

Are Narcissists Verbally Attractive when They Present Themselves Online via Text
Communication?

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Abstract

The present study extends previous research on narcissism and romantic attraction by investigating the verbal attractiveness of narcissists. I asked 84 female raters to read and rate 5 written self-descriptions each out of a sample of 41 male targets that varied in degree of narcissism. My design created a double-nested data set that I analyzed via multilevel models. In contrast to my hypothesis, neither grandiose narcissism nor vulnerable narcissism of a man correlated positively with women's ratings of his written self-description, in terms of short-term attractiveness, long-term attractiveness, or confidence. Narcissists might therefore, only be more romantically attractive than non-narcissists in real-life situations (as found by Dufner, Rauthmann, Czarna, & Denissen, 2013) but not online or via text-communication. My findings furthermore suggest that other-rated confidence is predictive for the other-rated attractiveness of a target, but neither narcissism nor self-rated self-esteem of a target influenced other-rated confidence in my sample. However, confirmation of the findings in a high stakes context is required.

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“And if you only in yourself confide,
All other souls confide in you.
Learn chiefly how to lead the women; be assured
That all their ‘Ohs’ and ‘Ahs’, eternal, old,
So thousandfold,
Can at a single point be cured;
And if you half-way decorously come,
You have them all beneath your thumb.” (Mephistopheles to Student in Goethe’s *Faust*; Goethe, 1808/1941, p. 47-48)

Despite their questionable qualities as long-term relationship partners (e.g., Campbell, Foster, & Finkel, 2002), narcissists have been found to be sexier and more attractive than non-narcissists in real-life situations (Dufner, Rauthmann, Czarna, & Denissen, 2013). But are narcissists also perceived as more romantically attractive than non-narcissists when they present themselves online via text communication? In other words, is it how narcissists look (i.e., physical appearance), how they behave (i.e., body language), how narcissists say something (voice pitch, intonation etc.), or what narcissists say or write (i.e., verbal content) that makes them appear more romantically attractive?

I will investigate the verbal attractiveness of narcissists (i.e., the attractiveness of what they say or write) by asking women to rate written self-descriptions generated by men varying in the degree of narcissism. Verbal refers to the “use of words in general (spoken or written) as opposed to non-verbal expression” (“Verbal,” n.d., para. 1). An advantage of written self-presentations over spoken self-presentations is that a possible positive correlation between narcissism of a target and his attractiveness will not be confounded by non-verbal vocal cues (e.g., voice pitch, intonation). Our design also eliminates other possible non-verbal confounders, specifically physical attractiveness and body language.

Linking narcissism to attractiveness is not new in the field of psychology. Therefore, I will discuss and review previous research on narcissism and attractiveness before presenting the study at hand. In the review, some critical limitations emerge. To date, the existing research on narcissism and attractiveness has been limited to four particular aspects. These have been; (1) the ratings of physical attractiveness assigned to narcissists (e.g., Holtzman, & Strube, 2010), (2) the self-reported mating outcomes of narcissists (e.g., Jonason, Li, Webster, & Schmitt, 2009), (3) the popularity of narcissists in groups (e.g., Back, Schmukle, & Egloff, 2010), and (4) the romantic attractiveness of narcissists in real-life interactions (Dufner et al., 2013). I will extend the literature by investigating how verbally attractive narcissists are for others, based on their written self-presentations. The verbal attractiveness of narcissists seemed an appealing research question to me because the Internet and text communication has partly replaced long-established venues and forms of interactions for meeting romantic partners in recent years (Rosenfeld & Thomas, 2012).

Narcissism and Attraction

First, I will review literature that points out a direct link between narcissism and attraction. A meta-analysis by Holtzman and Strube (2010) revealed “a small but reliable positive narcissism [physical] attractiveness correlation [$r = .15$]” (p. 133). Since narcissists tend to wear fancy clothes and adornments, Holtzman and Strube (2012) additionally investigated the physical attractiveness of narcissists when any kind of adornment was removed. High scorers on the Narcissistic Personality Disorder (NPD) subscale of the Multisource Assessment of Personality Pathology (MAPP; Oltmanns & Turkheimer, 2006) but not high scorers on the Narcissistic Personality Inventory-40 (NPI-40; Raskin & Terry, 1988) were significantly rated as more physically attractive even without any adornments. Moreover, narcissism has been reported to be positively related to Sociosexuality ($r = .41$) and self-reported short-term mating behavior (r

= .36) (Jonason et al., 2008). As the relationship between The Dark Triad (Machiavellism, Psychopathy and Narcissism) and short-term mating was stronger for men than for women, I chose males as targets and females as raters in my study. These lines of research deliver some evidence for a positive relationship between narcissism and romantic attractiveness. However, they are limited to self-reported mating behavior and physical attractiveness ratings, as they only examine whether others are attracted to the way narcissists look but not whether others are attracted to the way narcissists talk or behave.

Research that also probes into the other-rated attractiveness of narcissistic behavior and speech often does not directly investigate the relationship between narcissism and romantic attractiveness but examines the link between narcissism and attractiveness in terms of (group) popularity. For example, Back et al. (2010) showed that narcissism leads to a better first impression in groups in terms of popularity. Paulhus (1998) reported that self-enhancers - as indexed by measures of narcissism and self-deceptive enhancement - made positive first impressions. That is, they were seen as “agreeable, well adjusted, and competent” (Paulhus, 1998, p. 1197). Another study by Back et al. (2011) revealed that extraversion – a Big Five dimension that is positively related to narcissism (e.g., Paulhus & Williams, 2002) - predicted popularity. Furthermore, Back et al. (2011) found that individuals in groups with self-centered values were also evaluated more favorably – self-centeredness is part of the description of narcissists (e.g., Raskin and Terry, 1988). These findings suggest that narcissists might not only be more physically attractive but also display behavior and attitudes that are more attractive to mates, at least at the first glance. However, as already pointed out, these studies have only focused on the popularity of narcissists in groups not on the romantic attractiveness of narcissists.

