

# Language in Online Dating Texts: Trait Identification, Homophily, and their Effect on Attraction

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**Abstract.** Research has indicated that online daters may pick up on language cues connected to personality traits in online dating profile texts, and act upon those cues. This research seeks to investigate the level of accuracy of detection of personality in dating profile texts, and the extent to which perceived or actual similarity of personality has an effect on attractiveness of the author. An online survey was conducted collecting the Ten Item Personality Inventory (TIPI) for each participant and text author, a peer-report TIPI score by participants for each text author, and an attractiveness rating on a Likert scale for each author. Participants correctly identified Extraversion, though the effect size was small. Contrary to the hypotheses, participants preferred texts when written by an author with a personality they perceived as dissimilar to their own, specifically in Openness and Conscientiousness, and no relationship was found between actual similarity of personality and attractiveness. Online daters may choose partners with complementary or desirable traits rather than similar traits, or other factors in attraction may be more salient in the initial stages of determining attraction.

**Keywords.** Online dating, language, personality, homophily, interpersonal attraction.

## Introduction

Computer mediated communication (CMC) through text alone results in a lack of non-verbal cues, however it is argued that people imbue textual communication with information about characteristics, attitudes, and emotions [1]. There is evidence that shows a connection between our personality traits and how we express ourselves through language [2, 3]. Previous research has indicated that online daters may pick up and act upon language cues connected to personality traits in online dating profile texts. Fiore and colleagues [4] found that men higher in general caution used more positive emotion words, and were contacted less frequently on a dating site.

Individuals are highly effective at judging the personality of those known to them in face-to-face situations [5, 6]. However, with strangers, and particularly in CMC situations, accuracy is reduced. Extraversion and Openness are the most accurately detected traits in text-based communication, and in zero acquaintance CMC communication Extraversion is still detectable by participants [7, 8].

Homophily is the tendency for people to bond with others similar to themselves. Online daters demonstrate this across a range of lifestyle and life course characteristics such as ethnicity, marital status and religion [4, 9]. Additionally, people have been shown to prefer partners that they perceive to have similar personalities to their own. In

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lab and stranger interactions actual and perceived similarity leads to attraction, however the effect of actual similarity reduces after short interactions, and does not have an effect in existing relationships [10]. Perceived similarity on the other hand, is found to have an effect in existing relationships, but the direction of the relationship is unclear, attraction may increase perceived similarity, or vice versa [10].

This research seeks to investigate the level of accuracy of detection of personality in online dating profile texts by participants, and the extent to which perceived or actual similarity of personality has an effect on the attractiveness of the author.

As suggested by the literature, detection of personality in CMC texts will be difficult for participants. Extraversion and Openness remain the most detectable traits in CMC and it is hypothesized that participants will most accurately detect these two traits in dating profile texts. Both actual and perceived similarity have been shown to have an effect on stranger and non-interaction attraction, thus it is hypothesized that both will have a positive affect on attractiveness ratings of the profile text authors.

## Method

This study was conducted online and was a between-participants, independent-samples design in which 404 English speaking participants (72% female) were recruited using convenience and snowball sampling. The participants answered demographic questions including gender, age, relationship status, and sexual orientation, and completed a self-report Ten Item Personality Inventory [TIPI; 11] before being presented with one of 124 dating profile texts generated by participants in a previous study.

The previous study asked a convenience and snowball sample of participants ( $N = 160$ , 74% female) to create an online dating profile of at least 60 words. The instructions for doing so were based on typical dating site directions for profile creation. The authors of the texts supplied a self-report TIPI at the time of writing the texts. The mean word count of the texts was 92.77 ( $SD = 45.5$ ).

In this study a random dating profile text appropriate for the participant's age band, gender and sexual orientation was shown to each participant. They completed a peer-report TIPI for the author of the text and scored the author on a seven point Likert scale of attractiveness.

## Results

To determine the accuracy of trait identification, correlations were conducted between the trait scores for each participant's peer-report TIPI for the author, and the author's self report on the TIPI. Participants correctly identified Extraversion,  $r = .279$ ,  $N = 342$ ,  $p < .001$ , though the correlation was weak and explains only 7.8% of the variation ( $r^2 = .078$ ). Three other traits had negligible correlations; Conscientiousness,  $r = .113$ ,  $N = 344$ ,  $p < .05$ ; Neuroticism,  $r = .156$ ,  $N = 338$ ,  $p < .01$ ; and Openness,  $r = .150$ ,  $N = 327$ ,  $p < .01$ , each explaining 1–2% of variation, and Agreeableness was not detected at all,  $r = .067$ ,  $N = 343$ ,  $p > .05$ .

Regression analysis found no correlation between author personality traits and attraction scores, nor rater personality traits and attraction scores.

The effect on attractiveness scores of actual similarity between the author's personality and the rater's personality was investigated. The mean difference was

calculated between the self-report TIPI scores on each trait for the author and participant rater, where a smaller mean difference indicated more similarity of scores on the TIPI and greater actual similarity of personality. Regression analysis using the enter method found no significant model for the effect of actual similarity of personality on attraction scores.

