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Are gender differences in the Big Five the same on social media as offline?

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ABSTRACT

Past research has found notable gender differences in the Big Five personality and that these differences may arise from cultural and ecological contexts. Social media has become part of everyday life with people constantly switching between social media and offline contexts. The present research addressed whether gender differences in the Big Five are the same between offline and social media contexts and potential explanations behind these gender differences between contexts. Across two samples of college students (total $N = 943$), women reported higher levels of all the Big Five personality traits than men in both contexts, except there were no significant gender differences in offline extraversion. Gender differences in extraversion and agreeableness were *more* pronounced on social media compared to offline. Gender differences in neuroticism were *less* pronounced on social media compared to offline. The findings further suggested that the amount of time spent on social media, the number of connections on social media, and public self-consciousness may serve as potential explanations for why these gender differences in personality were not the same between the two contexts. The findings from this research inform how advances in digital technology transform gender differences across contexts.

1. Introduction

Prior research has examined people's reports of their Big Five personality traits (openness, conscientiousness, extraversion, agreeableness, neuroticism) across many sociodemographic groups (Benet-Martínez & Oishi, 2008; McCrae et al., 2005). Some of the most notable group differences in the Big Five are those between women and men, and these gender differences have been quite stable over time and consistent across societies (Lippa, 2010). In the last decade, social media has become an integrated part of everyday life. Little research, however, has examined whether such gender differences hold in the context of social media. On the one hand, given that women spend more time on and have more connections on social media compared to men, there may be a "rich--get-richer" effect (see Cheng et al., 2019, p. 735; Kraut et al., 2002, p. 58) for interpersonal traits on social media: the higher levels of extraversion and agreeableness observed in women compared to men may be *more* pronounced on social media. On the other hand, the ability to construct a profile on social media may ease women from negative emotions derived from public self-consciousness in offline contexts: the higher levels of neuroticism observed in women compared to men may be *less* pronounced on social media.

Therefore, this paper tests whether gender differences in the Big Five are the same between offline and social media contexts and explores potential explanations behind these differences between the two contexts, if any. Ahead, we review the literature on the Big Five and gender. We then discuss how contrasts between offline and social media contexts may transform gender differences, and we propose several variables that may serve as potential explanations for gender differences between the two contexts. We then report a study that addressed these aims.

2. Literature review

2.1. The Big Five and gender

The Big Five dimensions of personality encompass many important individual differences in cognition, emotion, and behavior into five main dimensions (Soto & John, 2017): *openness*[1] indicates intellectual curiosity, aesthetic sensitivity, and creative imagination; *conscientiousness* indicates organization, productiveness, and responsibility; *extraversion* indicates sociability, assertiveness, and energy level; *agreeableness* indicates compassion, respect, and trust; and *neuroticism* indicates anxiety, depression, and emotional volatility. The Big Five have been examined

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[1] Researchers have used different labels for the Big Five such as "open-mindedness" or "openness to experience" in place of "openness." For consistency, we use the italicized labels throughout the paper.

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across many sociodemographic groups (Benet-Martínez & Oishi, 2008; McCrae et al., 2005). Sociodemographic groups have different behavioral norms, expectations, and beliefs (Barth, 1969). Notably, the differences in behavioral norms, expectations, and beliefs between men and women essentially divide the entire human population into two major groups. Not surprisingly, gender differences in the Big Five have received considerable attention in previous literature.

Gender differences in the Big Five have been quite stable across time and societies. An early meta-analysis covering many decades of findings revealed that, compared to men, women reported significantly higher levels of all the Big Five except openness (Feingold, 1994). Three subsequent large-scale cross-cultural studies found significant gender differences in the five dimensions. First, women reported higher levels of all the Big Five except openness in a study of 55 societies by Schmitt et al. (2008). Second, in a study of extraversion, agreeableness, and neuroticism, women reported higher levels of all three traits across 53 societies (Lippa, 2008). Third, women reported higher levels of all Big Five across 26 societies in another study (Costa et al., 2001). Across these three large-scale studies, women reported higher levels of all of the Big Five (Lippa, 2010).

Researchers have proposed that gender differences in the Big Five arise from ecological and normative contexts. From an ecological perspective, different parental investment strategies in the harsh ecologies throughout human history have led women to spend more time on and connect with others for prosocial activities benefited by high levels of interpersonal traits (e.g., sociability) compared to men (Buss, 1995). Similarly, social expectations and norms for women (e.g., express more compassion, sympathy, etc.) have led women to spend time and connect with others for prosocial reasons favoring interpersonal traits (Wood & Eagly, 2015). From these perspectives, it makes sense that higher levels of *extraversion* and *agreeableness* in women compared to men have been consistently observed in prior research.

Ecological and normative contexts also suggest that, compared to men, higher levels of *neuroticism* observed in women may be derived from public self-consciousness. Public self-consciousness is a person's awareness of external, public-facing aspects of themselves (e.g., physical appearance; Fenigstein et al., 1975). From an evolutionary perspective, the adaptive importance of physical appearance is higher for women compared to men (Buss, 1989). As such, normative pressures for women to attend to physical aspects of themselves are so strong that they can lead to anxiety, depression, or other negative psychological consequences (Sinclair, 2006). However, explanations for why there are gender differences in *openness* and *conscientiousness* based on context are not clear since the effect sizes of the gender differences for these two traits are smaller and less consistent across societies (Lippa, 2010; Weisber et al., 2011).

Thus far, only one study has examined gender differences in the Big Five in contexts other than physical/offline contexts. In this study by Blumer and Döring (2012), participants reported their Big Five traits on two separate occasions, one to report their Big Five in offline contexts, and one to report their Big Five in online contexts (which includes but is not limited to social media). Findings revealed that the magnitude of the gender differences in the Big Five did not vary between the two contexts. However, there are three notable limitations to this study. First, Blumer and Döring (2012) did not report non-significant values or effect sizes of the gender differences in the Big Five. Thus, the nature of the gender differences in the Big Five in each context separately is unknown (e.g., whether women reported higher levels of the Big Five than men). Second, the sample size in the study ($N = 122$; 55 men and 67 women) was not large enough to detect small effect sizes between women's and men's levels of the Big Five. For comparison, the effect sizes of gender differences in all of the Big Five across previous studies were equal to or less than Cohen's $d = 0.40$ (Lippa, 2010). At best, a sample of 55 men and 67 women could detect gender differences in the Big Five with an effect size of Cohen's $d = 0.51$ with 80% power. Third, online contexts have changed significantly since 2012. Social media is now an inseparable part of life—especially for young individuals. Over half of the world's population is active on social media, with individuals spending over 2 h a day on average (Chaffey, 2020). Therefore, the present research recruited larger samples to examine whether gender differences in the Big Five will be the same on social media as offline.

