**Inferring Personality Traits via Facebook**

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**Abstract**:

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My group members and I replicated an experiment originally done by Simine Vazire and Samuel D. Gosling to study the relationship between an individual’s opinion of their own personality and the way they are perceived by strangers on social media outlets, specifically Facebook. By creating a personality survey centered on the big five personality traits, we collected information from our peers and had another member of the group take the very same survey about individual after viewing their Facebook profile. We found that, in our case, there was generally a high correlation between self-reports made by the individuals and the judgements made by strangers, meaning that an individual’s Facebook page is likely to be an accurate representation of how they perceive themselves.

**Introduction**:

For the purpose of this experiment, my group and I decided to emulate the work of Simine Vazire and Samuel D. Gosling. In 2004, Vazire and Gosling attempted to study the relationship between an individual’s personality and how they present themselves on social media (Vazire, 124). After having the subjects of their study take a survey regarding their own personalities, Vazire and Gosling rated the people themselves based purely on the information presented on the individual’s personal webpage. Vazire and Gosling discovered that the impression one is able to infer about an individual based on their webpage aligns with the person’s perception of themselves.

In 2006, this exact study was replicated by Marcus and Schutz, specifically using the big five personality traits: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. This was thought to be a clearer way to view an individual’s personality by separating the topic into five subcategories. The results of this study were very much in line with that of Vazire and Gosling, finding that self-other agreement was also very high (Marcus, 1014).  
 My group and I created the hypothesis that, because Facebook, Twitter, Instagram, and social media in general are such a large part of today’s day and age, personal webpages will be more descriptive and personal than those of the past. We assumed that because of this, there will be an even higher correlation between an individual’s self-report and ratings of an unbiased third party. Our experiment included viewing Facebook pages specifically in order to test our hypothesis in relationship to the original experiment by Vazire and Gosling.

Similar to the study done by Marcus and Schutz, my group and I decided to focus on the big five personality traits. We created and sent out a survey to forty-nine individuals in order for them to collect self-report data. The survey consisted of thirty questions centered on the big five personality traits and contained several questions for each subcategory. Answer choices were as follows: 1-Strongly Disagree, 2- Disagree, 3-Agree, and 4-Strongly Agree. After receiving the data, my group members and I each rated individuals that we did not know to remove bias and also to create a set of data to compare to the self-reports.

**Method**:

My group members and I sent out the survey to around twenty people each and collected forty-nine responses in total. We made sure that they were plenty of people that at least one group member did not know, allowing for unbiased judgements to be made later on and spread evenly amongst group members. As for the participants themselves, most range from ages 20-22 with only six people being younger or older. Two thirds of the participants were female and one third was male.

Once all of the participants had taken the original self-report survey, my group members and I distributed the responses amongst ourselves and took the same survey about individuals we were not already familiar with. Next, we chose one question per big five personality trait in order to scale down the survey and make the process of comparing answers a bit more simplified. To further simplify matters, we considered “Strongly Agree” and “Agree” as well as “Strongly Disagree” and “Disagree” to be similar answers as it would mean that the participant and group member agreed on an individual’s personality trait to some degree.

Below are the results we ended up with after comparing the two sets of answers. Two of our questions were straightforward addressing big five personality traits: openness to new experiences and extraversion. The other three questions selected to represent the remaining big five personality traits had more of an inferred meaning: we asked about an individual’s self-discipline to determine conscientiousness, how sympathetic one is to study agreeableness, and how easily upset one is to understand their level of neuroticism. Any row bolded and colored in red in an instance in which my group members and I had felt that our judgement coincided with the individual’s original opinion of themselves.