The effect of perceived similarity between the author's personality and the rater's personality on attraction was examined. The mean difference was calculated between the rater's self-report TIPI score, and the rater's peer-reported TIPI scores for the author on each trait. A smaller mean difference indicated more similarity of scores on the TIPI and greater perceived similarity of personality. An analysis of standard residuals was carried out, which showed that the data contained no outliers (Std. Residual Min = -2.84, Std. Residual Max = 2.18). Tests for assumption of collinearity indicated that multicollinearity was not a concern (Extraversion, Tolerance = .93, VIF = 1.08; Agreeableness, Tolerance = .83, VIF = 1.21; Conscientiousness, Tolerance = .82, VIF = 1.21; Neuroticism, Tolerance = .81, VIF = 1.24; Openness, Tolerance = .89, VIF = 1.13). The histogram of standardised residuals indicated that the data contained approximately normally distributed errors, as did the normal P-P plot of standardised residuals, which showed points that were not completely on the line, but close. Regression analysis using the enter method found a significant model for the effect of perceived similarity on attraction:  $F(5, 311) = 13.733, p < .001$ , accounting for 18% (Adjusted  $R^2 = .168$ ) of the variance in attractiveness scores. Significant predictors were Conscientiousness and Openness which both have a negative relationship with attractiveness scores of the author, but not Extraversion, Agreeableness or Neuroticism. Table 1 gives information for the predictor variables entered into the model.

**Table 1.** Perceived similarity of personality traits as predictors of attractiveness.

	Unstandardized Coefficients		Standardized Coefficients		
	B	SE B		t	Sig.
Constant	5.529	.190		29.064	.000
Extraversion	-.020	.032	-.033	-.624	.533
Agreeableness	-.058	.046	-.072	-1.277	.203
Conscientiousness	-.161	.039	-.231	-4.085	.000
Neuroticism	.039	.042	.053	.920	.358
Openness	-.187	.035	-.288	-5.285	.000

Note. Dependent variable: attractiveness.

## Discussion and Conclusion

It was hypothesized that participants would detect Extraversion and Openness in online dating texts, but that other traits would not be detected. This was partially supported by the results. Participants detected Extraversion, though with a weak correlation and

accounting for a low percentage of the variance. Openness was not detected beyond a negligible degree, as with Neuroticism and Conscientiousness. Agreeableness was not detected at all. We know that impression management occurs in online dating [4], and perhaps people highlight socially desirable traits such as Agreeableness making it more difficult to detect their true traits. This study was also conducted at zero acquaintance, where participants had no previous knowledge of the author of the texts, and had no interaction with the author. Only a single online dating text sample was used for each participant, and these samples were shorter than text samples previously studied for trait detection. Additionally, a recent finding that textspeak influences and changes perceptions of personality traits in text, could explain why traits are more difficult to accurately detect in online dating profile texts [12].

The language we use affects perception of an author's personality, and thus affects liking and attractiveness of the author. Although participants were able to detect Extraversion, that ability had no effect on their preference for similar others. The hypotheses that both actual and perceived similarity would have a positive effect on the attractiveness rating of the author were not supported. Contrary to previous research which found that actual similarity has a short-term effect on attraction; actual similarity had no effect here. However, perceived similarity did have an influence, though not in the direction that was hypothesized. Perceived similarity of both Openness to Experience and Conscientiousness were negatively correlated with ratings of attractiveness of the author. While much research supports the fact that daters prefer others with similar traits [13, 14], there are many other factors affecting romantic attraction in interpersonal interactions.

It is possible that aspects of Openness such as being imaginative, curious and adventurous are characteristics that online daters seek out as desirable in a potential new dating partner. Carson's Principle of Complementarity, expanded upon by Kiesler [15], suggests that interpersonal behaviors invite complementary responses, which can have an influence on attraction and relationship satisfaction. Studies have found some support for this theory, though most often in long-term relationships or extended interactions rather than initial impressions on zero acquaintance [14, 16]. However, a study on speed-dating, which found no relationship between homophily and attraction, proposed that the ecologically realistic setting of the study, in comparison to controlled lab studies on attraction, may have affected the salience of mate characteristic preferences, reducing the influence of homophily in favor of other factors [17]. The researchers suggest that while homophily in partner selection is important, it is only one factor in the attraction process, and that similarity may not carry as much weight in realistic situations in comparison to lab experiments. It is possible that determining attraction from non-manipulated online dating profiles more closely resembles the realistic context of speed-dating than that of controlled experiments, and thus may explain the lack of findings for similarity of personality in this study. Alternatively, in Fullwood *et al.*, [12] perceptions of Openness and Conscientiousness, along with Emotional Stability, shifted when texts were manipulated to contain textspeak. Schoendienst and Dang-Xuan [18] found that online daters subconsciously evaluate linguistic properties of messages they receive on dating sites, and use those evaluations to make choices about potential mates. It is possible that the language used by the authors in creating the dating profiles contained textspeak which altered perception of their traits, or that linguistic properties unrelated to traits were subconsciously influencing attraction in participants, and thus negated the effect of similarity of traits on attractiveness.

While Extraversion was detected in this study, the effect size was small. Neither actual nor perceived similarity of traits had the expected correlation with attraction. However, it appears that dating profile texts differ from controlled experiments when examining the relationship between personality traits and attractiveness. Profile texts may offer more, or different, information and cues about an author's characteristics than other forms of online or offline text, and it is possible that factors other than homophily of traits are more salient when determining attractiveness in that context. Further research is needed to determine how the processes of attraction play out in the arena of online dating.

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