2.2. Offline vs. social media contexts

Recent reviews have identified several features of social media that could affect differences in personality between social media and offline contexts (e.g., Bayer et al., 2020; McFarland & Ployhart, 2015). McFarland and Ployhart (2015) discussed how interpersonal communication may be strikingly different between offline and social media contexts. Social media users can connect with millions of others that they could not otherwise interact with while offline, and they can communicate with others at their own pace (i.e., asynchronously). As such, social media may be particularly appealing to those who possess high levels of interpersonal traits. Consistent with this reasoning, prior research has shown positive relationships between social media use and interpersonal traits such as extraversion and agreeableness (e.g., Gil de Zúñiga et al., 2017). Further evidence shows that those who are interpersonal offline often use social media to connect with their networks and become more interpersonal (i.e., rich-get-richer effects; Cheng et al., 2019). Within the Big Five personality framework, those high on the two interpersonal dimensions (i.e., extraversion and agreeableness) offline may become even higher on these interpersonal traits on social media.

Of interest to the present research is whether these rich-get-richer effects for interpersonal traits are not the same for women as for men. Past research found that women tend to spend more time and have more connections on social media than men (Greenwood et al., 2016; Krasnova et al., 2017; Pempek et al., 2009). Women, who are already higher on interpersonal traits than men, may be more likely to use social media to further engage in interpersonal communication. Compared to men, women may become even more interpersonal on social media (i.e., the rich-get-richer effects may be particularly true for women). Building on and extending previous research, we expected that the gender differences in extraversion and agreeableness would be even greater on social media than offline. Furthermore, we tested whether there are gender differences in time spent and number of total or known connections on social media and whether these differences relate to gender differences in extraversion and agreeableness between offline and social media contexts.

Previous research also suggests that there may be differences in neuroticism between these two contexts. People can construct a profile on social media or "untag" their profile from unflattering or inappropriate photos (see Tifferet, 2019). Social media profiles allow users more control over how they wish to present themselves relative to offline contexts and thus have a sense of anonymity not available offline (Bayer et al., 2020; Boyd & Ellison, 2007; McFarland & Ployhart, 2015). In offline contexts, people are highly identifiable and subject to social pressures that could make them conscious of public aspects of themselves, such as their physical appearance. Prior research has shown that anonymous online contexts may remove feelings of public self-consciousness (Postmes et al., 1998). Public self-consciousness has been shown to contribute to higher levels of neuroticism (Trapnell & Campbell, 1999). As such, people may report lower levels of neuroticism on social media than offline.

Of interest to the present research is whether differences in neuroticism between offline and social media contexts are not the same for women compared to men. On average, women tend to be higher than men in public self-consciousness (Workman & Lee, 2011). Relieved of public self-consciousness felt offline, women may be especially likely to feel less neurotic on social media. Accordingly, we expected that gender differences in neuroticism whereby women report higher levels than men would be less pronounced on social media than offline contexts. We further tested whether there are gender differences in offline public self-consciousness and whether these differences relate to gender

differences in neuroticism between offline and social media contexts.

3. Overview of the present research

To recap, the present research examined whether gender differences in the Big Five personality traits are the same when the context is specified as either offline or on social media and explored whether time spent on social media, the number of total and known connections on social media, and offline public self-consciousness relate to gender differences in the Big Five between the two contexts. Specifically, this study addressed three research questions. Our first research question was: *Are gender differences in the Big Five the same between offline and social media contexts?* We divided this question into two parts. The first part was whether gender differences in interpersonal traits (i.e., extraversion and agreeableness) and neuroticism are the same between social media and offline contexts (RQ1a). We expected that gender differences in extraversion and agreeableness would be more pronounced on social media than offline (H1), and that gender differences in neuroticism would be less pronounced on social media than offline (H2). That is, we expected a significant interaction between gender and context on each of these traits. The second part was to explore whether gender differences in openness and conscientiousness would be the same between social media and offline contexts (RQ1b). We did not have specific hypotheses for this part. That is, we explored whether there would be interactions between gender and context on openness and conscientiousness. Our second research question was: *What is the nature of gender differences in the Big Five in the offline and social media contexts separately?* Based on previous findings, we expected that women would report higher mean levels of all the Big Five traits than men when the context is specified as offline (H3). We then addressed whether the gender differences in the offline Big Five would replicate when the context is specified as on social media. Our third research question was exploratory: *What variables may serve as potential explanations for why gender differences in the Big Five vary between offline and social media contexts?* If there were significant interactions between context and gender on the Big Five, we planned to explore whether time spent on social media, the number of total and known connections on social media, and offline public self-consciousness may serve as potential explanations for these interactions. We addressed these questions in two separate samples to test the replicability of the observed findings.

4. Methodology

4.1. Participants

Participants in both samples were students from a large public university.[2] They partook in the study for credit in an introductory psychology course. Five hundred fifty-five participants were in sample 1. Thirty-eight participants were excluded for the analyses below for failing an attention check question ("If you are reading this please click 'often.'"). Women made up 60.0% of the final sample (M_{age} = 19.14; SD_{age} = 2.23), and the ethnic breakdown was 54.5% White, 19.2% Latino, 12.2% Asian/Asian American, 3.5% Black/African American, 3.3% Middle Eastern, 2.1% Indian/South Asian, 1.5% American Indian, 0.2% did not specify an ethnicity, and 3.5% specified another ethnicity. Three hundred eighty-eight participants were in sample 2. Twenty-five participants were excluded for the analyses below for failing an attention check question. Women made up 62.3% of the final sample (M_{age} = 19.24; SD_{age} = 2.22) with the following ethnic breakdown: 57.3% White, 14.9% Latino, 12.1% Asian/Asian American, 4.4% Black/African American, 4.1% Middle Eastern, 2.8% Indian/South Asian, 0.6% American Indian, 0.6% did not specify an ethnicity, and 3.3% specified another ethnicity.

The observed patterns of findings reported below were similar between the two samples. Below, we report the results based on a combined sample consisting of the men and women in both samples 1 and 2. Sample 1 was larger than sample 2. Therefore, effects that were significant in sample 1 may not be for sample 2. We note these differences whenever this occurred in the analyses below. Taken together, this combined sample (N = 870; 536 women and 334 men) could detect small effects sizes with a power of .80 for interaction effects of gender and context on the participants' Big Five reports (Cohen's f = 0.10) and mean level differences between women's and men's reports for each context separately (Cohen's d = 0.20).

