Analyzing Differences in Cross Gender vs. Same Gender Informant Reports on Personality

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Abstract

The vast majority of personality assessments are self reported. However, due to internal biases there is potential for self reports to be skewed[1]. While studies have found that the discrepancies between self and informant reports to be minimal[3], the role of informant gender (relative to participant gender) has yet to be investigated. Thus, I examined how the gender of the informant and relative to the gender of the individual impacts the rankings of personality assessment across the Big Five traits. Participants (55.56% male, 44.44% female) each nominated a male and female informant. I then compared informant-reports and self-reports. No results were statistically significant enough to be conclusive, however, same-gender informants ranked individuals higher on openness than cross-gender informants- likely due in part to an increased level of comfort in same-gender relationships. This not only provides insight into differences between the nature of male and female relationships, but also has implications in workplace settings. If females are more likely to be perceived by their male coworkers as less conscientious, for example, this can lead to less positive performance ratings. This can have impacts regarding opportunities and promotions for females in the workplace. As such, one can infer that women are less likely than men to be promoted- performance ratings correlate with likelihood of being promoted- due to their lower performance ratings[12]. Though the strategy for correcting this perception discrepancy remains unclear, increased awareness of these inconsistencies can promote structural change regarding evaluation of employees.

Keywords

gender bias; personality; psychology

Introduction

Personality psychology is a field that aims to define and measure personality, as well as track how it develops over time and assess how it impacts behaviors and emotions. The main aspects of this field are personality traits, motives, skills, and narrative identity. The study of personality traits is the most organized and researched aspect of personality psychology[1]. Trait assessments measure how specific certain personality traits manifest in an individual. The field tends to focus on self-reports of personality for assessments of traits[1].

The most common way researchers measure personality is the Big Five Inventory (BFI)[2]. The BFI measures traits across five domains: Extraversion, Agreeableness, Openness, Conscientiousness, and Neuroticism. Extraversion is a measure of tendency to be outgoing and connect with others. Agreeableness is a measure of willingness to cooperate with others. Openness is willingness to experience new things. Conscientiousness is a measure of responsibility and diligence. Neuroticism measures emotional instability.[13] Participants receive a ranking on a spectrum for each trait. This personality assessment is the most widely researched personality measure, with thousands of personality studies using it[3].

However, an increasing amount of research is being done using informant reports. Informants are others reporting on an individual's personality based on traits they perceive in that person. Analyzing informant vs. self-assessment of personality provides insight into the nature of relationships and the way others' perception differs from how an individual perceives themselves. Examining person perception by others is important, because how individuals are perceived impacts how they are treated in a variety of settings[4]. Additionally, reports from informants tend to be more internally consistent[5] which has led some to conclude that they could be a more accurate measure of personality in healthcare settings, given that internal consistency is a common measure of accuracy[5], but there is not enough research yet to prove this theory. Moreover, on average, there tends to be a negligible skew between informant and self-assessments of personality[11], suggesting that the bias when individuals assess their own personalities using the Big Five Inventory is insignificant[11].

However, informants are nominated by the individual they are reporting on (the main participant), and about two-thirds of the informants nominated tend to be female[11]. There are reasons to believe this impacts results. Firstly, men and women have scored differently on Big Five trait assessments on average[8]. This matters because an individual's personality will impact their perception of other people, given that it impacts their outlook on the world[10]. Second, empirically, women receive trait assessments that negatively misconstrue their behavior[4]. For example, many women are perceived as less conscientious relative to their male counterparts[4]. There is evidence, however, that women are on average more conscientious than men[6]. This suggests that it is the perception specifically of women that depicts them more negatively (and these assessments, in workplace settings at least, tend to be performed largely by men[6]). Thirdly- gender stereotypes. Gender stereotypes are assumptions made about a group of people that then are expected to be true of individual members of that group. This is harmful because many stereotypes for females create a gap between how women are expected to behave, and how they do- causing more dramatic reactions to their behavior. Stereotypes act as an easy way to get an impression of an individual, and gender stereotypes are particularly harmful in the workplace- since many stereotypes about females have negatively impacted expectations about their workplace performance[6].