A recent study by Dufner et al. (2013) investigated not only the physical attractiveness of narcissists and the attractiveness of narcissists as a friend but also the romantic attractiveness of

narcissistic behavior. Interestingly, they found that narcissists were rated as more romantically attractive than non-narcissists in real-life interactions. Furthermore, in their field study, narcissistic males managed to gain more personal contact information when they approached a number of unacquainted females on the street. Importantly these positive correlations were not only due to the higher physical attractiveness of narcissists but also due to their higher levels of social boldness.

I will extend these lines of research by looking at the romantic attractiveness of the way narcissists present themselves verbally. For that matter, I will ask men who vary in degrees of narcissism to write self-descriptions that will be rated by women in terms of their attractiveness. Using written self-descriptions of participants has the advantage that I can not only rule out effects of physical attractiveness but also non-verbal factors (e.g., voice pitch, intonation, body language).

Verbal Confidence and Verbal Attraction

Confidence might be a reason why narcissists are more verbally attractive than non-narcissists. Brand, Bonatsos, D'Orazio, and DeShong (2012) found that attractiveness ratings of a male online dating profile text correlated positively ($r = .25$) with attractiveness ratings of the photo of the author of the same text even though females rated only the text or the photo of the same profile. Perceived confidence of the text was a significant mediator between physical attractiveness of a man's picture and attractiveness of his profile text. In other words, their findings suggest that physically attractive males tend to present themselves as more confident than physically unattractive males. This enables them to write more attractive texts in the context of online dating (Brand et al., 2012). Verbal confidence seems to be a cue for women in order to evaluate the mate value of a man. As Holtzman and Strube (2010) have shown in their meta-analysis, narcissism is related to higher physical attractiveness. Taken Brand et al.'s (2012)

findings into account, narcissists might therefore be perceived as more verbally confident and verbally attractive respectively. Furthermore, I assume verbal confidence to be positively correlated with self-esteem. High self-esteem is common among narcissists (e.g., Miller et al., 2011). Consequently, narcissists, who are more physically attractive and have higher self-esteem, might be perceived as more verbally confident and thus as more verbally attractive than non-narcissists.¹

Grandiose Narcissism versus Vulnerable Narcissism

Bosson et al. (2008) and Miller et al. (2011) pointed out that there are two kinds of narcissism: grandiose and vulnerable narcissism. In line with the reasoning above, only narcissists with higher actual self-esteem (i.e., grandiose narcissists) might be perceived as more attractive than non-narcissists. Narcissists with lower actual self-esteem (i.e., vulnerable narcissists) might not be perceived as more attractive than non narcissists. However, this is only the case if vulnerable narcissists display less verbal confidence because of their lower self-esteem. Zeigler-Hill, Clark, and Pickard (2008) showed that vulnerable narcissists try deliberately to maintain and enhance their self-esteem by external validation. Since high self-esteem itself is socially desirable (e.g., Leary, 1999), vulnerable narcissists might bluff higher self-esteem in order to get the external validation that they crave for. I will explore whether they are able to do so. Thus, I will not only investigate whether grandiose narcissists are perceived as more verbally confident and attractive than non-narcissists but also whether vulnerable narcissists are perceived as more verbally confident and attractive than non-narcissists.

Present Study

¹ Accordingly, Back et al. (2010) showed – by the means of a lens model approach – that narcissists are more popular because they wear fancier clothes, display more charming facial expressions, more self-assured body movements, and more verbal humor. These behaviors might be signs of confidence, as Brand et al. (2012) found that smiling individuals (i.e., charming facial expression) were seen as more confident. Such findings as these encourage us in the assumption that narcissists will be perceived as more verbally confident and thus verbally attractive than non-narcissists.

The current study aims to investigate the effects of narcissism on romantic attraction. So far, most studies have investigated the relationship between narcissism or the narcissistic features of a target and the targets attractiveness by the means of physical attractiveness ratings, self-reported mating behavior, or real-life interactions. I will extend these research lines by examining how romantically attractive female raters find narcissistic males based on their verbal self-presentations. In order to do so, I will ask females to rate written self-descriptions generated by males varying in degrees of narcissism. I chose written self-descriptions over spoken self-descriptions because pure text communication has the advantage of being able to rule out not only effects of physical attractiveness and body language, but also vocal factors (e.g., voice pitch).

Since the outlined theory and findings apply more to the attractiveness of potential male mates (see above), I decided to have only male targets and only female raters. After writing a self-description for a hypothetical online dating profile, male targets will be asked to fill out a questionnaire to measure their grandiose and vulnerable narcissism and self-esteem. Female raters will subsequently read the self-descriptions and rate the attractiveness of the men. Finally, I will also survey female raters in order to control for possible moderators. Possible moderators are self-esteem, highest level of education, relationship status, phase of menstrual cycle², and age of the female rater and male target respectively.

Hypotheses

H1: Grandiose narcissism of male targets has a positive effect on attraction ratings by female raters.

H2: Vulnerable narcissism of male targets has a positive effect on attraction ratings by female raters.

² Women are more attracted to narcissistic features (e.g., arrogance) when they are fertile (see Gangestad et al., 2007; Haselton & Miller, 2006; Giebel, Critelli, & Ee, 2013)

Mediation (Assumed Causal Model)

H3a: Grandiose narcissism of male targets has a positive effect on confidence ratings by female raters.

H3b: Confidence ratings by female raters have a positive effect on attractiveness ratings by female raters, when controlled for grandiose narcissism of male targets.

H3c: The effect of grandiose narcissism of male targets on attractiveness ratings by female raters is at least partly mediated by confidence ratings by female raters.

H4a: Vulnerable narcissism of male targets has a positive effect on confidence ratings by female raters.

H4b: Confidence ratings by female raters have a positive effect on attractiveness ratings by female raters, when controlled for vulnerable narcissism of male targets.

H4c: The effect of vulnerable narcissism of male targets on attractiveness ratings by female raters is at least partly mediated by confidence ratings by female raters.

Method

Procedure

Overview. Two samples were collected at different times. First, male targets were asked to write self-descriptions and then female raters evaluated the male self-descriptions.