**Results**:

**Openness to new experiences**

|  |  |  |
| --- | --- | --- |
| **Person** | **Self-report** | **Judgement** |
| Janell Herrera | 2 | 4 |
| **Samantha Smith** | **4** | **3** |
| **Maha Toba** | **3** | **4** |
| Gregory McElmeel | 3 | 2 |
| Kelly Kaminsky | 2 | 3 |
| **Ashar Malik** | **3** | **3** |
| **Mikita Patel** | **3** | **3** |
| **Eric Moy** | **4** | **4** |
| **Katie Wellington** | **4** | **4** |
| **Jacalyn McElmeel** | **4** | **3** |
| **Tori Olson** | **3** | **3** |
| **Conor Rowley** | **4** | **4** |
| **Chris Ponicki** | **3** | **3** |
| **Brandon Summers** | **3** | **4** |
| **Trevor Evans** | **3** | **3** |
| Joann Marrocco | 4 | 2 |
| **Gino Frank** | **4** | **3** |
| **Mary Kate Flemming** | **3** | **3** |
| **Zohah Noor Beg** | **4** | **4** |
| **Maegan McElmeel** | **3** | **3** |
| Sarah Safe | 3 | 2 |
| Valerie Sant-Claire | 4 | 2 |
| **Misael Miranda** | **4** | **4** |
| Miranda Doyle | 2 | 4 |
| **Salman S** | **3** | **3** |
| **Mehak Hamid** | **2** | **2** |
| **Tricia Ponicki** | **4** | **3** |
| Nadia Hines | 2 | 3 |
| **Sarah Shelton** | **3** | **4** |
| Asma Tawil | 2 | 3 |
| **Mudassir Ali** | **4** | **3** |
| Akram Almasri | 3 | 2 |
| **Tasneem Aburezeq** | **4** | **4** |
| **Deema Martini** | **3** | **3** |
| **Hafsa Siddiqui** | **3** | **3** |
| **Sarah Weldy** | **3** | **3** |
| **Samra Matin** | **3** | **3** |
| **Nimra Burney** | **3** | **4** |
| Zarin Sultana | 3 | 2 |
| Layla Fattash | 3 | 2 |
| **Janeen Radwan** | **2** | **2** |
| **Tamara Nafe** | **2** | **2** |
| **Frank A. Barca** | **4** | **3** |
| **Muzammil Ali** | **3** | **3** |
| **Helena Sumbulla** | **4** | **4** |
| **Jessica Katz** | **4** | **3** |
| **Ahsan Ali** | **4** | **4** |
| **Susie Decker** | **3** | **4** |
| **Patrick Keefe** | **4** | **3** |

**Descriptive Statistics**

|  |  |  |
| --- | --- | --- |
|  | **Mean** | **Standard Deviation** |
| **Judgement** | 3.1020 | .71429 |
| **Self-report** | 3.2041 | .70651 |

**Correlations**

|  |  |  |
| --- | --- | --- |
| **Pearson Correlation** | **Judgement** | **Self-report** |
| **Judgement** | 1.000 | .247 |
| **Self-report** | .247 | 1.000 |

**Analysis:**

When asking participants how open to new experiences they are, the mean of their answers was closest to 3. This was also the case in my group members and I rating the same individuals. The standard deviations are .70 and .71, indicating that answers vary slightly from person to person. The correlation is .247 meaning that there is a fairly strong relationship between the judgments made by my group members and I and the self-reports.

