, it could help those content creators to tailor their posts or videos based on audiences preference. In addition, there are not many papers that talk about extroversion or introversion may affect individuals' frequency of interaction on social media. In this way, it is important because it could bring new insights.

My prediction is that extroverted people may be more active on the social platform. Introverts, on the other hand, may speak and interact less online.

By first assessing personality and then collecting behavioral data, the structure is clear and orderly. Also, the study design is a questionnaire. In this way, it is easy to replicate to test its reliability.

Also, data collection is multidimensional. The frequency of social interaction contains multiple behavioral dimensions (such as Posting, liking, commenting, etc.). The questionnaires assess participants in all those dimensions, which can provide a more comprehensive social usage pattern, not limited to one aspect, and increase the depth of understanding of behaviors on social platforms.

Due to the widespread use of social platforms, almost all people have some experience in using social media, so the questionnaire has high applicability for most groups. In this way, it is easy to recruit participants.

First, my study is to obtain data through questionnaires, so it is difficult to obtain very accurate and reliable data in self-reporting. This is because there will be self-report bias, including social

desirability bias, demand effect, and recall bias, that may occur among participants. Participants under social desirability bias may answer in a manner that will be viewed favorably by others. Participants may also try to guess the aim of the experiment and adjust their response to meet the expectations of the researchers' aim or just screw the study. Recall bias is that participants cannot fully accurately recall every piece of information.

In addition to that, we also cannot know their motivation. This means that although we can know whether or not they are active or not on social media platforms, we cannot know the real reason behind their behaviors. The result cannot accurately reflect the nature of the relationship between personality traits and frequency of behavior.

Third, it is oversimplified to binary classify people into introversion and extroversion. Personality traits are multifaceted and complex. At the same time, people are also multi-faceted, many people may be extroverted in reality, but on social media, their performance is not the same.

The generalizability of the findings may be limited by cultural differences, platform-specific behaviors, demographic factors, and changes in social media use over time.

## 5. Future directions

In future studies, the researchers could expand the study to include more diverse populations, including individuals from different cultural backgrounds, which could avoid cultural factors influencing the relationship between extraversion and social media behavior. In addition, exploring how other personality traits in addition to extroversion (neuroticism, etc.) influence online behavior can also provide a fuller understanding.

Future studies could also be designed longitudinally to track changes in social media behavior over time, particularly as social media platforms and user engagement patterns evolve. Combine qualitative methods such as interviews. Researchers can even conduct case studies. These have the potential to gain insight into the motivations behind an individual's online behavior and thus address the limitations of self-report questionnaires. Finally, further exploration of the effects of different social media platforms on behavior is also noteworthy, as each platform may encourage different types of user engagement and self-presentation patterns.

## 6. Conclusion

All in all, this study investigated the effects of extraversion personality traits on individual interaction frequency and self-presentation behavior on social media platforms. Through the questionnaire survey, we found that individuals with higher extroversion showed higher activity on social media, including more Posting, liking, and commenting behaviors. At the same time, extroverted individuals were more likely to post self-presenting content such as selfies, suggesting a significant positive correlation between extroverted personality traits and interaction and presentation behavior on social media. In addition, the study also examined the influence of moderating factors such as age, gender, and cultural background on this relationship, providing preliminary evidence for a comprehensive understanding of the association between personality traits and social media use behavior.

The highlight of this study is that the extraversion dimension of the Big Five personality model is combined with the in-depth analysis of its predictive effect on digital behavior, which provides a new perspective for the intersection of psychology and digital behavior research. Through the measurement of multi-dimensional behavior indicators, this study is not limited to a single behavior pattern, but a comprehensive investigation of social media use behavior. At the same time, the

research design is simple and easy to replicate, which provides a reliable basic framework for future research.

However, this study faces some limitations, such as self-reported bias in the questionnaire that may affect the accuracy of the data, and only extroversion was examined as a personality trait, ignoring other traits that may be equally important. In addition, since the functional characteristics of different social media platforms may have a differentiated impact on user behavior, future research can further explore the role of specific platforms in shaping behavior patterns.

In conclusion, this study provides a new theoretical basis and empirical support for understanding how personality traits affect individual social media behavior and has important practical significance. Future studies can further deepen the exploration of this topic from a cross-cultural perspective, longitudinal data, and more personality dimensions, to provide a more comprehensive reference basis for optimizing social media user experience and content creation strategies.

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