The 41 male targets were recruited via Amazon Mechanical Turk (“mTurk”) and surveyed via Qualtrics. As I expected that it would take workers 15 minutes to complete the survey, I rewarded every mTurk worker with \$1.5 for the assignment. Recruitment started at 14:49 (UTC-05:00), on April 24, 2013, and ended approximately 50 minutes later. After general instructions, the recruited males were asked to describe themselves in 5 to 10 sentences for an online dating profile/lonely hearts ad. Subsequently, they accessed a questionnaire that included:

(1) two subscales of the Narcissistic Personality Inventory (NPI) to measure grandiose narcissism; (2) three subscales of the Pathological Narcissism Inventory (PNI) to measure vulnerable narcissism; (3) the Rosenberg's self-esteem scale (RSE); (4) and a block of questions where I asked them about their relationship status, age, sexual orientation, education, mother tongue, and nationality.

Two weeks later, I recruited 84 female raters via mTurk and surveyed them via Qualtrics. As I expected that it would take workers 8 minutes to complete the survey, I rewarded every mTurk worker with \$0.8 for the assignment. Recruitment started at 16:11 (UTC-05:00), on May 7, 2013, and ended approximately one hour later. After the instructions, I asked the females three questions to verify that they had read and followed the instructions. Then, I asked them to rate 5 of the male self-descriptions from the male sample in terms of attractiveness as a short-term partner, attractiveness as a long-term partner, and confidence. Subsequently, females filled out the RSE. Finally, I asked them questions about age, sexual orientation, education, relationship status, mother tongue, nationality, their menstrual cycle and contraceptive intake.

Exclusion of suspect responses. I will give now an overview of how I prevented, detected and excluded suspect responses (for details see Appendix: Exclusion criteria and procedure). I implemented several precautionary measures in order to obtain a sample with valid answers. First, on mTurk, I launched only one HIT per sample with multiple assignments to prevent multiple completions by one person. Every worker could only do the same survey once (Mason, & Suri, 2012). Second, I made use of the built-in reputation system for workers on mTurk. I only allowed workers in my study that had an approval rate of 91 or higher for the males and 95 or higher for the females. Third, I recorded the task duration in order to detect extremely short task durations. Fourth, I calculated satisficing indices to detect satisficing

tendencies (i.e., response styles/patterns of less serious respondents that take shortcuts to conserve effort, see Barge & Gehlbach 2012). Fifth, I included instructions on how to answer specific questions in order to see if workers had read and followed the instructions. If participants did not read or follow instructions, I excluded them. Sixth, I only used the surveys that were filled out by native English speakers since it is a study about verbal attraction (see Appendix).

Grouping. In order to guarantee that every female rater rates 5 male targets that vary in their degree of narcissism, I split the 41 male targets into 5 groups of men and asked females to rate one randomly selected man from each group. I used the quartiles (25%, 75%) as cutoff values in order to categorize the 41 males to the following five groups: (1) High grandiose narcissists; (2) low grandiose narcissists; (3) high vulnerable narcissists; (4) low vulnerable narcissists; (5) and average narcissists. All the males that were not part of any of the low or high narcissism groups were put into the average group. Since 12 males were part of more than one of the four high and low narcissism groups and I wanted to prevent that one female rater rates the same male target twice, I put every male target only in the group in which he fitted the best according to the percentile values. In total, I had 5 low grandiose narcissists, 7 low vulnerable narcissists, 7 high grandiose narcissists, 9 high vulnerable narcissists, and 13 average narcissists.

Spelling errors. Since there were spelling errors in the self-descriptions³, I counted the number of spelling errors and checked if there was a correlation between narcissism and spelling errors. However, there was no significant correlation (grandiose narcissism: $r = .10$; $p = .53$; vulnerable narcissism: $r = .04$; $p = .80$). I decided to leave the spelling errors in the self-descriptions in order that the descriptions were more authentic.

Identity protection. As I wanted to protect the identity of participants, I changed the name or place of living of individuals who gave too many personal details.

³ Only four participants made no spelling errors. Most of the participants made 1 or 2 spelling errors.

Participants

Target sample. I recruited 57 male US citizens via mTurk for the male target sample. I excluded in total 16 of 57 workers by means of data cleaning (see Appendix: Exclusion criteria and procedure). Roughly 20 percent of the remaining 41 males indicated to have a high school degree, 24.4 percent indicated to have a 2-year college degree, 51.2 percent answered to have a 4-year college degree, 1 man each or 2.4 percent each indicated to have a master's degree, and a doctoral degree or professional degree (JD, MD), respectively. Roughly 56 percent of the males indicated to be in a relationship, 43.9 percent indicated to be single. Most of the participants (i.e., 97.6 percent) indicated "heterosexual" as their sexual orientation. One man (i.e., 2.4 percent) indicated to be bisexual.

Rater sample. In advance of the recruitment, I conducted a power analysis in order to find out the required number of female raters to ensure a power of .8. First, I calculated the required sample size that I would need for independent observations via G*Power 3.1.5. (Faul, Erdfelder, Buchner, & Lang, 2009). I expected a correlation of 0.25 between narcissism and verbal attractiveness.⁴ The required sample size for independent observations would be 123. However, the observations are dependent; I expected an intraclass correlation of .2 for the female raters. Taking the intraclass correlation into account, 45 female raters and hence 225 observations were thought to be needed to ensure a power of .8.⁵

As there is no existing evidence about the assumed correlations (i.e., .25 and .2,

⁴ Brand et al. (2012) reported that photo and text attractiveness were correlated .24 when rated independently.

$$N_r = \frac{N_{eff} * 1.8}{5} \quad (1)$$

$$N_{eff} = \frac{N_r * 5}{1 + .8} \quad (2)$$

According to Equation 1, I would need 45 raters (N_r) - which equals an effective sample size of 125 (N_{eff}) (see Equation 2) - to ensure a power of 0.8. Eventually, I had 84 female raters and thus an effective sample size of 233.33 (see Equation 2).

respectively) and I expected there would be a need to exclude some of the raters, I decided to recruit more female raters than 45. I recruited 107 female US citizens via mTurk. I excluded in total 23 participants (see Appendix: Exclusion criteria and procedure). Eighty-four remained eventually in the female rater sample, resulting in an effective sample size of 233.33 (see Footnote 5).