4.2. Design

The study had a 2 (context: offline/social media) by 2 (order: offline first/social media first) mixed factorial design. All of the participants completed two modified measures of the Big Five personality traits, one specifying offline context and another specifying social media context (i.e., the context was a within-subjects factor). Participants were randomly assigned to one of two following conditions (i.e., the presentation order of the Big Five was a between-subjects factor). In the offline first condition, participants completed the "offline" Big Five before the "social media" Big Five. In the social media first condition, participants completed the "social media" Big Five before the measure of the "offline" Big Five.

4.3. Materials

4.3.1. Big Five personality traits

We measured the Big Five in both offline and social media contexts with the Big Five Inventory-2 (Soto & John, 2017). This 60-item inventory contains a subscale of 12 items for each of the Big Five: items measuring *openness* (e.g., "Is original, comes up with new ideas.") tap into intellectual curiosity, aesthetic sensitivity, or creative imagination; items measuring *conscientiousness* (e.g., "Is reliable, can always be counted on.") tap into organization, productiveness, or responsibility; items measuring *extraversion* (e.g., "Is talkative.") tap into sociability, assertiveness, or energy; items measuring *agreeableness* (e.g., "Is polite, courteous to others.") tap into compassion, respectfulness, or trust; and items measuring *neuroticism* (e.g., "Tends to feel depressed, blue.") tap into anxiety, depression, or emotional volatility. Participants responded to each item on a five-point scale ranging from 1 = *disagree strongly* to 5 = agree *strongly*.

To specify the context, we modified the original instructions presented before each version and the items that followed. The modified instructions were: "Here are a number of characteristics that may or may not apply to you *offline* (i.e., who *you are in the physical world)/social media (examples of social media include Facebook, Instagram, Snapchat, and Twitter*.)." The modified items specified either the offline or social media context at the end of the item (e.g., "Is original, comes up with new ideas *offline/on social media*."). Similar to those originally reported in Soto and John (2017), both offline and social media trait subscales had acceptable levels of internal consistency: openness ($\alpha_{offline}$ = 0.80; $\alpha_{social\ media}$ = 0.75), conscientiousness ($\alpha_{offline}$ = 0.85; $\alpha_{social\ media}$ = 0.77), extraversion ($\alpha_{offline}$ = 0.87; $\alpha_{social\ media}$ = 0.87), agreeableness ($\alpha_{offline}$ = 0.78; $\alpha_{social\ media}$ = 0.78), and neuroticism ($\alpha_{offline}$ = 0.88; $\alpha_{social\ media}$ = 0.85).

4.3.2. Social media use variables

We assessed all three aspects of social media use (time spent on, the number of total connections, and the number of known connections on social media) with items from Ellison et al. (2007). Participants first indicated their time spent on social media ("In the past week, on average, approximately how much time per day do you spend on social media?").

[2] We note that these samples were collected as part of a larger study and data from them have been submitted for publication (Bunker & Kwan, 2021). This other manuscript did not report findings regarding gender differences in the Big Five.

We adapted the 6-point response scale to indicate a wider range of possible time spent (1 = *less than 10 min* to 6 = *more than 5 h*), as many participants may exceed the endpoint of the original response scale by spending over 3 h a day on social media nowadays. Then participants indicated their number of total connections on social ("About how many total friends/connections do you have on your social media accounts?"), and how many out of their total connections on social media they actually knew on an 8-point scale. We modified this scale to indicate a wider range (1 = *10 or less* to 8 = *More than 1000*) compared to the original response (with an endpoint of 8 = *more than 400*) to reflect larger social media network sizes in the last decade (e.g., participants reported having over 700 on average in Chen, 2014).

The three variables were correlated (*r*s ranged from 0.10 to 0.75; see Appendix A below), but these relationships suggest that they are not the same. Thus, we conducted the relevant analyses below with the variables treated separately to see whether they may serve as potential explanations for gender differences between offline and social media contexts.

4.3.3. Offline public self-consciousness

We assessed offline public self-consciousness with the public self-consciousness subscale from the Revised Self-Consciousness Scale (Scheier & Carver, 1985). We modified the instructions presented before the subscale to indicate offline context: "For each of the statements indicate how much each statement is like who you are *offline*." We modified the seven items from this subscale to specify offline contexts as well ("I'm self-conscious about the way I look *offline*." $\alpha = 0.83$). Participants responded on a 6-point response scale ranging from 1 = *not at all like me* to 6 = *a lot like me*.

4.4. Procedure

Participants took part in the study online through Qualtrics survey software. After giving their consent, participants took either the offline or social media version of the Big Five-Inventory-2 before they took the version in the other context. After both versions of the Big Five Inventory-2, participants completed the other four measures in the order they are presented above. Participants further reported the social media platform they used the most (i.e., their primary SM platform): 35.5% reported Snapchat; 34.6% Instagram; 16.6% Twitter; 4.1% Facebook; 3.1% WeChat; and 6.1% reported another platform. Participants then reported the following demographics: age, gender, and ethnicity. Finally, participants were thanked for their participation, debriefed, and received course credit.

5. Results

5.1. Gender differences in the Big Five between the offline and social media contexts (RQ1) and the nature of these differences in each context separately (RQ2)

We first addressed whether gender differences in the Big Five were the same between the two contexts (RQ1) and the nature of these differences in each context separately (RQ2). To this end, we planned to run a three-way multivariate analysis of variance (MANOVA) to assess whether there were significant interactions between context (offline vs. social media), gender (women vs. men), and order (offline first vs. social media first), or significant main effects of either of these three factors on the Big Five reports. We conducted a multivariate analysis given the significant intercorrelations between the Big Five (see Appendix A). When dependent variables are correlated, multivariate tests provide several advantages over running separate univariate tests on each dependent variable (Tabachnick & Fidell, 2001). These advantages include greater statistical power to detect effects, the ability to assess the effect of factors on the dependent variables while accounting for the relationship between dependent variables, and a lower type I error rate. If multivariate effects of the factors on the Big Five were significant, we planned to then examine the univariate effects on *each* of the five traits separately to observe whether the predicted interactions appeared.

We checked the required assumptions before conducting the MANOVA. First, the observations of the dependent variables must be multivariate normally distributed. MANOVA tests are robust against violations of normality if the sample size is large enough (Ito, 1980). The sample sizes of each cell in the present MANOVA design (*n*s $\geq$ 150) were larger than recommendations of at least 30 per cell for normality (see Van-Voorhis & Morgan, 2007). Thus, this assumption was met. Next, we checked whether the assumption that covariance matrices of each group are equal was met by conducting Box's *M* test. Box's *M* test was significant ($M = 326.24$, $p < .001$). This suggests that this assumption was not met, thus we used Pillai's trace as our MANOVA test statistic following the recommendations by Olson (1979) and Mertler and Vannatta (2002). Pillai's trace also provides an effect size estimate, as it is equivalent to $\eta 2$ (Steyn & Ellis, 2009).