Examining how gender impacts the way people are perceived is especially impactful in areas where gender gaps are prevalent. For example, perception of the traits in an individual impacts how their performance is evaluated in workplace settings[4]. Additionally, there are consistent differences between the average self-assessment for men and women[7]. For example, women tend to score higher on the BFI for neuroticism and agreeableness[7]. Moreover, women consistently receive lower performance ratings than men[4]. If there are notable gender biases prevalent when cross-gender informants assess personality, that could explain the lower performance ratings women receive in workplace settings- and therefore partially account for women's lower likelihood of being promoted[4]. To date, no study has investigated specifically how self and informant gender interact in personality ratings.

In this report, we investigate the specific role gender plays in informant assessments. We analyze cross-gender reports vs. same-gender reports. Same-gender reports are from informants who identify as the same gender as the individual they are reporting on. Cross-gender reports are produced by informants who identify as the opposite gender of the main participant. As such, in this study, we examine how self and informant gender interact to impact the perception of the Big Five Traits in an individual's personality. We hypothesized that there would be smaller discrepancies in same-gender informants than with cross-gender informants. Additionally, we hypothesized that same-gender informants would rank the main participant's openness higher. Lastly, we hypothesized that cross-gender scorings of participants' conscientiousness would be lower than same gender scorings.

Methods

The aim of this study was to test if there is a discrepancy in the perception of personality based on the gender of informants. The study methods were approved by an Institutional Review Board. I administered a survey to participants using Qualtrics, and I conducted the survey online: participants were sent the link to the survey and were given three weeks to respond. I recruited participants using word of mouth and social media. Participants had to be at least 13 years old. Main participants were asked to each nominate a male and female informant. There was an option for participants to identify their gender as non-binary, but all non-binary data was excluded.

The survey included a question about the participants' age and multiple choice questions about the participant's gender and role (i.e., self or informant). Participants could describe their gender as male, female, or non-binary. Informants were asked to express their relation to the main participant. The options for describing this relationship included: friend, partner, parent, child, coworker, and other. The informants most frequently listed their relationship with the main participant as friend for both same-gender informants and cross-gender informants.

Personality traits were measured using the Big Five Inventory[2]. Participants completed 44 questions where they scored the prevalence of traits using a Likert scale, and participants ranked their agreement with a statement- which was then converted to a numerical value ranging from 1-5, according to the scoring metrics of the Big Five Inventory. Main participants completed the BFI for themselves, while informants completed the BFI for the main participant (i.e., the person who nominated them). I calculated the average ranking of each Big Five Trait across four domains (female main participant male informant, female main participant female informant, male main participant male informant, male main participant female informant) and looked specifically at discrepancies between the main participant and informant across these domains.

The study final sample consisted of 9 main participants and their 18 informants. We found that the main participants' ages ranged from 14 years old to 17 years old. Main participants had a mean age of 15.67 years old ; informants had a mean age of 21.11 years old. This skew is due to parents being included as informants. Main participants were 55.55% male and 44.44% female. Given the nature of the study, informants were 50% male and 50% female. "Friend" was the most common type of informant (*n* = 11). "Parent" was the second most common type of informant (*n* = 3). Sibling was the third most frequent type of informant (*n* = 2).

Results

Due to difficulty regarding the data collection window, the number of participants in this study is lower than originally intended. As such, no results are statistically significant. However, we use this study as proof of concept. We have determined that the study methods would work if conducted on a larger scale, and our preliminary results mostly point in the direction of supporting our hypotheses.

trait	mean_cross_gender	mean_same_gender	sd_cross_gender	sd_same_gender
Agreeableness	6.44	4.33	2.24	3.91
Conscientiousness	5.00	3.00	3.87	4.30
Extraversion	3.22	6.56	1.64	6.62
Neuroticism	1.67	3.11	1.80	2.76
Openness	5.33	4.89	4.12	3.06