Thirty-one percent of the 84 females indicated to have a high school degree, 21.4 percent indicated to have a 2-year college degree, 35.7 percent answered to have a 4-year college degree, 10.7 percent indicated to have a master's degree, and 1 person (i.e., 1.2 percent) said she has a doctoral or professional degree (JD, MD). Two thirds of the females indicated to be in a relationship, one-third indicated to be single. Most of the participants (i.e., 88.1 percent) indicated "heterosexual" as their sexual orientation. All other females (11.9 percent) indicated to be bisexual. Ten females or 11.9 percent of the females were during their fertile phase of the menstrual cycle and not taking hormonal contraceptives on the day they rated the male targets. Fifty-three females (i.e., 63.1 percent) were either taking contraceptives or they were not during their fertile phase on the day they took the survey. The remaining 21 females (i.e., 25 percent) did not answer all of the necessary questions to evaluate if they are fertile.

Measures

Male targets.

Self-description prompt. After general instructions, I asked every male to describe himself with the following prompt. "First, I would like you to introduce yourself the way you would introduce yourself to potential romantic partners. Therefore, imagine you want to register at a dating site or place a lonely hearts ad. Write a short self-description for your online-profile/ad. It should be 5 to 10 sentences in length. Please do not indicate your age in the self-description. Again, I ask you to please answer this question as you would on a real dating site."

Grandiose narcissism. In order to measure grandiose narcissism, I used two subscales of the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) - NPI Leadership/Authority and NPI Entitlement/Exploitation - that correlated above .60 with the factor “grandiose” in an exploratory factor analysis by Miller et al. (2011). These two subscales contain in total 23 items. The Cronbach’s Alphas were: NPI E/E = .84; NPI L/A = .84; the two grandiose narcissism subscales together = .87.

Vulnerable narcissism. In order to measure vulnerable narcissism, I used 3 subscales of the Pathological Narcissism Inventory (PNI; Pincus et al., 2009) that correlated above .60 with the factor “vulnerable” in Miller et al.’s (2011) EFA. These three subscales are PNI Contingent Self-esteem (CSE), PNI Entitlement rage (ER), PNI Devaluing (DEV), that contain in total a number of 27 items (Miller et al., 2011). The Cronbach’s Alphas were: PNI CSE = .92; PNI DEV = .90; PNI ER = .85; all three vulnerable Narcissism subscales together = .95.

Answer format for narcissism items. In order to make it simpler and clearer, I used the same 6-point-Likert scale (ranging from “not at all like me” to “very much like me”) as answer format for all 50 narcissism items. This answer format is commonly used for the PNI but not for the NPI. Ackerman, Donnellan, and Robins (2012) showed that most of the NPI items that I used are relatively low in popularity when presented to students with a dichotomous answer format. By the means of a 6-point-Likert scale I intended to increase the sensitivity of the NPI scale in the low narcissism area.

Self-esteem. Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). The RSE measures self-esteem with 10 items. Participants were asked to provide ratings of agreement on a 4-point-Likert scale, ranging from 1 (“strongly disagree”) to 4 (“strongly agree”). The Cronbach’s Alpha was .84 for the male sample.

Demographics and other relevant personal information. I asked the target participants

about their relationship status, age, nationality, mother tongue, and educational status.

Female raters.

Instruction question. After the instructions for the ratings, I asked the female raters to show that they had read and understood the instructions by indicating on a slider a short-term desirability of 90, a long-term desirability of 50 and a confidence rating of 10. This question was designed to detect satisficers who do not read the instructions (Barge & Gehlbach 2012).

Attraction and confidence ratings (dependent variables). I showed each female rater five of the 41 male self-descriptions. After each self-description, females were asked the following three questions for each male: (1) “How desirable do you find the man for a short term sexual affair?” (2) “How desirable do you find the man for a long-term committed relationship?” (3) “How confident do you think the man is?” Females could indicate their 3 answers (i.e., 3 ratings of each male) on three sliders, ranging from 0 to 100. Before each description/rating, I asked females to imagine being single for the ratings if they were already in a relationship.

Self-esteem. Self-esteem was measured in the same way as the male targets. The Cronbach’s Alpha was .93 for the female sample.

Menstrual cycle of raters. I asked females if they have a regular monthly period. If they affirmed this question, I asked when their first day of their last period was, how long their cycle usually lasts and whether they use contraceptives like the oral pill, a sub dermal implant, or an injectable contraceptive. As Giebel, Weierstall, Schauer and Elbert (2013), I estimated the fertile window of each woman using an ovulation calculator (<http://www.umrechnung.org/eisprung-bestimmen-berechnen/zyklus-eisprungkalender-fruchtbare-tage.htm>). The calculator is based on medical data reported by Wilcox, Duncan, Weinberg, Trussel, and Beired (2001). It assumes a fertile window of 6 days per month.

Demographics and other relevant personal information. I asked the target participants

about their relationship status, age, nationality, mother tongue, and educational status.

Statistical Analysis

I will now describe the statistical methods and procedure that I used to analyze the data. In general, there were three dependent variables (DVs): short-term attraction, long-term attraction, and confidence. Therefore, I did every analysis three times, for each DV separately. I tested all relationships two-sided.

Multilevel modeling. After data cleaning as described above, I merged the two data sets (male targets and female raters). The resulting data set was two-level cross-classified (Heck, Thomas, & Tabata, 2010), a property also called “double-nested”. Our dependent variables (i.e., attractiveness and confidence ratings) are cross-classified in male targets and female raters. In other words, male targets are nested within raters (i.e., every male was rated by a subset of female raters) and female raters are nested within targets (i.e., every female rated a subset of male targets). Ratings of the same target are expected to be more similar to each other than ratings of different targets. Ratings by the same rater are expected to be more similar than ratings by different raters. A major assumption of linear regression analysis, the independence of observations, was violated. Thus, I used cross-classified multilevel models to analyze the data.