**Conscientiousness (Self-discipline)**

|  |  |  |
| --- | --- | --- |
| **Person** | **Self-report** | **Judgement** |
| **Janell Herrera** | **1** | **2** |
| Samantha Smith | 2 | 3 |
| Maha Toba | 2 | 3 |
| Gregory McElmeel | 3 | 2 |
| **Kelly Kaminsky** | **3** | **3** |
| **Ashar Malik** | **3** | **4** |
| Mikita Patel | 3 | 2 |
| Eric Moy | 3 | 2 |
| **Katie Wellington** | **3** | **4** |
| **Jacalyn McElmeel** | **4** | **4** |
| **Tori Olson** | **3** | **4** |
| **Conor Rowley** | **1** | **2** |
| Chris Ponicki | 3 | 2 |
| Brandon Summers | 3 | 2 |
| **Trevor Evans** | **1** | **2** |
| **Joann Marrocco** | **4** | **3** |
| **Gino Frank** | **2** | **2** |
| **Mary Kate Flemming** | **2** | **1** |
| Zohah Noor Beg | 2 | 3 |
| **Maegan McElmeel** | **3** | **4** |
| **Sarah Safe** | **3** | **4** |
| Valerie Sant-Claire | 2 | 3 |
| Misael Miranda | 4 | 2 |
| **Miranda Doyle** | **3** | **3** |
| Salman S | 1 | 4 |
| Mehak Hamid | 1 | 4 |
| **Tricia Ponicki** | **3** | **4** |
| **Nadia Hines** | **2** | **2** |
| **Sarah Shelton** | **4** | **3** |
| Asma Tawil | 2 | 4 |
| **Mudassir Ali** | **3** | **4** |
| **Akram Almasri** | **3** | **3** |
| **Tasneem Aburezeq** | **4** | **4** |
| **Deema Martini** | **3** | **3** |
| Hafsa Siddiqui | 1 | 4 |
| Sarah Weldy | 2 | 3 |
| **Samra Matin** | **3** | **3** |
| Nimra Burney | 3 | 2 |
| Zarin Sultana | 2 | 4 |
| **Layla Fattash** | **3** | **4** |
| Janeen Radwan | 1 | 3 |
| Tamara Nafe | 2 | 3 |
| **Frank A. Barca** | **3** | **3** |
| **Muzammil Ali** | **4** | **3** |
| **Helena Sumbulla** | **1** | **2** |
| **Jessica Katz** | **4** | **3** |
| **Ahsan Ali** | **3** | **4** |
| Susie Decker | 2 | 4 |
| **Patrick Keefe** | **2** | **2** |

**Descriptive Statistics**

|  |  |  |
| --- | --- | --- |
|  | **Mean** | **Standard Deviation** |
| **Judgement** | 3.0204 | .85366 |
| **Self-report** | 2.5510 | .93678 |

**Correlations**

|  |  |  |
| --- | --- | --- |
| **Pearson Correlation** | **Judgement** | **Self-report** |
| **Judgement** | 1.000 | .142 |
| **Self-report** | .142 | 1.000 |

**Analysis:**

When asking individuals about their levels of conscientiousness, we asked them to rate their self-discipline. The mean of the responses was a 2.55 while the mean of the judgements made by my group members and I was closest to a 3. This shows that judgements and self-reports did not agree very often. Standard deviations were much high in this case, indicating a higher variation between answers. This was the lowest correlation of all at .142, showing that the relationship between the judgement and self-report were not very strong.