We conducted the three-way MANOVA between context, gender, and order on the Big Five. We first examined the highest order effects and the two-way interaction effects of interest (see Table 1 for multivariate and univariate statistics). There was neither a significant three-way multivariate interaction effect nor any multivariate interactions with both gender and order.[3] Of primary interest, the multivariate interaction effect between context and gender on the Big Five was significant. Together, these findings show that (1) gender differences in the Big Five are not the same between offline and social media contexts in terms of magnitude

Table 1
Multivariate and univariate test statistics for the effects of context, gender, and order on the Big Five.

Effect	*F*	*p*	Pillai's Trace ($\eta 2$)
MV context x gender x order	.84	.52	.01
MV context x gender	8.95	<.001	.05
UV gender x context on O	.80	.37	.00
UV gender x context on C	.90	.34	.00
UV gender x context on E	8.18	<.01	.01
UV gender x context on A	14.08	<.001	.02
UV gender x context on N	23.41	<.001	.03
MV context x order	7.34	<.001	.04
UV context x order on O	23.25	<.001	.03
UV context x order on C	8.38	<.01	.01
UV context x order on E	1.63	.20	.00
UV context x order on A	2.58	.11	.00
UV context x order on N	.02	.90	.00
MV gender x order	1.83	.11	.01
MV context	168.86	<.001	.50
MV gender	39.42	<.001	.19
MV order	1.94	.09	.01

Note. $N = 870$. Samples sizes by between-subjects condition: Gender (women $n = 536$; men $n = 334$) and order (offline first $n = 434$; social media first $n = 436$). MV = multivariate; UV = univariate; O = openness; C = conscientiousness; E = extraversion; A = agreeableness; N = neuroticism. Degrees of freedom were (5,862) for multivariate effects and (1,866) for univariate effects.

[3] It should be noted that there was a significant multivariate interaction effect between context and order on the Big Five in both samples independent of gender (see Table 1). At the univariate level, significant interactions between context and order on openness and conscientiousness (and agreeableness in sample 2) appeared. Post hoc tests revealed that in both order conditions, participants reported lower traits levels on social media compared to offline contexts, but this difference was more pronounced in the social media first condition (openness $d = .70$; conscientiousness $d = 0.48$) than in the offline first condition (openness $d = .37$; conscientiousness $d = 0.25$). For sample 2, lower agreeableness on social media compared to offline contexts was less pronounced in the social media first condition ($d = 0.19$) than the offline first condition ($d = 0.32$). These results may suggest that participants may have used their trait reports in one context as referents to report their traits in the other context.

and that (2) these differences do not vary by the presentation order of the measures.

Thus, we examined whether the expected univariate interactions between context and gender respectively appeared on extraversion, agreeableness, and neuroticism (RQ1a), and openness and conscientiousness (RQ1b). Univariate interaction effects between context and gender on extraversion, agreeableness, and neuroticism were significant.[4] In probing the interactions, we observed support for H1 given that gender differences in extraversion and agreeableness were more pronounced in the social media than the offline context, namely that women reported higher levels than men (see Appendix B for descriptives and effect sizes; see Fig. 1 Appendix C for illustration). We further observed support for H2 given that higher reports of neuroticism in women than men were less pronounced in the social media context compared to the offline context.

Next, we probed the interactions between gender and context on each of the Big Five to note the nature of the gender differences in each context separately (see Appendices B and C and Fig. 1). For the *offline* context, women reported higher mean levels for four out of the five traits compared to men. Consistent with prior findings, women reported higher offline openness, conscientiousness, agreeableness, and neuroticism (*ps* $< .001$).[5] Contrary to our expectations, there were no significant gender differences in offline extraversion ($p = .75$), Thus, these results supported H3 for four out of the five traits.

For the *social media* context, the patterns of gender differences were the same as the offline reports except for extraversion. Women reported higher mean levels for each of the Big Five on social media compared to men (*ps* $< .01$).[6] To conclude our discussion of the findings addressing RQ1 and RQ2, we note that, as all effects of the three factors were conditional on at least one of the others, we did not interpret the main effects.

5.2. Exploratory analyses

To address RQ3, we explored whether time spent on social media, number of total and known connections on social media, and offline public self-consciousness may be potential explanations for why the Big Five vary between offline and social media contexts. The results above revealed that gender differences in extraversion, agreeableness, and neuroticism varied between offline and social media contexts in terms of magnitude. We planned a series of four two-way multivariate analyses of covariance (MANCOVA) tests of the interaction effects between context and gender on the Big Five, each with one of the four potential explanatory variables as a covariate. Our purpose in these tests was to examine whether the observed interactions between context and gender on the Big Five reports became insignificant after controlling for the effects of the covariate. Before conducting these analyses, we checked whether men and women reported different levels of the four variables (see Appendix B for descriptives). Independent sample t-tests revealed that women scored higher on all four variables than men (*ts*(868) ranged from 2.20 to 4.39, *ps* $< .05$).[7] Taken together, these findings are consistent with prior observations of gender differences in these variables. Gender was not randomly assigned nor manipulated (i.e., not an experimental group). We note that the significant gender differences of these covariates do not violate the assumption of MANCOVA requiring that covariates be independent of experimental groups (see Keppel, 1991).

We further note that absolute correlation sizes between offline and social media extraversion, agreeableness, and neuroticism with the four variables listed in Appendix A ranged from 0.01 to 0.37 and the average absolute correlation size was 0.14. These relationships between the four variables with the three offline and social media traits are moderate in effect size at most and weak in effect size on average according to conventional standards (see Cohen, 1988). Consistent with prior research, this suggests that the four variables are related to but not the same as the offline and social media personality traits.

5.2.1. Time spent on social media

We first conducted the MANCOVA analysis of the effects of context and gender on the Big Five with time spent on social media as the covariate. We first examined the highest order effect and the expected interaction effects (see Table 2). The multivariate interaction between context, gender, and time spent on social media on the Big Five was not significant. Of primary interest, there was no significant multivariate interaction effect between context and gender on the Big Five while controlling for the effects of time spent on social media. This suggests that time spent on social media may serve as a potential explanation for why gender differences in the Big Five vary between offline and social media contexts in terms of magnitude.