Null models. I started the analysis with unconditional (no predictors) models, “null” models or “empty” models. In the null models, I focused exclusively on random effects. That is, I examined the variance components in ratings that exist between targets, and between raters. In other words, I assessed the intraclass correlations (ICCs). Large ICCs indicated that observations within raters/targets are very dependent. When ICCs are significant, multilevel modeling is necessary to analyze the data.

In all of the following models, I focused exclusively on fixed effects.

Narcissism. In order to test my hypothesis, I added grandiose and vulnerable narcissism

each separately to the three null models for the three dependent variables. I drew bivariate scatter plots with Loess lines⁶ to see if the data suggests a non-linear relationship between narcissism and attraction/confidence. Subsequently, I added the other kind of narcissism and other possible predictors of attractiveness (e.g., self-esteem of targets) to the “one kind of narcissism only model”. I did so to see whether controlling for these variables has an influence on the association between grandiose narcissism and attractiveness ratings and vulnerable narcissism and attractiveness ratings, respectively.

Correlations between confidence and attraction ratings. Furthermore, I tested my mediation hypotheses 3b and 4b. That is, I examined whether confidence ratings were associated with attractiveness ratings.

Exploratory multilevel modeling. I modified the model in order to investigate whether male self-esteem had an effect on attractiveness or confidence ratings. Finally, I intended to investigate the influence of the fertility of the female rater (i.e., being in the fertile phase of the menstrual cycle) on the relationship between narcissism and attractiveness/confidence ratings. However, 21 females did not answer the relevant questions about their menstrual cycle and only 10 females of the remaining 63 females were fertile. I would have had too little power to conduct a proper analysis. Thus, I did not investigate the influence of the fertility of the rater.

Results

Descriptive statistics. The descriptive statistics for self-esteem, my narcissism measures, the time that was needed to fill out the survey, and the age of the participants can be found in Table 1.

INSERT TABLE 1!

Multilevel modeling.

Null models. I started the analysis with short-term attractiveness as a dependent variable.

⁶ LOESS lines are derived by the means of locally weighted polynomial regressions.

The total variance for short-term attractiveness ratings was 877.91. Thereof, 265.29 was the variance explained by rater (Wald $z = 4.43$; $p < .001$), 118.58 was the variance explained by target (Wald $z = 2.70$; $p < .01$), and 494.04 was the residual variance (Wald $z = 11.62$; $p < .001$) (see Table 2). Accordingly, the ICC for the raters was .30, indicating that 30% of the variability in short-term attractiveness ratings could be explained by rater characteristics. The ICC for targets was .14, indicating that 14% of the variability in short-term attractiveness ratings could be explained by target characteristics. The remaining variance (roughly 56% of the variation) represented differences in ratings not accounted for by targets and raters. This residual variance might be partly explained by interactions between rater and target characteristics and the rest was error variance. Afterwards, I ran the null model one time with long-term attractiveness and one time with confidence as the dependent variable. The results were similar to the results for short-term attractiveness. All results for the null models can be found in Table 2. The considerable ICC for targets and raters across all three dependent variables confirmed the use of multilevel modeling to analyze the data.

INSERT TABLE 2!

Narcissism. I hypothesized that both grandiose and vulnerable narcissism of male targets correlate positively with attractiveness ratings by female raters. I did not find a significant association, neither between grandiose narcissism and short-term attractiveness ratings ($\gamma = -0.19$; $t(33) = -1.19$; $p = .24$) nor between vulnerable narcissism and short-term attractiveness ratings ($\gamma = -0.07$; $t(36) = -0.79$; $p = .44$). Adding 11 control variables (the other kind of narcissism and number of spelling errors of targets; self-esteem, relationship status, age, and relationship status of both male targets and female raters; and fertility window of raters) to the model did not change the results substantially (grandiose narcissism: $\gamma = -0.06$; $t(28) = -0.29$; $p = .78$; vulnerable narcissism: $\gamma = 0.00$; $t(31) = 0.01$; $p = .99$). Furthermore, I did not see any notable signs of a non-

linear relationship in the bivariate scatter plots (incl. Loess lines) that I draw, neither between grandiose narcissism and short-term attraction nor between vulnerable narcissism and short-term attraction. Thus, the evidence does not confirm my hypotheses in terms of short-term attractiveness.

Next, I will report the results for the relationship between narcissism and long-term attractiveness. Again, I did not find a significant association, neither between grandiose narcissism and long-term attractiveness ratings ($\gamma = -0.20$; $t(37) = -1.15$; $p = .26$) nor between vulnerable narcissism and long-term attractiveness ratings ($\gamma = -0.08$; $t(39) = -0.76$; $p = .45$). Adding the above mentioned 11 control variables did not change the results substantially (grandiose narcissism: $\gamma = 0.02$; $t(38) = 0.09$; $p = .93$; vulnerable narcissism: $\gamma = -0.19$; $t(40) = 1.27$; $p = .21$). Furthermore, I did not see any notable signs of a non-linear relationship in the bivariate scatter plots that I drew, neither between grandiose narcissism and long-term attraction nor between vulnerable narcissism and long-term attraction. Thus, the evidence also does not confirm my hypotheses for long-term attractiveness.

I furthermore hypothesized that the relationship between narcissism and attraction is at least partially mediated by confidence ratings. Therefore, I assumed that narcissism has a positive effect on confidence ratings. However, I also did not find a significant association between grandiose narcissism and confidence ratings ($\gamma = -0.02$; $t(35) = -0.17$; $p = .87$) or between vulnerable narcissism and confidence ratings ($\gamma = -0.06$; $t(37) = -0.72$; $p = .48$). Controlling for the above mentioned 11 control variables did not change the results substantially (grandiose narcissism: $\gamma = -0.11$; $t(32) = -0.89$; $p = 0.38$; vulnerable narcissism: $\gamma = 0.05$; $t(33) = 0.27$; $p = .79$). Bivariate scatter plots with Loess lines did not show any notable signs of a non-linear relationship, neither between grandiose narcissism and confidence nor between vulnerable narcissism and confidence. Thus, the evidence does not confirm the hypotheses 3a and 4a. Given

these findings, the pre-assumptions for my hypotheses 3c and 4c about mediation were not fulfilled. Thus, these hypotheses were not further tested.