**Extraversion**

|  |  |  |
| --- | --- | --- |
| **Person** | **Self-report** | **Judgement** |
| Janell Herrera | 2 | 4 |
| **Samantha Smith** | **4** | **4** |
| Maha Toba | 2 | 3 |
| **Gregory McElmeel** | **2** | **2** |
| Kelly Kaminsky | 4 | 2 |
| **Ashar Malik** | **3** | **3** |
| **Mikita Patel** | **3** | **4** |
| **Eric Moy** | **4** | **4** |
| **Katie Wellington** | **3** | **4** |
| **Jacalyn McElmeel** | **4** | **4** |
| **Tori Olson** | **4** | **4** |
| Conor Rowley | 1 | 4 |
| **Chris Ponicki** | **3** | **4** |
| **Brandon Summers** | **4** | **4** |
| Trevor Evans | 2 | 3 |
| **Joann Marrocco** | **4** | **3** |
| **Gino Frank** | **4** | **3** |
| Mary Kate Flemming | 2 | 4 |
| **Zohah Noor Beg** | **3** | **4** |
| **Maegan McElmeel** | **3** | **4** |
| **Sarah Safe** | **2** | **2** |
| **Valerie Sant-Claire** | **1** | **2** |
| **Misael Miranda** | **4** | **4** |
| Miranda Doyle | 2 | 3 |
| Salman S | 2 | 3 |
| Mehak Hamid | 3 | 1 |
| **Tricia Ponicki** | **4** | **4** |
| Nadia Hines | 2 | 3 |
| Sarah Shelton | 2 | 3 |
| **Asma Tawil** | **4** | **4** |
| Mudassir Ali | 4 | 2 |
| Akram Almasri | 3 | 2 |
| **Tasneem Aburezeq** | **3** | **3** |
| **Deema Martini** | **4** | **4** |
| **Hafsa Siddiqui** | **3** | **3** |
| **Sarah Weldy** | **4** | **4** |
| Samra Matin | 4 | 2 |
| **Nimra Burney** | **3** | **4** |
| **Zarin Sultana** | **1** | **2** |
| Layla Fattash | 3 | 2 |
| **Janeen Radwan** | **3** | **3** |
| Tamara Nafe | 2 | 3 |
| **Frank A. Barca** | **4** | **3** |
| Muzammil Ali | 2 | 3 |
| **Helena Sumbulla** | **4** | **3** |
| Jessica Katz | 3 | 2 |
| **Ahsan Ali** | **4** | **4** |
| **Susie Decker** | **3** | **4** |
| **Patrick Keefe** | **4** | **4** |

**Descriptive Statistics**

|  |  |  |
| --- | --- | --- |
|  | **Mean** | **Standard Deviation** |
| **Judgement** | 3.2041 | .84112 |
| **Self-report** | 3.0204 | .94626 |

**Correlations**

|  |  |  |
| --- | --- | --- |
| **Pearson Correlation** | **Judgement** | **Self-report** |
| **Judgement** | 1.000 | .283 |
| **Self-report** | .283 | 1.000 |

**Analysis:**

When asking participants about their level of extraversion and how outgoing they are, the mean was close to a 3 while the mean of judgements was slightly higher. Standard deviations were extremely high for this question, meaning that there was a great variation in answers. The correlation between self-report and judgement was also very high, indicating that my group members and I were often correct about our assumption despite there being a large gap in self-report answers.

**Agreeableness (Sympathetic)**

|  |  |  |
| --- | --- | --- |
| **Person** | **Self-report** | **Judgement** |
| **Janell Herrera** | **3** | **3** |
| **Samantha Smith** | **4** | **3** |
| **Maha Toba** | **4** | **4** |
| Gregory McElmeel | 3 | 2 |
| **Kelly Kaminsky** | **3** | **3** |
| **Ashar Malik** | **4** | **3** |
| **Mikita Patel** | **3** | **4** |
| **Eric Moy** | **4** | **4** |
| **Katie Wellington** | **3** | **4** |
| **Jacalyn McElmeel** | **4** | **3** |
| **Tori Olson** | **4** | **4** |
| **Conor Rowley** | **4** | **4** |
| **Chris Ponicki** | **3** | **3** |
| Brandon Summers | 4 | 2 |
| Trevor Evans | 2 | 3 |
| **Joann Marrocco** | **3** | **3** |
| **Gino Frank** | **4** | **3** |
| Mary Kate Flemming | 2 | 3 |
| **Zohah Noor Beg** | **4** | **4** |
| **Maegan McElmeel** | **3** | **3** |
| **Sarah Safe** | **4** | **4** |
| **Valerie Sant-Claire** | **4** | **3** |
| **Misael Miranda** | **4** | **3** |
| **Miranda Doyle** | **4** | **4** |
| **Salman S** | **3** | **3** |
| **Mehak Hamid** | **4** | **3** |
| **Tricia Ponicki** | **4** | **3** |
| **Nadia Hines** | **3** | **3** |
| **Sarah Shelton** | **4** | **4** |
| **Asma Tawil** | **3** | **3** |
| Mudassir Ali | 2 | 3 |
| **Akram Almasri** | **4** | **3** |
| **Tasneem Aburezeq** | **3** | **4** |
| **Deema Martini** | **4** | **4** |
| **Hafsa Siddiqui** | **4** | **4** |
| **Sarah Weldy** | **4** | **3** |
| **Samra Matin** | **4** | **4** |
| **Nimra Burney** | **3** | **4** |
| **Zarin Sultana** | **3** | **4** |
| **Layla Fattash** | **4** | **4** |
| **Janeen Radwan** | **4** | **4** |
| **Tamara Nafe** | **3** | **4** |
| **Frank A. Barca** | **4** | **4** |
| **Muzammil Ali** | **4** | **4** |
| **Helena Sumbulla** | **4** | **3** |
| **Jessica Katz** | **3** | **4** |
| **Ahsan Ali** | **4** | **4** |
| Susie Decker | 3 | 2 |
| **Patrick Keefe** | **3** | **3** |