Conventionally, researchers do not interpret significant univariate effects when the multivariate ones are not significant. However, the purpose of our analyses for RQ3 is to confirm whether the relevant univariate effects of interest are also insignificant. For illustration, we thus note whether the relevant univariate effects were not significant. When controlling for time spent on social media, none of the univariate interactions between context and gender on the Big Five were significant. This is noteworthy for the interaction effects between context and gender on extraversion and agreeableness. It suggests that time spent on social media may serve as a potential explanation for why higher reports of these two interpersonal traits by women compared to men are more pronounced on social media compared to offline contexts. Further, although not part of our focus, there was not a significant interaction effect between gender and context on neuroticism. This suggests that time spent on social media may serve as a potential explanation for why higher reports of neuroticism by women compared to men are less pronounced on social media compared to offline contexts.

We note that the multivariate interaction effect between context and

Table 2
Multivariate and univariate test statistics for the effects of context on the Big Five with time spent on social media as a covariate.

Effect	*F*	*p*	Pillai's Trace ($\eta 2$)
MV context x gender x TSM	1.25	.28	.01
MV context x gender	1.76	.12	.01
UV gender x context on O	.15	.70	.00
UV gender x context on C	3.09	.08	.00
UV gender x context on E	1.79	.18	.00
UV gender x context on A	.00	.96	.00
UV gender x context on N	2.32	.13	.00
MV context x TSM	18.07	<.001	.10
UV context x TSM on O	59.59	<.001	.06
UV context x TSM on C	27.60	<.001	.03
UV context x TSM on E	62.68	<.001	.07
UV context x TSM on A	13.64	<.001	.02
UV context x TSM on N	3.91	<.05	.00
MV gender x TSM	.07	1.00	.00
MV context	62.05	<.001	.27
MV gender	4.30	<.01	.02

Note. $N = 870$. MV = multivariate; UV = univariate; TSM = time spent on social media; O = openness; C = conscientiousness; E = extraversion; A = agreeableness; N = neuroticism. Degrees of freedom were (5,862) for multivariate effects and (1,866) for univariate effects.

[4] Although the univariate interaction of context and gender on extraversion was not significant in sample 2 ($F(1,353) = 0.13$, $p = .72$, Pillai's Trace/$\eta 2$s = 0.00.

[5] Although this gender difference in offline openness did not reach significance in sample 1 ($p = .08$).

[6] Although gender differences did not reach significance for social media extraversion ($p = .53$) nor neuroticism ($p = .33$) in sample 2.

[7] Although after Bonferroni correction for the four tests, gender differences for the number of known connections on social media were not significant: $p = .03$ (p was tested at the <0.0125 level). Gender differences did not reach significance in the number of known connections on social media in sample 2 ($p = .57$) and offline public self-consciousness in sample 1 ($p = .07$).

the covariate time spent on social media on the Big Five was significant, as were all five univariate effects for each trait.[8] This suggests, independent of gender, that differences in the Big Five between offline and social media contexts vary based on how much time a person spends on social media. Given the relationships between time spent on social media and the offline and social media versions of these traits (see Appendix A), this further suggests that lower reports of the Big Five on social media compared to offline are less pronounced for heavier users.

5.2.2. Total connections on social media

We repeated the MANCOVA analysis of the effects of context and gender on the Big Five, this time with the number of total connections on social media as the covariate (see Table 3). The multivariate interaction effect between context, gender, and the number of total connections on social media on the Big Five was not significant. Of primary interest, the multivariate interaction effect between context and gender on the Big Five was still significant but weaker in effect size when controlling for the number of total connections on social media, compared to the analyses without this control.[9] This suggests that the number of total connections on social media may serve as a potential explanation for why gender differences in the Big Five vary between offline and social media contexts in terms of magnitude.

Notably, the univariate interactions between gender and context on extraversion and agreeableness were not significant. This suggests that, like time spent on social media, the number of total connections on social media may serve as a potential explanation for why higher reports of these two interpersonal traits by women compared to men are more pronounced on social media compared to offline contexts.

We note the significant multivariate interaction effect between context and the number of total connections on social media on the Big Five.[10] This suggests that differences in the Big Five between offline and social media contexts vary in terms of magnitude based on the number of total connections on social media independent of gender. The significance of the univariate interactions between context and the number of total connections on social media on four of the Big Five varied by sample. In the combined sample, four significant univariate interactions between context and the number of total connections on social media on the Big Five appeared: agreeableness, openness, conscientiousness, and neuroticism (i.e., all except for extraversion). This suggests that lower reports for all of the Big Five except extraversion on social media compared to offline contexts vary depending on the number of total connections.

Table 3
Multivariate and univariate test statistics for the effects of context on the Big Five with number of total connections on social media as a covariate.

Effect	*F*	*p*	Pillai's Trace ($\eta 2$)
MV context x gender x TC	1.14	.34	.01
MV context x gender	2.83	<.05	.02
UV gender x context on O	.07	.80	.00
UV gender x context on C	.82	.37	.00
UV gender x context on E	.01	.91	.00
UV gender x context on A	1.37	.24	.00
UV gender x context on N	10.34	<.01	.01
MV context x TC	3.78	<.01	.02
UV context x TC on O	5.44	<.05	.01
UV context x TC on C	5.08	<.05	.01
UV context x TC on E	1.75	.19	.00
UV context x TC on A	12.21	<.001	.01
UV context x TC on N	7.95	<.01	.01
MV gender x TC	1.41	.22	.01
MV context	32.69	<.001	.16
MV gender	7.90	<.001	.04

Note. $N = 870$. MV = multivariate; UV = univariate; TC = number of total connections on social media; O = openness; C = conscientiousness; E = extraversion; A = agreeableness; N = neuroticism. Degrees of freedom were (5,862) for multivariate effects and (1,866) for univariate effects.

5.2.3. Known connections on social media

We next conducted the MANCOVA analysis of the effects of context and gender on the Big Five with the number of known connections on social media as the covariate (see Table 4). The multivariate interaction effect between context, gender, and the number of known connections on social media on the Big Five was not significant. Of primary interest, the multivariate interaction effect between context and gender on the Big Five was not significant.[11] This suggests that the number of known connections on social media people know may serve as a potential explanation for why gender differences in the Big Five vary between offline and social media contexts.

Notably, both univariate interaction effects between gender and context on extraversion and agreeableness were not significant. This suggests that the number of connections on social media a person knows may be another potential explanation for why higher reports of these two interpersonal traits by women compared to men are more pronounced on social media compared to offline contexts.

We noted the significant multivariate interaction effect between context and the number of known connections on social media on the Big Five.[12] This suggests that differences in the Big Five between offline and

Table 4
Multivariate and univariate test statistics for the effects of context on the Big Five with number of known connections on social media as a covariate.