Correlations between confidence and attraction ratings. When I investigated my hypotheses 3b and 4b (i.e., whether confidence ratings are correlated with attractiveness ratings or not), I found significant associations. Rated confidence correlated positively with both, short-term attraction ($\gamma = 0.33$; $t(394) = 5.69$; $p < .001$), and long-term attraction ($\gamma = 0.41$; $t(337) = 6.80$; $p < .001$). For a one point increase in rated confidence of a target, the short-term attractiveness of that target increased on average by .33 points, and the long-term attractiveness increased on average by .41 points. The correlations remained significant even when I controlled for the two kinds of narcissism and the 10 control variables (short-term attractiveness: $\gamma = 0.38$; $t(289) = 5.88$; $p < .001$; long-term attractiveness: $\gamma = 0.38$; $t(248) = 5.72$; $p < .001$).

Exploratory multilevel modeling. Above I reported the results for the tests of my hypotheses about narcissism, attraction and confidence. Now I will report how I explored the associations between self-rated self-esteem and other-rated attractiveness/confidence.

Self-esteem of male targets. I added the target-level factor self-esteem to the null model to examine whether there is a relationship between target self-esteem and attractiveness and target self-esteem and confidence, respectively. I did not find a significant association between self-esteem and short-term attractiveness ($\gamma = 0.39$; $t(38) = 0.83$; $p = .41$) or self-esteem and long-term attractiveness ($\gamma = -0.32$; $t(41) = -0.62$; $p = .54$). Surprisingly, I also did not find a significant effect of target self-rated self-esteem on other-rated confidence ($\gamma = 0.38$; $t(39) = 0.88$; $p = .39$). Controlling for the two kinds of narcissism and the other 9 control variables did not change the results substantially (short-term attractiveness: $\gamma = 0.07$; $t(34) = 0.11$; $p = .91$; long-term attractiveness: $\gamma = -1.01$; $t(44) = -1.47$; $p = .15$; confidence: $\gamma = 0.25$; $t(36) = 0.42$; $p = .68$).

Bivariate scatter plots with Loess lines did not show any notable signs of a non-linear relationship, neither between target self-esteem and short-term attractiveness, nor between target self-esteem and short-term attractiveness, nor between target self-esteem and other-rated confidence.

Discussion

In the current study, I investigated whether narcissists are more attractive than non-narcissists when they present themselves verbally (i.e., via text communication without displaying any non-verbal characteristics). I assumed that if narcissists have been found to be more attractive as a mate than non-narcissists in real-world interactions (Dufner et al. 2013), then narcissistic males would also be evaluated as more attractive as a mate based on their written self-descriptions. Yet, in the present study, female raters did not rate verbal self-presentations written by narcissists as more or less attractive as verbal self-presentations written by non-narcissists, neither for a short-term sexual affair nor for a long-term committed relationship. This finding holds for vulnerable and grandiose narcissists. Narcissists seem not to be more verbally attractive than non-narcissists. However, at the same time, I want to emphasize that these findings are based on data from a low-stakes context. Evidence from a high-stakes context, in which participants agitate for actual and not only imagined mating/dating partners, is required to confirm my results (for details see Limitations and Future Research).

Previous research has shown that narcissists are more physically attractive than non-narcissists (e.g., Holtzman and Strube, 2010) and more appealing as a mate in naturalistic interactions (Dufner et al., 2013). Taking this research into account, my results give some credit to the conclusion that narcissists are not more attractive because of what they say or write but because of how they look (i.e., physical attractiveness), behave (i.e., body language), and talk

(i.e. voice tone, intonation etc.).

Self-esteem of an author of a self-description also did not lead to higher confidence or attractiveness ratings by raters. In other words, men with high self-esteem were not perceived as significantly more or less confident or attractive than men with low self-esteem. Regarding self-esteem, Baumeister, Campbell, Krueger, and Vohs (2003) pointed out that there is only a high positive correlation between self-esteem and physical attractiveness when studies rely on self-rated attractiveness but not in studies when attractiveness was rated by others. Accordingly, Baumeister et al. (2003) wrote: “People with high self-esteem are gorgeous in their own eyes, but objective observers do not see any difference” (p. 8). This finding is in line with the present finding that narcissists with high self-esteem (i.e., grandiose narcissists) were not perceived as more or less verbally attractive. Self-esteem of a target might not lead to more attractive self-descriptions, as suggested by me in the introduction.

Generally, my data suggests that verbal attractiveness is rather in the eye of the beholder. This is because the intraclass correlations (ICCs) for targets were relatively low (for both short-term and long-term attractiveness: .14) compared to ICCs for raters (short-term attractiveness: .30; long-term: .16) and the residual variance (short-term attractiveness: .56; long-term: .70). Even though a considerable part of the residual variance was probably error variance, a big part of the residual variance could probably have been explained by cross-level interactions. Thus, individual differences in mate choice preferences among raters (i.e., cross-level interactions) were probably bigger than agreement among raters about the verbal attractiveness of men (i.e., ICCs for targets).

Nevertheless, the ICCs for targets (.14 for both short-term and long-term attractiveness) indicate that some self-presentations are seen on average as more attractive than others. Most of the ICC of targets remained unexplained by the variables that I have focused on (i.e., narcissism,

self-esteem) though. Thus, a question remains: Which target level characteristics help explain the higher perceived attractiveness of some self-descriptions compared to others?

