

The Social Media You Choose Reveals How You See Yourself: The Case of Introversion-Extraversion

Alhadi Chafi

IMT Nord Europe, Villeneuve d'Ascq, France

Email: alhadi.chafi@ext.imt-nord-europe.fr

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Abstract

Personality traits, particularly introversion-extraversion, have been consistently linked to social media use. While previous research has shown that extraverted individuals tend to be more active on social networking platforms, less attention has been paid to how the choice of a specific platform may relate to self-perceived personality traits. Drawing on self-perception theory, the present study examines whether selecting a visually oriented, self-presentational platform (*i.e.*, Instagram) is associated with higher self-reported extraversion. A total of 123 undergraduate and graduate students (71 women, 52 men; *Mean Age* = 22.06, *SD* = 4.45) completed a paper-and-pencil survey in which they reported their position on an introversion-extraversion continuum and indicated which social media platform they would choose if restricted to only one: Instagram or X/Twitter. A 2 (Gender) × 2 (Social Media) ANOVA was conducted on self-reported introversion-extraversion. Results revealed a significant main effect of Social Media, indicating that participants who chose Instagram reported higher levels of self-perceived extraversion than those who chose X/Twitter. No significant main effect of Gender was found, although descriptive analyses showed that women were more likely than men to select Instagram. Chi-square analyses confirmed a significant association between gender and platform choice, with a moderate effect size. These findings suggest that the preference for a visually oriented and self-presentational platform is associated with higher self-perceived extraversion.

Keywords

Self-Perception, Introversion, Extraversion, Social Media

1. Introduction

The links between Social Media and Human Beings constitute a fascinating sub-

ject of study. Social media can be defined as the outcome from the combination of computer networks and social networking software [1]. The main goal of this technology is social interaction, an inherent trait of humans [2]. This idea was reinforced by a prominent researcher [3], who stated that the brain created social media, and in turn social media keeps shaping the brain. Since then, many authors have shown that the use of social media could modify or impair one's social behaviour in real life. For instance, another scientist [4] showed that the birth and rise of social media has led to a significant increase in narcissism. While in 1982, people who scored very high on narcissism were only about 17%, the same personality trait was present among 30% of the respondents in 2009. It is plausible that this rate has continued to grow over the past few years as we enter 2026. Extraversion is another personality trait that seems related to the use of social media [5]. Indeed, these authors have demonstrated that extraverts are more likely to use social media and regularly create content on it. Also, they spend more time on social media. Other scholars [6] showed that personality was a strong predictor of social media use in Western and individualistic societies such as the United States. Noteworthy, European countries, such as France for the current research, share the same Western individualistic values. All these elements converge on one overarching idea: social media is connected to personality.

Authors of the present study decided to concentrate specifically on the Introversion-Extraversion dimension. According to a specialist of Personality [7], extraversion can be described throughout a continuum against which everybody can be rated. In his article, the author clearly states that children's differences in personality are mostly due to genetic causes, a claim later reinforced by much research done in Neuroscience [8]-[10]. When it comes to social media behaviour, a natural assumption would be that social networks appeal more to individuals scoring high on extraversion, as they seem to crave social attention [11] [12]. In fact, the relationship between Social Media activity and personality seems stronger than one might think. For example, researchers [13] showed that people's Facebook likes were far better predictors of their responses on a personality questionnaire than asking their own friends and family to predict those responses. This tendency is even more powerful for Instagram profiles [14]. Consequently, one may wonder if people's brains and minds are aware of that, meaning that Instagram users would perceive themselves as more extraverted than users of other platforms. This is exactly the question we decided to investigate during our research. And apparently, we were not the only ones thinking of this issue. In effect, a recent study [15] investigated a similar hypothesis. These authors showed that it was possible to induce someone into seeing themselves as more extraverted after playing the role of a social media influencer. This research clearly demonstrated that people's evaluations of themselves when it comes to introversion-extraversion were made with a certain level of awareness. Noteworthy, we are not claiming that people are conscious about this,

though their brains noticed a change as there was a variation in the questionnaire's responses which can only be due to the performed influencer's task. This is consistent with the Self-Perception Theory [16]. Also, the use of social media was shown to influence self-representation [17], and self-esteem and body image [18]. Both research papers indicated that extraversion was highly correlated with an important utilization of social media, especially social media platforms which valued selfies, posting a lot of photos and videos, and self-disclosure in general such as Instagram.

To be clear, our hypothesis is that Instagram, as a visually oriented platform that promotes self-presentation and social exposure, should attract individuals who report higher levels of self-perceived extraversion than those who choose X/Twitter. Therefore, we expect respondents who report a higher score on the scale of introversion-extraversion to choose Instagram rather than X/Twitter. Such a pattern may reflect self-perception processes triggered by selecting a more expressive, display-oriented medium. In addition, the present study examines potential differences related to gender and age, although no specific *a priori* hypotheses were formulated regarding these variables.

2. Method

Respondents

One hundred and twenty-three undergraduate and graduate students (71 women and 52 men) in many different fields ranging from Business to Medicine responded in a fully anonymous way to this survey (*Mean Age* = 22.06; *SD* = 4.45). In accordance with ethical guidelines, all data were fully anonymized, and no personal information was collected.