Effect	*F*	*p*	Pillai's Trace ($\eta 2$)
MV context x gender x KC	.27	.93	.00
MV context x gender	2.16	.06	.01
UV gender x context on O	.09	.76	.00
UV gender x context on C	.26	.61	.00
UV gender x context on E	.67	.41	.00
UV gender x context on A	2.61	.11	.00
UV gender x context on N	7.44	<.01	.01
MV context x KC	3.19	<.01	.02
UV context x KC on O	.05	.83	.00
UV context x KC on C	.36	.55	.00
UV context x KC on E	6.19	<.05	.01
UV context x KC on A	3.62	.06	.00
UV context x KC on N	1.36	.24	.00
MV gender x KC	1.99	.08	.01
MV context	26.16	<.001	.13
MV gender	8.78	<.001	.05

Note. $N = 870$. MV = multivariate; UV = univariate; KC = number of known connections on social media; O = openness; C = conscientiousness; E = extraversion; A = agreeableness; N = neuroticism. Degrees of freedom were (5,862) for multivariate effects and (1,866) for univariate effects.

[8] Although the univariate interaction between context and time spent on social media on neuroticism was not significant on neuroticism in sample 1 ($F(1,509) = 3.26$, $p = .07$, Pillai's Trace/$\eta 2$s = 0.01) nor in sample 2 ($F(1,353) = 0.75$, $p = .39$, Pillai's Trace/$\eta 2$s = 0.00).

[9] This multivariate interaction between context and gender on the Big Five was not significant in sample 2 ($F(5,349) = 1.21$, $p = .30$, Pillai's Trace/$\eta 2$s = 0.02).

[10] Although there was not a significant interaction between context and the number of total connections on social media on the Big Five in sample 2 ($F(5,349) = 0.35$, $p = .89$; $\eta 2 = 0.01$).

[11] This interaction between context and gender on the Big Five was weaker in effect size but significant in sample 1 compared to the analyses without controlling for the effects of the number of known connections on social media ($F(5,505) = 2.53$, $p < .05$; $\eta 2 = 0.02$).

[12] Although the multivariate interaction effect between context and the number of known connections on social media on the Big Five was not significant in sample 2 ($F(1,353) = 1.70$, $p = .13$, Pillai's Trace/$\eta 2$s = 0.02).

social media contexts vary based on the number of known connections on social media independent of gender. When probing this multivariate effect at the univariate level, significance varied by sample for most of the effects. In the combined sample, the univariate interaction effect between context and the number of known connections was only significant on extraversion. This finding revealed a difference between connections and known connections such that the interaction between context and number of known connections on social media was significant on all of the Big Five except extraversion, while the interaction between context and known connections on social media was significant only on extraversion. Differences in the level of extraversion between the two contexts may vary on the number of known connections rather than total connections, as known connections consist of users that a person may be more likely to socialize with.

5.2.4. Offline public self-consciousness

Finally, we ran the two-way MANCOVA to test the effects of gender and context on the Big Five with offline public self-consciousness as the covariate (see Table 5). The multivariate interaction effect between context, gender, and offline public self-consciousness on the Big Five was not significant. The multivariate interaction between gender and context on the Big Five was not significant while controlling for the effects of offline public self-consciousness. This suggests that offline public self-consciousness may serve as a potential explanation for why gender differences in the Big Five vary between offline and social media contexts in terms of magnitude.

Notably, the univariate effect for the interaction between context and gender on neuroticism was not significant. This suggests that offline public self-consciousness may serve as a potential explanation for why higher reports of neuroticism by women compared to men are more pronounced offline than on social media. Further, although not part of our focus, the univariate interaction effects between gender and context on extraversion and agreeableness were not significant. This suggests that offline public self-consciousness may serve as a potential explanation for why higher reports of these two interpersonal traits by women compared to men are less pronounced offline than on social media.

We noted that the multivariate interaction effect for the interaction between context and the covariate offline public self-consciousness on the Big Five was significant. This suggests that differences in the way people express their Big Five between offline and social media contexts vary based on their level of offline public self-consciousness independent of their gender.

There was a significant univariate interaction between offline public self-consciousness and context on neuroticism. This suggests that lower reports of neuroticism on social media compared to offline contexts are more pronounced for those higher on offline public self-consciousness. There was also a significant univariate interaction between offline public self-consciousness and context on extraversion.[13] This suggests that lower reports of extraversion on social media compared to offline contexts are less pronounced for those higher on offline public self-consciousness.

Table 5
Multivariate and univariate test statistics for the effects of context on the Big Five with offline public self-consciousness as a covariate.

Effect	*F*	*p*	Pillai's Trace (η2)
MV context x gender x OPSC	.85	.52	.01
MV context x gender	1.09	.36	.01
UV gender x context on O	.01	.92	.00
UV gender x context on C	3.77	.05	.00
UV gender x context on E	.01	.94	.00
UV gender x context on A	.20	.65	.00
UV gender x context on N	.11	.74	.00
MV context x OPSC	5.87	<.001	.03
UV context x OPSC on O	.22	.64	.00
UV context x OPSC on C	.91	.34	.00
UV context x OPSC on E	9.49	<.01	.01
UV context x OPSC on A	1.17	.28	.00
UV context x OPSC on N	22.80	<.001	.03
MV gender x OPSC	.27	.93	.00
MV context	11.29	<.001	.06
MV gender	1.79	.11	.01

Note. $N = 870$. MV = multivariate; UV = univariate; OPSC = offline public self-consciousness; O = openness; C = conscientiousness; E = extraversion; A = agreeableness; N = neuroticism. Degrees of freedom were (5,862) for multivariate effects and (1,866) for univariate effects.

6. Discussion

6.1. Summary of findings

This study was the first to examine whether gender differences in the Big Five personality traits were the same on social media as offline. Findings showed that gender differences in the Big Five were similar between the two contexts. The lack of significant gender differences in offline extraversion was the only exception to the expected higher levels of all the Big Five observed in women than men for both contexts (H3). We highlight this exception given recent declines in the amount of non-digital social interaction, particularly for younger individuals (see Twenge & Spitzberg, 2020). Gender differences in extraversion may now take place on social media given its unique interpersonal features and integration into everyday communication. Besides extraversion, gender differences were not the same in terms of magnitude for agreeableness and neuroticism despite higher levels of these traits in women than men in both contexts. We explored whether four variables (time spent on social media, the number of total and known connections on social media, and offline public self-consciousness) could be potential explanations for gender differences between the two contexts. We discuss these findings for each of the four variables below.