**Descriptive Statistics**

|  |  |  |
| --- | --- | --- |
|  | **Mean** | **Standard Deviation** |
| **Judgement** | 3.4082 | .60959 |
| **Self-report** | 3.5102 | .61652 |

**Correlations**

|  |  |  |
| --- | --- | --- |
| **Pearson Correlation** | **Judgement** | **Self-report** |
| **Judgement** | 1.000 | .266 |
| **Self-report** | .266 | 1.000 |

**Analysis:**

When surveying an individual’s level of agreeableness, we asked them to rate how sympathetic they are. The mean for self-reports was 3.5 while the mean for judgements was only slightly lower at 3.4. The standard deviant between them was the lowest of all the questions studied meaning that the responses to this particular question varied the least. While this is true, this question also had only a slightly high correlation .266 to support the relationship between self-report and judgment.

**Neuroticism (Easily upset)**

|  |  |  |
| --- | --- | --- |
| **Person** | **Self-report** | **Judgement** |
| Janell Herrera | 3 | 2 |
| Samantha Smith | 2 | 3 |
| **Maha Toba** | **2** | **2** |
| Gregory McElmeel | 2 | 3 |
| **Kelly Kaminsky** | **3** | **3** |
| **Ashar Malik** | **2** | **1** |
| Mikita Patel | 2 | 3 |
| **Eric Moy** | **2** | **2** |
| **Katie Wellington** | **2** | **2** |
| **Jacalyn McElmeel** | **2** | **2** |
| **Tori Olson** | **3** | **3** |
| **Conor Rowley** | **1** | **2** |
| **Chris Ponicki** | **2** | **2** |
| **Brandon Summers** | **2** | **2** |
| **Trevor Evans** | **1** | **2** |
| Joann Marrocco | 2 | 3 |
| **Gino Frank** | **2** | **2** |
| **Mary Kate Flemming** | **2** | **2** |
| Zohah Noor Beg | 3 | 2 |
| Maegan McElmeel | 2 | 3 |
| **Sarah Safe** | **2** | **2** |
| **Valerie Sant-Claire** | **2** | **2** |
| Misael Miranda | 2 | 3 |
| **Miranda Doyle** | **1** | **2** |
| **Salman S** | **2** | **1** |
| **Mehak Hamid** | **2** | **1** |
| **Tricia Ponicki** | **2** | **2** |
| **Nadia Hines** | **3** | **3** |
| **Sarah Shelton** | **2** | **2** |
| Asma Tawil | 3 | 2 |
| **Mudassir Ali** | **2** | **1** |
| Akram Almasri | 3 | 1 |
| **Tasneem Aburezeq** | **2** | **2** |
| **Deema Martini** | **3** | **3** |
| Hafsa Siddiqui | 3 | 2 |
| **Sarah Weldy** | **3** | **3** |
| **Samra Matin** | **2** | **2** |
| **Nimra Burney** | **3** | **3** |
| **Zarin Sultana** | **1** | **1** |
| Layla Fattash | 3 | 1 |
| Janeen Radwan | 3 | 2 |
| **Tamara Nafe** | **3** | **3** |
| Frank A. Barca | 3 | 2 |
| **Muzammil Ali** | **1** | **1** |
| Helena Sumbulla | 3 | 2 |
| Jessica Katz | 2 | 3 |
| **Ahsan Ali** | **2** | **1** |
| Susie Decker | 3 | 2 |
| **Patrick Keefe** | **1** | **2** |

