



## Sounds like a narcissist: Behavioral manifestations of narcissism in everyday life

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### ABSTRACT

Little is known about narcissists' everyday behavior. The goal of this study was to describe how narcissism is manifested in everyday life. Using the Electronically Activated Recorder (EAR), we obtained naturalistic behavior from participants' everyday lives. The results suggest that the defining characteristics of narcissism that have been established from questionnaire and laboratory-based studies are borne out in narcissists' day-to-day behaviors. Narcissists do indeed behave in more extraverted and less agreeable ways than non-narcissists, skip class more (among narcissists high in exploitativeness/entitlement only), and use more sexual language. Furthermore, we found that the link between narcissism and disagreeable behavior is strengthened when controlling for self-esteem, thus extending prior questionnaire-based findings (Paulhus, Robins, Trzesniewski, & Tracy, 2004) to observed, real-world behavior.

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### 1. Introduction

Narcissists love attention. Lucky for them, they have recently received a considerable amount of it from academic psychologists, especially in laboratory settings (e.g., Back, Schmukle, & Egloff, 2010; Bushman & Baumeister, 1998; Campbell, Foster, & Finkel, 2002; Miller et al., 2009). This laboratory research has led to several wide-reaching theories about why narcissists do what they do (Holtzman & Strube, 2010a; Morf & Rhodewalt, 2001; Twenge & Campbell, 2009; Vazire & Funder, 2006). Despite all this attention from researchers, however, we still know little about what narcissists actually do in their everyday lives. The aim of this paper is to help create an empirical basis for a more complete understanding of narcissism by exploring behavioral manifestations of narcissism in everyday life. Thus, we intend to answer a simple, yet largely unanswered question: What do narcissists do on a day-to-day basis?

The surge in narcissism research in the last 20 years has led to the development and validation of new instruments to measure narcissism, to landmark experiments, and to lively theoretical debates. However, most of this work has relied on self-reports and laboratory studies. While the existing body of research on narcissism has led to a much better understanding of the intrapsychic and interpersonal processes that define narcissism (Campbell et al., 2002; Paulhus, 1998), there are several reasons to think that the scientific portrait of narcissists remains incomplete without

naturalistic behavioral observation (Baumeister, Vohs, & Funder, 2007).

First, laboratory-based studies often involve very brief interactions, which may be unlike most real-life interpersonal interactions. Because research has shown that narcissists tend to make good first impressions that are often fleeting (Paulhus, 1998), it is possible that the impressions narcissists elicit in the laboratory are not representative of the impressions they elicit in their everyday lives. Second, lab studies are ideal for creating controlled conditions, but they may have limited ecological validity. Some common interpersonal situations are difficult or impossible to recreate in laboratories, such as an intimate conversation with a close friend. As a result, little is known about how narcissists interact with their friends, enemies, parents, and romantic partners. Third, laboratory studies minimize opportunities for people to choose situations. A paradigm that allows people to select situations could reveal important behavioral patterns characteristic of narcissists, such as seeking out interactions with potential mates, or skipping class. Finally, most lab studies rely on self-reports, and self-reports by narcissists have an important limitation: narcissists have a penchant for deceiving both themselves and others (Campbell et al., 2002). While we can expect narcissists to freely admit to some behaviors (e.g., pursuing a short-term mating strategy; Reise & Wright, 1996), we cannot expect narcissists to provide entirely honest reports of other daily behaviors.

Naturalistic observation of narcissists' everyday lives can, at least in part, address these limitations as it does not rely on self-reported behavior, it would provide information about interactions beyond first impressions, and it would provide insights into how narcissists behave in their self-selected environments. Here, we examine the habitual, real-world behaviors associated with

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narcissism by collecting naturalistic, non-reactive measures of everyday behavior using the Electronically Activated Recorder (EAR; Mehl, Pennebaker, Crow, Dabbs, & Price, 2001). The EAR allows researchers to unobtrusively record sounds directly from people's daily lives by asking participants to wear a small, pocket-sized digital audio recorder that periodically records snippets of ambient sounds. The data captured by the EAR is objective (i.e., traceable) and, due to the sampling intervals, it is representative of the ecology of participants' real-world social situations and behaviors. Thus, the EAR is well-suited to examining behavioral manifestations of narcissism in everyday life.