As expected, gender differences in extraversion and agreeableness were greater on social media compared to offline (H1). We explored whether the amount of time people spend on social media and the number of total and known connections they have on social media may serve as potential explanations for why these gender differences were not the same between the two contexts. In the findings, we first noted that these three variables of social media use were correlated, but their relationships suggest that they are not the same. Consistent with previous findings, women showed higher levels of all three variables than men (e.g., Greenwood et al., 2016; Krasnova et al., 2017; Pempek et al., 2009). However, gender differences in extraversion and agreeableness were not greater in magnitude after controlling for the effects of either of the three variables. This suggests that the observed rich-get-richer effect, whereby higher levels of interpersonal traits in women compared to men become even more pronounced on social media than offline, may occur because women spend more time on, have more connections on, and know more of these connections on social media than men.

Also as expected, gender differences in neuroticism were weaker in magnitude on social media compared to offline (H2). We found that women reported higher levels of offline public self-consciousness than men, consistent with prior research (e.g., Workman & Lee, 2011), and that gender differences in neuroticism were not weaker in magnitude on social media after controlling for the effects of offline public self-consciousness. This suggests that normative pressures that lead to higher neuroticism in women than men in offline contexts may be less pronounced on social media. It is noteworthy that gender differences in extraversion and agreeableness were not greater in magnitude on social media than offline after controlling for the effects of offline public self-consciousness. The impact of greater control over self-presentation on social media on public self-consciousness suggests that this potential

[13] This univariate interaction between offline public self-consciousness and context on extraversion did not reach significance in sample 2 ($F(1,353) = 3.74$, $p = .05$, Pillai's Trace/η2s = 0.01).

explanation may be critical for understanding multiple gender differences in the Big Five between the two contexts. Additionally, gender differences in neuroticism were not weaker in magnitude on social media after controlling for the effects of time spent on social media, but not the number of total or known connections on social media. If certain features of social media (e.g., enhanced socializing capabilities, control over self-presentation) eases people from negative emotions while online, they may do so more for women than men simply because women spend more time on social media.

In further exploratory analyses, we found no support of varying magnitude of gender differences in openness and conscientiousness between the two contexts. Nevertheless, lower reports of openness and conscientiousness were less pronounced for those who spent more time on and had more total connections on social media. Heavy users of social media may be more likely to curate organized profiles or use stricter privacy settings, reflecting higher social media conscientiousness, compared to lighter users. Similarly, heavier users may be more likely to use social media for intellectual or artistic expression, reflecting higher social media openness, compared to lighter users.

Further findings revealed that lower reports of extraversion and agreeableness on social media compared to offline contexts were weaker in magnitude for participants who spent more time on social media. This suggests that rich-get-richer effects for interpersonal traits on social media that occur independently of gender depend on how much time is spent on social media. These findings varied somewhat when we examined the number of total or known connections in place of time spent on social media. The differences between the two contexts varied by the number of total connections in all the Big Five except extraversion, while the differences between the contexts varied by the number of known connections only in extraversion. These findings suggest that differences in people's extraversion between the contexts independent of gender depend on their connections on social media they actually know (connections they are likely to socialize with), not the total size of their network (which may contain strangers whom they don't interact with). Furthermore, lower reports of neuroticism and extraversion on social media compared to offline were respectively greater and weaker in magnitude for those higher on offline public self-consciousness. This suggests, independent of gender, that lower reports of negative emotions and rich-get-richer effects for some interpersonal traits on social media depend on the level of offline public self-consciousness.

6.2. Implications

We note three theoretical implications of the present findings. First, the Big Five may not be as stable across offline and social media contexts as one might expect. Prior studies have demonstrated that levels of the Big Five are quite stable across different contexts (e.g., Church et al., 2008; Cobb-Clark & Schurer, 2012). One might accordingly expect that people's personality traits may be similar between offline and social media contexts. However, the present research suggested that levels of the Big Five were not the same between offline and social media contexts. The findings may reflect the striking contrast between these two contexts in terms of anonymity and interpersonal features (see McFarland & Ployhart, 2015). An interesting direction for future research is to experimentally test the causal relationships between these features and the differences in personality between offline and social media contexts.

Second, the present findings have implications for research on personality differences between offline and online contexts. The findings were consistent with prior research showing generally lower levels of the Big Five in online contexts compared to offline contexts (e.g., Blumer & Döring, 2012; Bunker & Kwan, 2021; Taber & Whittaker, 2018). However, the present findings suggest that a person's identity (e.g., gender) and their extent of engagement with social media (e.g., how time they spend on it) may moderate personality differences between these contexts. Further work may identify other moderators of the differences in personality between offline and social media contexts.

Third, the present findings may suggest that differences in personality traits between offline and social media contexts may be analogous to the expression of personality in bicultural individuals. Bicultural individuals exhibit differences in decision-making styles and behavior depending on the currently salient cultural cues (Alter & Kwan, 2009; Chen & Bond, 2010; Hong et al., 2000). As people constantly switch between their immediate physical environment and their social media devices, differences in personality expression between the contexts may reflect contrasting contextual cues.

The present findings may have practical implications for user experience based on gender. Specifically, the present findings suggest that social media may be a context that benefits women relative to men in terms of interpersonal and affect-related traits. Prior research has shown that these traits predict mental health outcomes (Ozer & Benet-Martinez, 2006). Therefore, positive interpersonal experiences and lower levels of neuroticism in women on social media may translate to positive mental health outcomes. This seems to contradict recent studies suggesting that social media may have particularly negative outcomes for women relative to men (e.g., Heffer et al., 2019; Twenge & Martin, 2020). Could these potential benefits in the higher levels of interpersonal traits and lower levels of neuroticism derived from positive user experience only occur on social media and not while offline? An interesting direction for further work is whether gender differences in personality between these contexts translate into lasting effects on mental health.

Another practical implication of the present research suggests how online contexts may benefit women for education and work. The present findings suggest that women may feel less neurotic on social media given relief from public self-consciousness felt offline. Recent advances in online education (e.g., courses, workshops, training) and workplace platforms could model the relevant features of social media that provide this relief. For example, features that enhance control over self-presentation could protect women from negative outcomes related to high levels of public self-consciousness. Prior research has shown that a heightened sense of one's physical appearance is detrimental to the self-concept and cognitive performance (Fredrickson & Roberts, 1997; Quinn et al., 2006). Notably, this would suggest that online platforms equipped with control over profile features may reduce the harmful effects of a heightened sense of public self-consciousness that is ever-present in traditional modes of education and work.