Measurements

In order to assess Self-Reported Introversion-Extraversion, respondents were shown a simplified version of the Introversion-Extraversion Continuum Scale ([19]; see **Figure 1**). This single-item self-perceived introversion-extraversion measure was chosen to minimize respondent burden and capture intuitive self-concepts rather than trait-level personality. As can be seen, it consists in an estimation of the global level of introversion-extraversion through a continuous single-item analogical scale: "1 = I am an Introvert, 5 = I am an Ambivert, 10 = I am an Extrovert". Respondents had the possibility to write any number in between (e.g., somebody answering 3 would self-assess as moderately introverted).

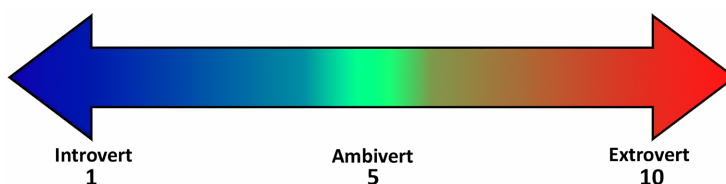


Figure 1. The Introversion-Extraversion scale used in this survey. 1 meant "introverted", while 10 meant "extroverted". Respondents could choose any number in between that they thought assessed their level on that personality trait accurately.

Procedure

Respondents were recruited from a range of higher-education and training institutions (*i.e.*, Medical, Business, Communication, and Social Sciences schools) in Lille, Northern France. This was a convenience sample recruited in the buildings of these institutions. Students were either in Licence or Master's level, or equivalent years in medical studies. They voluntarily completed the survey, having been informed that their responses would remain fully anonymous and could be used for statistical analysis and publication.

The collected data was taken through a pen and paper procedure involving no modern technology. On that piece of paper, respondents had to write their Gender, Age, self-assessed score on the scale of Introversion-Extraversion, and the Social Media they would choose if a law forced them to use only one. They only had the choice between two platforms: X/Twitter and Instagram.

3. Results

First, we started by observing some interesting facts using descriptive statistics. Indeed, it seems Women were more prone to choose Instagram than X/Twitter (see **Table 1**).

Table 1. Number of social media users by gender.

Gender Social Media	X/Twitter	Instagram	Total
Women	12	59	71
Men	22	30	52
Total	34	89	123

The chi-square test of independence between gender and chosen social media was significant, $\chi^2(1, N = 123) = 9.69, p = 0.0019 < 0.01$, Cramer's $V = 0.28$ (small-medium effect). Women predominantly selected Instagram (83.1%), whereas men were comparatively more likely to select X/Twitter (42.3%). The odds of choosing Instagram were substantially higher for women than for men (odds ratio = 3.61), indicating that women were more than three times as likely as men to prefer Instagram over X/Twitter. This pattern suggests that the overall association is primarily driven by women's strong preference for Instagram.

These outcomes led us to do a 2 (Gender) \times 2 (Social Media) between-subjects ANOVA (*i.e.*, Analysis of Variance). It was performed on the single dependent variable, namely Self-Reported Introversion-Extraversion. Also, another 2 \times 2 ANOVA was performed on the Age variable, in order to see whether there were differences of age associated to social media platforms or gender.

1) Self-Reported Introversion-Extraversion

The analysis revealed a main effect of Social Media, $F(1, 119) = 6.184; p < 0.02$, partial $\eta^2 = 0.049$, indicating that people who chose Instagram ($M = 6.283; SD =$

1.7715) significantly perceived themselves as more extraverted than people who chose X/Twitter ($M = 5.3825$; $SD = 1.6255$), $p = 0.0067 < 0.01$ using Scheffé tests. This difference can be seen on **Figure 2** below.

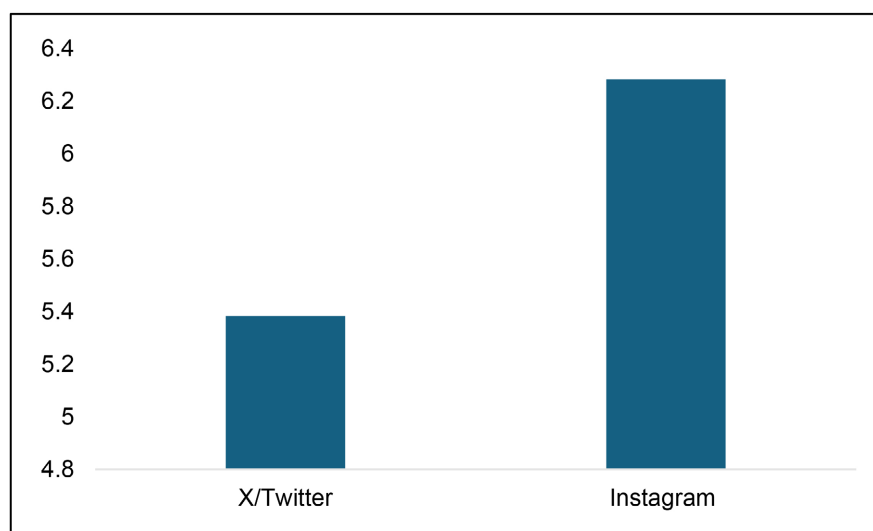


Figure 2. Self-reported introversion-extraversion for X/Twitter and Instagram users. Higher scores indicate greater self-perceived extraversion.