A key question in using the EAR for the naturalistic observation of narcissists' daily social lives is which behaviors we should examine. Drawing on the large body of previous research, we created four categories of behaviors that we expected to be associated with narcissism: (a) extraverted acts, (b) disagreeable acts, (c) academic disengagement, and (d) sexual language use. Indeed, previous research has shown that narcissism is characterized by a combination of high extraversion and low agreeableness (Bradlee & Emmons, 1992; Paulhus, 2001). There is particularly strong evidence that narcissists behave in disagreeable ways (e.g., aggressively) in laboratory situations (Twenge & Campbell, 2003). Moreover, the relation between narcissism and disagreeableness increases when self-esteem is taken into account (Paulhus et al., 2004). To test these associations in the naturalistic setting of participants' daily lives, we examined the association between narcissism and extraverted acts (i.e., talking, being in a group, socializing, and using words about friends) and between narcissism and disagreeable acts (i.e., arguing, using swear words, and using anger words). These acts were selected on the basis of previous research documenting associations between traits and behavior (Mehl, Gosling, & Pennebaker, 2006; Ramirez-Esparza, Mehl, Alvarez-Bermudez, & Pennebaker, 2009) and based on current theories about narcissism.

Research has also shown that narcissists are inclined to engage in impulsive behaviors that provide short-term rewards but have long-term costs (Vazire & Funder, 2006). For example, narcissism is associated with positive illusions about academic outcomes, which are associated with higher rates of academic disengagement (Robins & Beer, 2001). To test the role of everyday behavior in this phenomenon, we examined the association between narcissism and attending class.

Narcissists' impulsivity is also manifested in their promiscuous sexual strategies (Reise & Wright, 1996). For example, narcissism is correlated with ex-partners' reports of relationship infidelity (Campbell et al., 2002). To explore a potential indicator of this overt sexuality, we examined the relationship between narcissism and everyday sexual language use.

Based on research examining narcissists' intrapsychic life and laboratory-based behavior, we predicted that in naturalistic contexts narcissism would be positively correlated with extraverted behavior, disagreeable behavior, academic disengagement, and sexual language use. Thus, the goals of our study were to extend laboratory-based research to naturalistic settings—exploring actual behavior—and to extend our empirical knowledge of narcissism by revealing narcissistic behaviors that are less likely to manifest in laboratories (e.g., the use of taboo sexual words; Jay, 2009).

## 2. Method

### 2.1. Participant

Participants were 80 undergraduate students at the University of Texas at Austin (79 provided valid EAR data), recruited mainly from introductory psychology courses and by flyers in the psychol-

ogy department. The sample was 54% female, and the ethnic composition of the sample was 65% White, 21% Asian, 11% Latino, and 3% of another ethnicity. Participants ranged from 18 to 24 years old ( $M = 18.7$ ,  $SD = 1.4$ ). Participants were compensated \$50. Data from this sample were also reported in Vazire and Mehl (2008), where further information can be found about the study.<sup>1</sup>

### 2.2. Narcissistic Personality Inventory (NPI)

The NPI is a 40-item test of narcissism that is reliable and well-validated (Raskin & Terry, 1988). The items on this forced-choice test contain pairs of statements such as "Sometimes I tell good stories" (non-narcissistic) versus "Everybody likes to hear my stories" (narcissistic). In our study, the NPI exhibited good reliability ( $\alpha = .83$ ). As seen in Table 1, we also calculated means and reliabilities for four facets (Emmons, 1987).

### 2.3. The single item self-esteem scale

This single item measure is a reliable and valid measure of self-esteem (Robins, Hendin, & Trzesniewski, 2001). The item is "I see myself as someone who has high self-esteem." The item was measured on a 7-point Likert-type scale, from "strongly disagree" to "strongly agree".

### 2.4. Big Five Inventory (BFI)

We further assessed participants' personalities at the level of the Big Five dimensions using the 44-item BFI (John, Naumann, & Soto, 2008). Specifically, prior to the EAR monitoring, participants rated themselves on the BFI items using a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The alpha reliabilities for extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience were .89, .79, .76, .82, and .85.

### 2.5. EAR monitoring

The EAR consisted of a digital audio recorder with an external lapel microphone. The device could be carried in one's pocket or purse and the microphone could be attached to one's shirt collar. The EAR recorded 30-s intervals every 12.5 min (4.8 recordings per hour). Participants could not know when the recorder was on.

Participants wore the EAR for four consecutive days during their waking hours (Friday afternoon to Tuesday night). They were informed about the study's privacy and confidentiality policies which included an opportunity to review and censor their recordings before releasing them to the experimenters. Participants were encouraged to remove the EAR only when its functioning was in jeopardy. On average over the 4-day monitoring period, the EAR provided 300 valid waking recordings per participant ( $SD = 104$ ), reflecting high overall levels of compliance (see Vazire & Mehl (2008), for more details about EAR compliance and obtrusiveness). Although several participants made use of the opportunity to listen to their recordings, they erased less than 0.01% of the recorded sound files.