A hint to relevant target characteristics might be the positive correlation that I found between other-rated confidence and other-rated attractiveness of a target. An explanation for this positive correlation could be that perceived confidence makes a target more attractive. This interpretation is in line with Brand et al.'s (2012) account that perceived confidence mediated the relationship between physical attractiveness of an online dating profile and verbal attractiveness of an online dating profile. In their study, the online profile texts written by physically attractive males were rated as more confident and attractive than profile texts written by less physically attractive males even though raters did not see the profile pictures of the authors. Physical attractiveness of a target could have helped to explain why some male self-descriptions in my sample were perceived as more verbally attractive and confident than others. An implication of this explanation and my findings might be that narcissists are not able to bluff the displayed verbal confidence of physically attractive people. In other words, women might be able to detect the difference between the verbal confidence of a physically attractive person and the verbal confidence of a person scoring high on narcissism or self-esteem. However, there are also other explanations for the observed positive correlation between confidence and attractiveness ratings. For example, the correlation could be due to a halo effect (i.e., raters might have rated targets globally rather than evaluated their attributes independently; Nisbett & Wilson, 1977). Further research is needed to rule out possible alternative interpretations in order to confirm the suggested positive effect of perceived confidence on attractiveness.

Limitations and Future Research

I cannot completely discard my hypotheses about the verbal attractiveness of narcissists

especially because the data was collected in a hypothetical online-dating situation with low actual consequences for the participants. That is, male targets wrote a text that they imagined would be used for an online dating profile. However, they were aware that they would not get to communicate with a potential dating partner as a result of writing this text. The high prevalence of spelling errors in male self-descriptions indicates that my male targets did not describe/promote themselves very carefully and seriously. Furthermore, in a high stakes context, narcissists might be more motivated to make use of their often reported manipulative tendencies (e.g., McHoskey, 1995) and present themselves in a socially desirable way in order to appear more attractive. Thus, narcissists could be more verbally attractive in high-stakes contexts than in low-stakes contexts. Further evidence from a high-stakes context with people who are actually trying to find a mate (e.g., on an online dating site) is needed to confirm my main finding that narcissists are not more verbally attractive than non-narcissists.

One might also say I presented only little data from a “low-quality” sample since I conducted only one mTurk study with just 41 male targets and 84 female raters. However, I think mTurk and the number of participants are not serious issues in my study. First, the high quality, validity and reliability of data obtained via mTurk has been shown in several studies (Buhrmester, Kwang, & Gosling, 2011; Berinsky, Huber, & Lenz, 2012; Paolacci, Chandler, & Ipeirotis, 2010). Second, I implemented several methods to guarantee the validity of the responses. In other words, I strictly excluded suspect responses. Third, as every female rater rated several male targets, my effective sample size of female raters was above 200. Fourth, the nonsignificant correlations between narcissism and attractiveness ratings were either negative or very close to 0, indicating that the evidence I found barely pointed in the hypothesized direction.

Another point of criticism might be my “manipulation”. That is, one could argue that my stimulus material (i.e., 5 to 10 sentences of self-descriptions written by the male targets) was not

enough exposure/content in order to affect the attractiveness ratings of female raters (i.e., gain a significant correlation of narcissism to attractiveness). This argument is hard to prove and hard to disprove. However, I do not think that my stimulus material is an issue because other studies that have used similar dependent variables found significant correlations even with lesser variation in their stimulus material. For example, Giebel et al. (2013) altered only 3 of 10 sentences in a text description of a male target in order to manipulate appetitive aggressiveness of that male target. Nevertheless, they found a significant effect on short-term attractiveness. One could further argue that I had more random noise in the descriptions than Giebel et al. (2013) since they kept 7 of 10 sentences constant. The random noise in my study might have diminished the strength of the correlations in my data. However, as already mentioned, I barely found nonsignificant positive correlations. Most of the correlations between narcissism and my attractiveness measures were actually negative. If random noise would have diminished the positive effect of narcissism on attractiveness, I would have expected to find nonsignificant positive correlations.

I admit that not manipulating narcissism systematically is a disadvantage of the current study because it is more delicate to make causal inferences. However, it is very tricky to manipulate narcissism. Even if it might be possible to induce narcissism by asking people to imagine scenarios or remembering certain experiences, the effects might be marginal and potentially artificial. In contrast, my design has the big advantage of ecological validity since it reflects the content-richness and complexity of self-descriptions that one might also find on online dating sites or in text messages.

Based on the finding that self-presentations written by narcissists were not rated as more attractive than self-presentations written by non-narcissists, I suggested that narcissists are not more verbally attractive than non-narcissists. However, another possible conclusion might be that narcissists are only more romantically attractive in verbal interactions (i.e., two-sided

communication) but not when they solely present themselves verbally (i.e., one-sided communication). In order to rule out this different interpretation and to extend my findings to other forms of computer-mediated communication, we might want to investigate the verbal attractiveness of narcissists in interactive chat-rooms or interactive social network sites. This would be especially interesting since interactive strategies were found to be most effective to reduce uncertainty about new acquaintances (Antheunis, Valkenburg, & Peter, 2010).

In order to further investigate the verbal attractiveness of narcissists, we also might want to video-tape oral self-presentations of men and ask one group of females to rate the men based on the video of the self-presentation, another group to rate the men based on only the audio-recording of the self-presentation, and another group of females to rate the men based on the written transcript of the self-presentations. By means of this design, we could further prove the suggestion that it is rather the way narcissists look and behave rather than what narcissists say that accounts for the higher attractiveness of narcissists.

Finally, content analyses of verbal self-descriptions could give us a hint as to the critical differences between self-descriptions scoring high on verbal confidence/attractiveness and self-descriptions scoring low on verbal confidence/attractiveness.

The study presented extends previous research on narcissism and attractiveness that revolved around self-reported mating outcomes of narcissists (e.g., Jonason et al., 2008), non-romantic attractiveness of narcissists (e.g., Back et al., 2010), romantic attractiveness of narcissists' physical appearance (e.g., Holtzman, & Strube, 2012), and romantic attractiveness of narcissists in real-life contexts (Dufner et al. 2013). I extended this research by investigating the other-rated romantic attractiveness of narcissists in a text-based online context. Written self-presentations of narcissistic men were not rated as more attractive than written self-presentations

of non-narcissistic men. Although further evidence is needed, our preliminary findings suggest that narcissists are only more attractive in real life settings but not online when they present themselves via text communication.

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Appendix

Exclusion criteria and procedure

Target sample. Fifty-seven workers submitted completed assignments (surveys) via mTurk and Qualtrics. Eleven workers submitted partial completed assignments (surveys). I did not include any of the partial responses in the sample. I excluded 10 of 57 males who indicated their age even though I told participants in the self-description prompt not to indicate their age.