Figure 1. Discrepancies by same- and cross-gender informants and trait

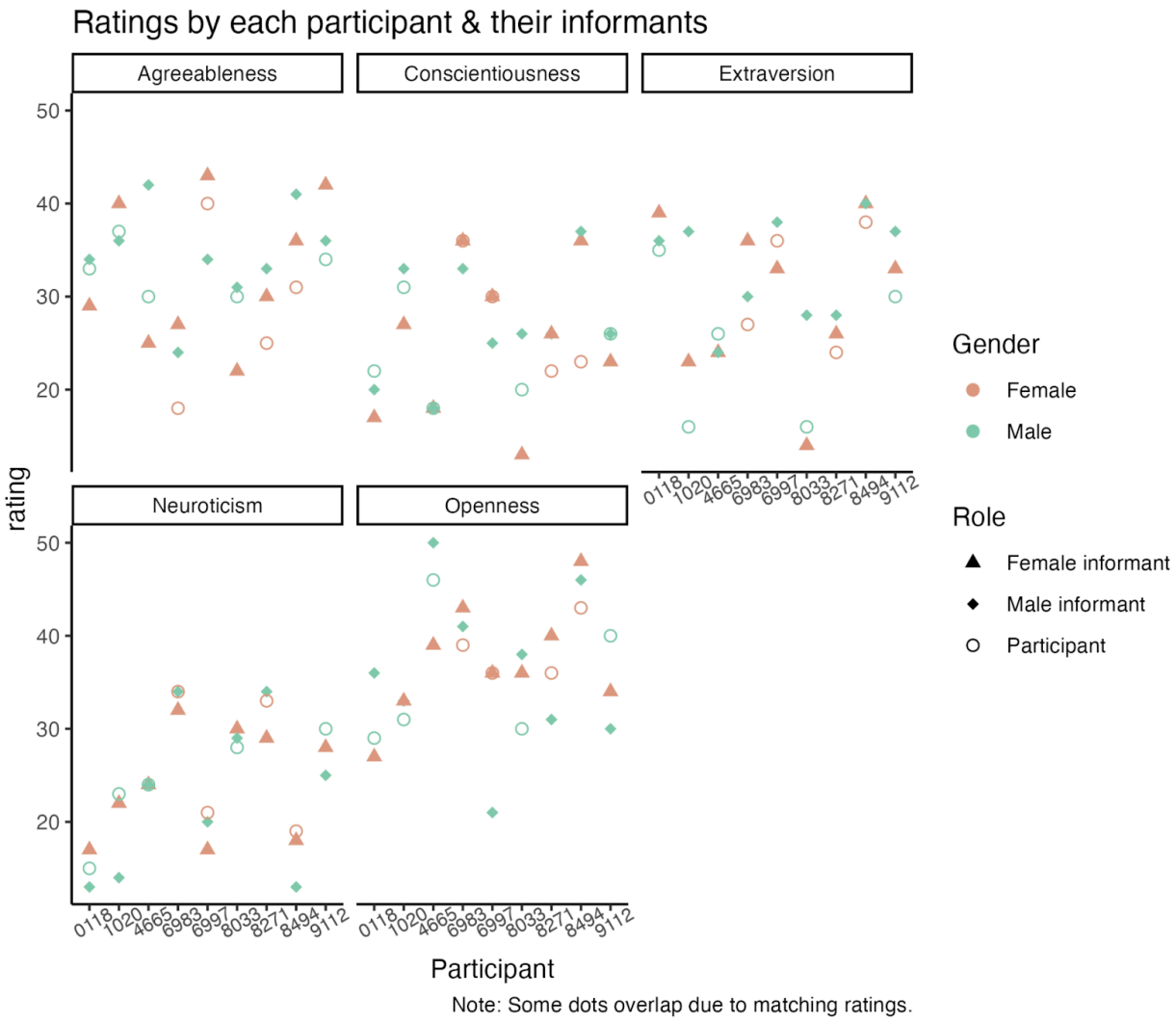

Figure 2. Ratings by each participant and their informants.