6.3. Limitations and future directions

One limitation of the present study is that both collected samples were composed entirely of college students. College students spend more time on and are more comfortable with social media than some populations, such as older adults (Jiang et al., 2016; Thomas, 2011). The present research showed that heavier users are more likely to show different levels of the Big Five between offline and social media contexts compared to lighter users. Future research may accordingly test whether the present findings replicate in other demographic groups that show different patterns of social media use. One possibility is that older adults may express even lower amounts of social media extraversion and agreeableness than younger adults. This would suggest that older adults are less likely to make use of the interpersonal features of social media.

Another limitation of the present research is the comparison of gender differences in the Big Five between offline and social media considered as broad contexts. That is, participants reported their offline Big Five based on who they are in any aspect of their physical life and their social media Big Five based on any social media platforms they primarily used. Both individual social media platforms and offline contexts vary in terms of the factors that may serve as potential explanations for why the gender differences in the Big Five are not the same on social media as offline. For example, people may feel more publicly self-conscious in the large networks on Facebook compared to the smaller networks on Snapchat (Boczkowski et al., 2018). Decades of prior research show that people feel more publicly self-conscious in some offline contexts compared to

others as well (Silvia & Duval, 2001). Future research may accordingly test whether gender differences in the Big Five between offline and social media contexts vary by major platforms (e.g., Snapchat, Twitter, Instagram, Twitter) and major situations in offline contexts (e.g., work, school, at home).

We also highlight the limitations in the present study design and the use of self-reports. Like many studies on personality, the measures in the present research were all collected at the same time point, via the same source (i.e., online survey), and were self-reported. The findings of the present research may accordingly be subject to biases common to these designs such as social desirability responding or limits on self-knowledge (see Paulhus & Vazire, 2007). Additionally, we cannot infer causality of the observed findings (e.g., whether heavier social media use or higher levels of public self-consciousness felt offline leads to the observed gender differences between offline and social media contexts). It will be informative for future research to investigate gender differences in the Big Five between offline and social media contexts and the underlying mechanisms of such differences with objective measures of behavior and experimental manipulations to test whether the exploratory variables included in this research affect the gender differences in personality between contexts.

7. Conclusion

Findings from the present study showed that gender differences in the Big Five are similar but not the same on social media as offline. On one hand, gender differences in extraversion and agreeableness were more pronounced on social media. Social media may be particularly appealing to women as a place for interpersonal communication. On the other hand, gender differences in neuroticism were less pronounced on social media. Normative and ecological pressures that lead to higher neuroticism for women may be weaker social media. The findings further suggest that these contrasting gender differences in the Big Five between the two contexts may relate to gender differences in time spent on social media, higher totals of connections on social media, knowing more of these connections, and higher levels of offline public self-consciousness. The findings inform how advances in digital technology transform gender differences across contexts.

Declaration of competing interest

We have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A

Table A1
Correlations between variables of interest.

	O_{off}	O_{SM}	C_{off}	C_{SM}	E_{off}	E_{SM}	A_{off}	A_{SM}	N_{off}	N_{SM}	TSM	TC	KCT	OPSC
O_{off}	–													
O_{SM}	.61	–												
C_{off}	.23	.08	–											
C_{SM}	.12	.30	.49	–										
E_{off}	.25	.10	.29	.22	–									
E_{SM}	.09	.44	.04	.39	.37	–								
A_{off}	.25	.17	.39	.35	.19	.05	–							
A_{SM}	.15	.23	.37	.55	.16	.21	.63	–						
N_{off}	-.11	.06	-.35	-.19	-.45	-.03	-.32	-.17	–					
N_{SM}	-.14	-.06	-.28	-.35	-.33	-.12	-.32	-.37	.61	–				
TSM	-.09	.15	-.11	.08	-.07	.25	-.02	.12	.15	.08	–			
TC	.03	.11	.09	.18	.30	.37	.04	.15	.01	-.09	.22	–		
KC	-.01	.00	.12	.16	.37	.28	.06	.12	-.06	-.11	.10	.75	–	
OPSC	.11	.13	.03	.08	-.11	.03	.06	.11	.31	.18	.11	.10	.01	–

Note. $N = 870$. O = openness; C = conscientiousness; E = extraversion; A = agreeableness; N = neuroticism. off = offline context; SM = social media context; TSM = time spent on social media; TC = # of total connections on social media; KC = # of known connections on social media; OPSC = offline public self-consciousness. Absolute correlations of 0.07 or stronger are significant at the $p < .05$ level.

Appendix B

Table B1
Descriptive statistics of the measured variables by gender.

Variable	Women (n = 536)		Men (n = 334)		Gender *d*
	M	*SD*	*M*	*SD*	
Openness	3.78 (3.47)	.64 (.61)	3.62 (3.27)	.61 (.57)	.26 (.34)
Conscientiousness	3.78 (3.54)	.67 (.61)	3.56 (3.35)	.66 (.54)	.33 (.33)
Extraversion	3.39 (2.95)	.78 (.81)	3.40 (2.79)	.77 (.74)	-.01 (.21)
Agreeableness	3.95 (3.81)	.53 (.51)	3.72 (3.45)	.60 (.63)	.41 (.63)
Neuroticism	2.81 (2.41)	.82 (.75)	2.45 (2.27)	.71 (.64)	.47 (.20)
Time spent on social media	3.96	1.24	3.59	1.23	.30
# of total connections	5.65	2.11	5.06	2.21	.27

(*continued on next column*)

Table B1 (*continued*)

Variable	Women (n = 536)		Men (n = 334)		Gender *d*
	M	*SD*	*M*	*SD*	
# of known connections	4.00	1.69	3.74	1.74	.15
Offline public self-consciousness	4.36	.99	4.10	.99	.26

Note. $N = 870$. Values outside of parentheses are for offline context. Values within parentheses are for social media context. Gender *d* is scored so a positive value indicates a higher value for women compared to men.

Appendix C

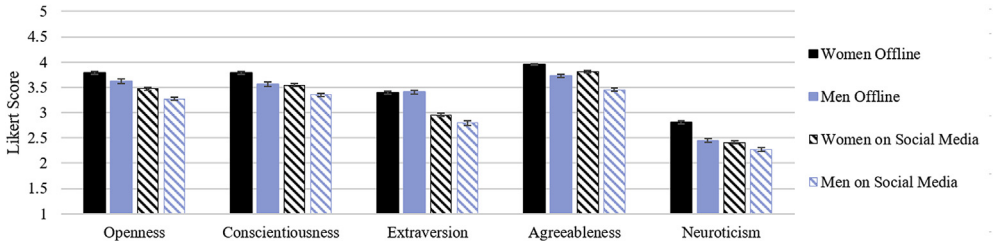

Fig. 1. Differences in the Big Five by gender and context
Note. $N = 870$.

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