Although descriptive statistics such as Chi-square tests were previously found significant for Gender, the ANOVA did not find a main effect of this variable, $F(1, 119) = 0.335$; $p > 0.05$, partial $\eta^2 = 0.003$. Having said that, the Social Media \times Gender interaction was not far from being significant, $F(1, 119) = 3.653$; $p = 0.0584$, partial $\eta^2 = 0.030$.

2) Age

No significant difference was found in the age of respondents between X/Twitter and Instagram users, whether they were women or men.

4. Discussion

Results did partly confirm the authors' hypotheses as the social media platform chosen by respondents had different effects on self-perceived Introversion-Extraversion. Indeed, those who chose Instagram had a higher score of self-reported Introversion-Extraversion, meaning they perceived themselves as more extraverted than those who chose X/Twitter. This result is not only in accordance with previous research [15] but even goes further. While these authors showed that playing the role of a social media influencer induced higher Extraversion self-reports, we demonstrated that people who perceive themselves as more extraverted were more prone to choose an influencer-oriented platform (*i.e.*, Instagram) over a microblogging one (*i.e.*, X/Twitter). This result reinforces the idea that Instagram is linked to higher levels of Extraversion as shown in previous research [14].

The biggest limitation of our study is that no generalizable significant effect of Gender was found. Indeed, while descriptive statistics on our sample clearly

demonstrate that Gender affected the social media platform chosen (that is, being a Woman led to more chances of choosing Instagram over X/Twitter), the analysis of variance of the Gender \times Social Media interaction was not significant. However, the significant Chi-square test found in the present research is coherent with another study on the matter [20]. These authors showed that young female users were more actively posting photos on Facebook than their male counterparts. Furthermore, a more recent study [21] found a moderating role of Gender in the link between extraversion and the number of posted selfies. This relationship was stronger for boys than for girls in their research. At last, the link between Gender and Social Media use needs to be more investigated in the future.

Finally, the link between a platform like Instagram and Extraversion seems to be confirmed. As a matter of fact, scholars [22] found that extraversion had significant correlations with self-disclosure on social networks. Other researchers [23] showed that extraverted people were more willing to post photos online. Our study does not help us in knowing if Instagram basically attracts extraverts or whether the platform makes people more extraverted. The direction of this relationship still must be investigated by further studies as the cross-sectional, forced-choice design prevents drawing causal conclusions about whether platform choice influences personality or vice versa. This being said, respondents first had to assess their level of introversion-extraversion before choosing the social media platform they would keep out of two. This could lead one to think that Instagram attracts more extraverted people when compared with X/Twitter. However, other research [15] on changes in self-perceived extraversion before vs. after an influencer role-play suggests that self-disclosure on social media increases self-reported extraversion.

Another important limitation of this research is that some variables were not controlled. For example, authors could have asked respondents about: the time they spend on Instagram/Twitter, the number of followers they have, if they have an active (*i.e.*, posting) vs. passive (*i.e.*, scrolling) utilization of social media, etc. There are multiple reasons why we did not want to go that deep in this research. First, the survey-design, which consisted in a pen and paper procedure and 2 questions, allowed us to have responses very fast. A heavier experimental design would not have made this level of speed possible. Another reason why we wanted to keep things shallow is that it made the atmosphere friendlier, therefore not potentially influencing the collected data. Indeed, scientists [24] showed that one of the risks in surveys was that the researcher might unconsciously influence the respondent. We believe that the speed and simplicity of the item and questions used in the present study did neutralize any potential influence from the pollster, though this effect could be further researched in prospective studies.

The methodology also presents several limitations. First, the present study relied on a single-item self-perceived measure of introversion-extraversion. Single-item measures such as the one used in the present study may suffer from reduced reliability compared to validated short-form inventories like Gosling's Ten Item

Personality Inventory [25]. Effectively, despite alleviating respondent burden, the lack of potential validity and reliability represent an issue that needs to be addressed in future research, possibly by using the TIPI instead of the current measure. Future research could also benefit from using more objective indicators of social media behaviour, such as actual posting frequency, content sharing, or interaction metrics. Second, the forced-choice scenario in which participants had to select only one social media platform under a hypothetical legal constraint does not reflect real-world usage patterns and should therefore be interpreted as a simplified experimental abstraction rather than an ecologically valid setting.

Our results add an interesting side to previous body of research on the subject. Indeed, not only Social Media use seems related to actual traits of personality, but these traits are also self-perceived. While a researcher [26] stated that very active Instagram users were perceived by others as more extraverted, open, and narcissistic, our research indicates that the same effect might be at stake when it comes to self-perception, which would be coherent with other findings [15]. Respondents who chose Instagram at the detriment of X/Twitter may also be prone to be more active on this platform. Nevertheless, it remains an assumption that would need to be tested in future experiments and surveys.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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