The first hypothesis we tested was that there would be greater discrepancies in cross-gender informant reports than in same-gender informant reports. The standard deviation of the scores for every other big five trait actually was larger for same gender (range: 2.76 to 6.62) than it was for cross gender (range: 1.64 to 3.12). See Figure 1. Additionally we found that discrepancies varied heavily based on the main participant (i.e. some main participants had informants who's reports tended to correspond more accurately with their self evaluations than others did). See Figure 2.

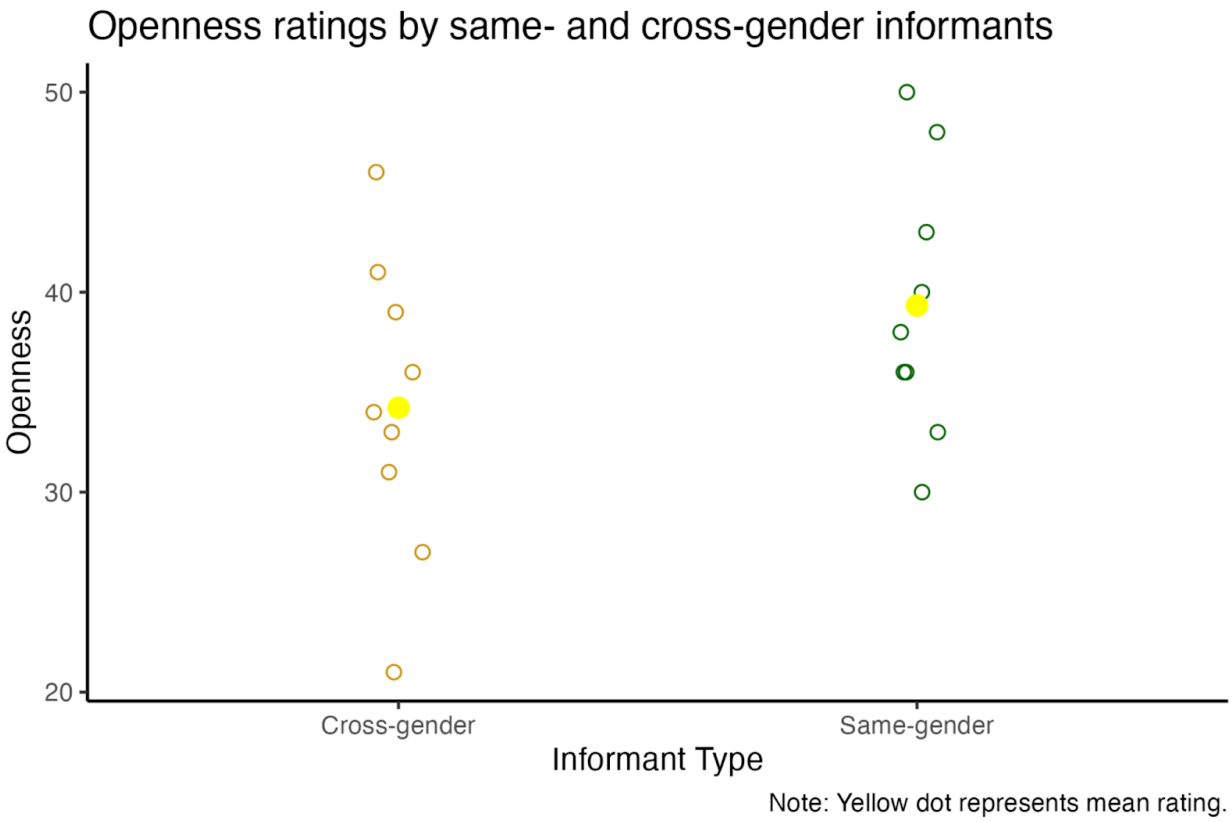

Figure 3. Openness ratings be same- and cross-gender informants

The second hypothesis we tested was that cross-gender informants would rate main participants' openness to be lower on average. Our data aligns with this hypothesis, as the mean openness score given by cross-gender informants was 34.22 (SD = 4.12), 5.11 points lower than the mean openness score given by same-gender informants (39.33, SD = 4.89), though this difference is not statistically significant ($t(15.78)=-1.53$, $p=.146$). See figure 3.