For the remaining 47 male targets, I calculated a satisficing index in order to detect satisficing tendencies (i.e., response styles/patterns of less serious respondents that take shortcuts to conserve effort; Barge & Gehlbach, 2012). The satisficing index was based on 3 criteria of satisficing: an index for rushing through the questions, a non-differentiation index, and an acquiescence index.

Rushing-index. Among the 47 male targets, there were some males that needed very little time to fill out the survey. Men that needed more than 6 minutes scored 0 on the rushing-index. Males that needed less than 6 minutes got 1 point on the rushing-index. Males that needed less than 4 minutes scored 2 on the rushing-index.

Non-differentiation-index. In order to get an index of non-differentiation, I calculated three sub-indices. First, I computed the average absolute difference of a response value from the respondents mean on the 50 narcissism items. Second, I counted the number of times the participant chose his favorite response on the 50 narcissism items. Third, I counted the number of times the participant chose his favorite response on the RSE scale.

Male targets that yielded an average absolute difference of below 0.8 (i.e., the average difference between an answer and the mean was below 0.8 on the 6-point-Likert scale) got 1

point on the non-differentiation index.⁷ However, skewedness artificially increases the average absolute difference. Satisfiers that stick to a choice in the middle have a lower average absolute difference than satisfiers that stick to a high or low value choice. This index indicates not only non-differentiation but also a tendency to the middle. Thus, I additionally gave males one point if they choose their most popular answer choice (e.g., “not at all like me”) more than 30 times, and two points if they choose their most popular choice more than 40 times. Only 2 of the 47 men picked a specific answer choice more than 30 times, one of the two indicated more than 40 times the same answer. Finally, I checked for non-differentiation in the self-esteem answers. I gave males one point when they answered with the same answer choice more than 6 times on the RSE. Only one man answered more than 6 times (i.e., 7 times) with the same answer.

Acquiescence index. First, I excluded 3 males that already scored high on the other satisficing indices in order to have a representative/valid sample to calculate an acquiescence index. I calculated the Mahalanobis distances for every man, based on the observed correlations of the narcissism subscales and RSE scale. According to the estimated multivariate distribution, 99% of the cases should not have a greater Mahalanobis distance than 16.81. I excluded one case that had a Mahalanobis distance higher than 16.81 (i.e., 24.98).

Mother tongue and multiple completions. Since my study is about verbal self-presentation, I excluded all non-native speakers. I noticed only after surveying the females that one man indicated Spanish as his mother tongue. I excluded this case. I excluded another man because he attempted to participate in both my males only and female only survey. Thus, the ratings for 41 males remained eventually.

Rater sample. I downloaded and analyzed all responses that were completed to more than 50%, 107 cases in total. I excluded 7 of the 107 cases that did not indicate a gender or

⁷ I calculated the absolute difference instead of the standard deviation since the distributions among scores are skewed. The standard difference is more sensitive to skewedness and outliers than the absolute mean difference.

indicated "male" as gender. Eight further females got excluded because they did not answer the instruction question correctly: In order to detect satisficers, I asked participants at the end of the instructions to signal that they have read and understood the instructions by indicating on a slider a short-term desirability of 90, a long-term desirability of 50 and a confidence rating of 10. I excluded 8 cases that indicated none of the three requested ratings. I excluded three women out of the remaining 92 women who tried to participate in both the "males only" and "females only" study. One female indicated "asexual" as her sexual orientation. This person got also excluded because my study is about attraction.

Of the remaining 88 female raters, I excluded one of the 13 females that spent less than 4 minutes on the survey because of inconsistencies, and uncommon response styles. This person needed 2 minutes and 40 seconds to complete the survey and she indicated that the first day of her last period was April 10th 2013, 27 days ago. At the same time, she answered that on average her period comes every 23 days (which itself is also very uncommon). Furthermore, she scored 10 on the RSE which is the lowest score possible. These responses suggest that she did not take this questionnaire seriously. Thus, I excluded this person from the analysis.

Finally, I excluded three females that did not indicate English as their mother tongue since my study is about verbal self-presentations. Eventually, I had 84 raters in my female rater sample.

Table 1

Descriptive statistics for male target sample and female rater sample.

	Male Targets (N 41)		Female Raters (N 84)	
	Mean	SD	Mean	SD
NPI L/A	37.44	6.47	-	-
NPI E/E	45.15	9.05	-	-
Grand. Narc.	82.59	13.18	-	-
PNI CSE	32.59	10.70	-	-
PNI DEV	18.80	6.85	-	-
PNI ER	22.59	7.08	-	-
Vuln. Narc.	73.98	22.25	-	-
RSE	32.24	4.55	31.85	5.78
Time in sec.	527.80	415.77	379.01	136.69
Age	32.24	10.87	36.43	12.24

Note. NPI = Narcissistic Personality Inventory; E/E = Entitlement/Exploitation; L/A = Leadership/Authority; PNI = Pathological Narcissism Inventory; CSE = Contingent Self-esteem; ER = Entitlement rage; DEV = Devaluing; RSE = Rosenberg Self-esteem Scale; sec = seconds; SD = standard deviation.

Table 2

Variance Among Attractiveness and Confidence Ratings and Intraclass Correlations for Female Raters and Male Targets according to the Multilevel Null Models.

Parameter	Variance	Wald <i>z</i>	<i>p</i>	ICC	Explained Variance
Short-term attractiveness					
Rater	265.29	4.43	< .001	.30	30%
Target	118.58	2.70	< .01	.14	14%
Residual	494.04	11.62	< .001	-	56%
Total	877.91				
Long-term attractiveness					
Rater	152.02	3.18	< .01	.16	16%
Target	133.70	2.69	< .01	.14	14%
Residual	653.88	11.68	< .001	-	70%
Total	939.60				
Confidence					
Rater	205.02	4.68	< .001	.32	32%
Target	111.92	3.06	< .01	.18	18%
Residual	322.21	11.63	< .001	-	50%
Total	563.77				

Note. ICC = Intraclass Correlation.