**Descriptive Statistics**

|  |  |  |
| --- | --- | --- |
|  | **Mean** | **Standard Deviation** |
| **Judgement** | 2.1020 | .68450 |
| **Self-report** | 2.2245 | .65400 |

**Correlations**

|  |  |  |
| --- | --- | --- |
| **Pearson Correlation** | **Judgement** | **Self-report** |
| **Judgement** | 1.000 | .274 |
| **Self-report** | .274 | 1.000 |

**Analysis:**

When studying an individual’s level of neuroticism, we asked how easily upset they are. The mean for self-report was 2.2 and 2.1 for judgement. This may be because we typically see being easily upset as something negative, which is why participants, my group members, and I all disagreed on average that individuals were easily upset. Standard deviations are low at .65 for self-reports and .68 for judgments meaning there was less variation between answers. The correlation between the two is .274, indicting a reasonably high relationship and that my group members and I judged fairly accurately.

**Discussion:**

The goal of this experiment was to discover the relationship between an individual’s own thoughts about their personality and how they present themselves on popular social media outlet, Facebook. Since social media has become an integral part of so many people’s lives, we hypothesized that strangers would be able to accurately make assumptions about a person from their Facebook page that corresponded with how the individual views themselves. My group member and I also hypothesized that the correlations between self-report and judgement ratings would be higher during our current duplication of the original experiment done by Vazire and Gosling because social media is far more popular today than it was in 2004.

Our findings indicated that only our first hypothesis was true. Four of the big five personality traits had a high correlation between the answers in self-report and judgement surveys: openness to new experience-.247, conscientiousness-.142, extraversion-.283, agreeableness-.266, and neuroticism-.274. While most of the correlations in the original study are slightly higher, our results still show that one is able to make judgements within the same realm of how an individual perceives themselves. These correlations also show that our second hypothesis that Facebook is more telling of an individual’s personality today that it was eleven years ago is false.

While I do feel that our experiment was successful, there were certainly many ways that our research as limited. For example, my group members and I only sampled one question per big five personality trait while our survey contained at least two or three questions that would have told us more about the trait at hand. Perhaps if we factored in the other questions, our correlations would have varied greatly. Another limitation may be that only one person made judgements about each participant of the study. If more judgements were made as in the original study, the correlations that resulted may also have been higher.

As for future research, I think it would be interesting to see another replication of Vazire and Gosling’s study done by professional researchers with more time, resources, and knowledge of how to analyze the data collected and see if social media today truly is more prominent than times of the past. I am also curious to see if the results would vary across social media platforms or if one would more allow for more accurate judgments than another. In addition, it would be fascinating to see if the same individual presented themselves different social media outlets as well. There is no doubt that individuals vary in their personality and how they want to be perceived by the world; social media allows for each and every individual to express themselves the way they want to be seen.

References

Marcus, B., Machilek, F., & Schutz, A. (n.d.). Personality in Cyberspace: Personal Web Sites as Media for Personality Expressions and Impressions. *Journal of Personality and Social Psychology,* 1014-1031.

Vazire, S., & Gosling, S. (n.d.). E-Perceptions: Personality Impressions Based on Personal Websites. *Journal of Personality and Social Psychology,* 123-132.