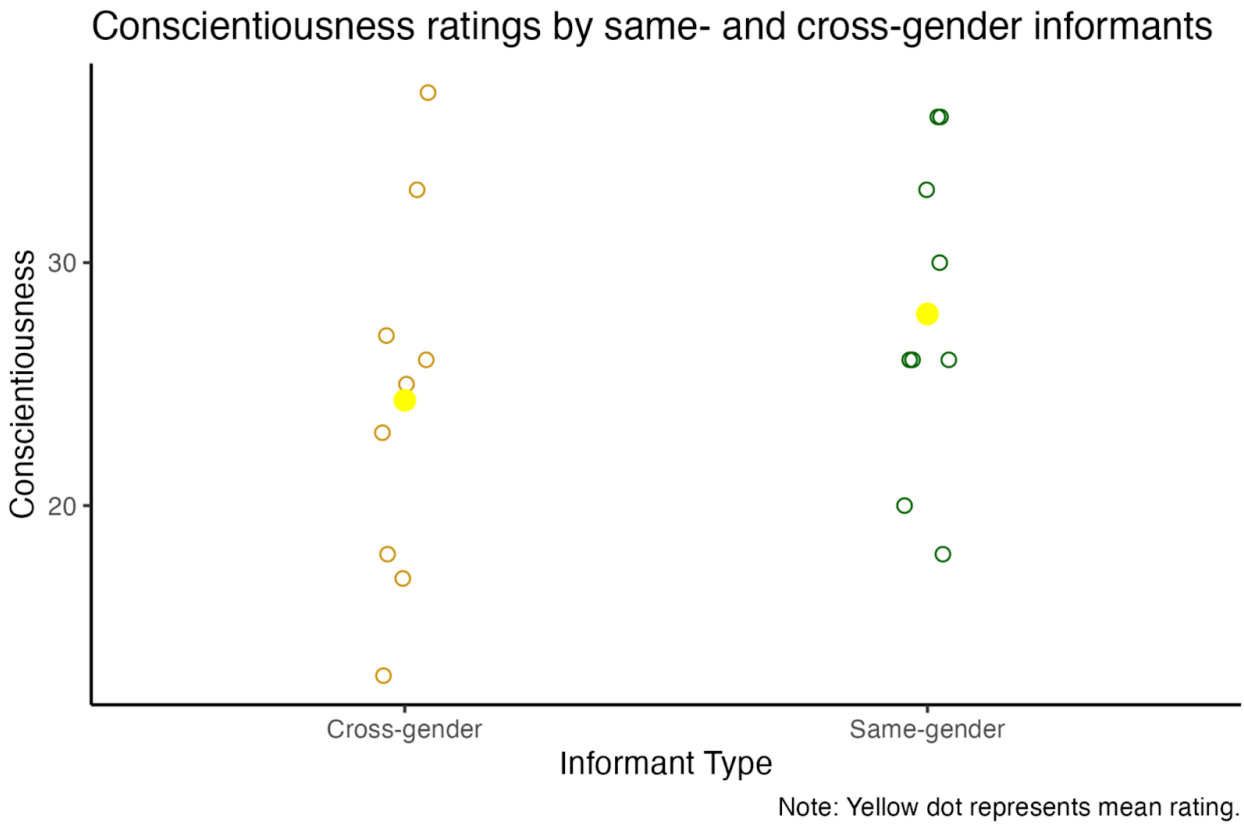

Figure 4. Conscientiousness ratings by same- and cross gender informants

The third hypothesis we tested was that cross-gender informants would rank participants' conscientiousness lower. We found that our results point in the direction of this hypothesis being correct. The average ranking of conscientiousness by cross-gender informants was 24.33 (SD = 7.66), more than three points lower than the average ranking of conscientiousness by same-gender informants (27.89, SD = 6.45), though again this result does not reach statistical significance ($t(15.55) = -1.06$, $p = .303$). See figure 4.

Discussion

Our results are suggestive of lower rankings of openness and conscientiousness in cross-gender reports when compared to same gender reports. This implies that the differences in trait assessment for same-gender and cross-gender informants is not due to a lack of understanding, but rather specific gender biases that alter perception. This is significant because lack of understanding is a much broader issue that is less conceivable to solve. Specific biases being responsible for differences in perception are much more conceivable to target and reverse.

Due to the lack of data, more research will be needed to verify or disprove this but our data suggests this hypothesis is correct (all T-test ps > .1), for both same- vs. cross-gender reports of openness and conscientiousness, but not for overall discrepancies.

We found that our results point to cross-gender informants ranking main participants' openness lower than same gender informants. However, due to our limited sample size, the results are not statistically significant. However, if future studies are able to collect a full sample and confirm this effect, this result would point to a lack of synchronicity in cross-gender relationships. This is significant because the implications in professional settings are clear. Females are more likely to receive harsher performance ratings than their male coworkers. The people assessing individuals are usually line managers who tend to be 60% male[8]. This implies that 60% of female's performance evaluations are cross-gender while only 40% of performance evaluations are cross-gender for males. The effect of this would be harsher performance ratings for women. Since openness and conscientiousness relate directly to aspects of performance evaluation that measure competence, diligence, and character.

Additionally, recognizing differences between same-gender and cross-gender is important because it provides insight into the nature of cross-gender relationships when compared with relationships of the same gender. Understanding particularly where these differences in perception lie (currently openness and conscientiousness but future studies are needed to confirm) can improve understanding of the relationship.

Future studies are needed to collect more data and to confirm both the presence and the magnitude of the effects of informant gender on perception of the main participants. Additionally, different types of cross-gender relationships may have different impacts on personality ratings. Future studies with larger samples are needed to analyze male informant/female main participant data and compare it to female informant/male main participant data- since the nature of these two dynamics would likely change. More data on the specific type of cross-gender relationship would prove useful in specifically identifying where biases lie and which ones are most prevalent. Additionally, separating data by type of relationship (e.g., friends vs. parents) to analyze cross-gender relationships across different types of domains would prove useful. Particularly, analyzing the same-gender and cross gender relationships for females and males using their coworkers or managers as informants would help to specifically identify the effect and implications in workplace settings. However, since the biases that potentially account for differences in cross-gender and same gender relationships do not stem from workplace settings, the effect exists outside of these settings and should be observable using cross-gender and same-gender informants from general settings.

These future findings would likely serve to provide awareness, more than any other purpose. In becoming aware of the effects that gender has on relationships and performance evaluations, adjustments can be made to mitigate these effects. Particularly, awareness regarding the gender biases in evaluations has been shown to reduce them. In a 2021 study performed on journalists, Kalra and Boukes found that compared to a control group, a group informed of their biases showed a significant reduction in their gender bias when made self-aware.[14] The hope is that in highlighting existing biases regarding assessing the character and performance of female employees, that bias can also be reduced.

Conclusion

We tested differences in same- and cross-gender informant reports of personality. We hypothesized that cross-gender informants would rank main participants lower on openness and conscientiousness. Though further research is needed to produce statistically significant results, our data suggested this hypothesis could be correct. Given that a greater portion of performance evaluations are cross-gender for females than for males[6], this skew in personality ratings could explain the discrepancies regarding performance ratings in the workplace. Since performance ratings correlate with likelihood of promotion[12], the effects of this gender bias can have significant implications. Fortunately, making people aware of their internal gender biases has been shown to reduce them[14]. As such, further confirmation of and discussion of the differences between same- and cross-gender informant personality ratings can serve to reduce this gender bias and its effects.

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