### 2.6. LIWC

Research assistants transcribed participants' utterances captured by the EAR and submitted the transcripts to Linguistic Inquiry and Word Count (LIWC; Pennebaker, Francis, & Booth,

<sup>1</sup> Data from this study have been reported in several papers (Hasler, Mehl, Bootzin, & Vazire, 2008; Mehl, Vazire, Holleran, & Clark, 2010; Mehl, Vazire, Ramirez-Esparza, Slatcher, & Pennebaker, 2007; Vazire & Mehl, 2008). The present analyses do not overlap with the analyses reported in those papers.

**Table 1**  
Means, standard deviations, gender-differences, and reliabilities for the NPI and NPI Facets.

	Total (N = 79)		Males (n = 37)		Females (n = 42)		M–F gender-diff.		Reliability ( $\alpha$ )
	M	SD	M	SD	M	SD	t	p	
NPI total score	1.43	.18	1.46	.17	1.41	.18	1.25	.21	.83
Leadership/authority	1.54	.31	1.56	.31	1.52	.32	.65	.52	.80
Self-absorption/self-ad.	1.43	.26	1.43	.25	1.43	.27	.00	.99	.66
Superiority/arrogance	1.33	.24	1.38	.24	1.43	.27	1.81	.07	.63
Exploitativeness/entitle.	1.30	.25	1.37	.24	1.24	.26	2.25	.03*	.62

\*  $p < .05$ .

2001)—a well-validated psychological text analysis program. LIWC operates by comparing text to an internal dictionary (>2300 words). Of the 74 categories that comprise the LIWC2001 dictionary employed for this study, we focused on variables that are theoretically related to narcissism and fall into one of the four behavioral domains described above (see Table 2).

### 2.7. Behavioral categories

The behaviors we examined were captured directly from the EAR recordings (e.g., talking) or from the LIWC analyses of the transcribed utterances (e.g., swear words). Descriptive statistics and reliabilities for the behaviors are presented in Table 2. The inter-coder reliabilities for the EAR-captured behaviors were based on research assistants' codings of a training set of 221 EAR sound files, all of which were independently coded by ten research assistants (Vazire & Mehl, 2008, p. 1208). The inter-transcriber agreement for the LIWC variables was calculated from the LIWC analyses of multiple transcripts of 76 conversations (>5 words) contained in a different training dataset (for details, see Mehl et al., 2006). Inter-coder and inter-transcriber reliabilities were high for most variables and moderate for some (see Table 2).

### 2.8. Extraverted acts

Three extraverted acts, talking (i.e., participant talked within the 30-s sound file; binary coding yes/no), being in a group (i.e., participant was in the immediate presence of more than one person; binary coding yes/no), and socializing (i.e., participant was engaged in a casual, non-instrumental social interaction; binary coding yes/no), were coded directly from the EAR recordings. One extraverted act, "friend words" (i.e., the percentage of all sampled

words that related to the theme of friends) was obtained from the LIWC analyses. The relationships between the three EAR variables and extraversion have been previously explored by (Mehl et al., 2006); the correlations between the behaviors and self-reported extraversion were in the positive direction, suggesting that they collectively capture extraverted behavior. Friendship has also been shown to be a key aspect of extraversion (Gosling, Augustine, Vazire, Holtzman, & Gaddis, in preparation), suggesting that talking about friends (friend words) would be another good indicator of extraverted activity. Thus, all four variables are expected to reflect extraverted behavior.

### 2.9. Disagreeable acts

One disagreeable act, arguing (i.e., participant was arguing with, yelling at, or otherwise expressing anger toward another person; binary coding yes/no), was coded directly from the EAR recordings. Two disagreeable acts, "swear words" and "anger words", were obtained from the LIWC analyses. All three variables have been found to be robust behavioral markers of disagreeableness (Mehl et al., 2006).

### 2.10. Academic disengagement

Academic disengagement was measured as the proportion of EAR sound files in which a person was observed to be attending class (i.e., participant was in a class or attending a lecture; a negative indicator; binary coding yes/no). Other researchers' operationalizations of academic disengagement (e.g., dropping out of school; Robins & Beer, 2001), are conceptually consistent with our operationalization (i.e., not going to class).

**Table 2**  
Means, standard deviations, and gender-differences for behaviors in each of four behavioral categories.

	Total (N = 79)		Males (n = 37)		Females (n = 42)		M–F gender-diff.		Reliability ICC(2,k)
	M	SD	M	SD	M	SD	t	p	
<i>Extraverted acts</i>									
Talking	32.81	15.11	32.65	17.83	32.95	12.46	−0.89	.93	.95
Being in a group	10.78	9.79	11.11	8.99	10.48	10.53	0.30	.77	.88
Socializing	16.43	12.75	16.14	12.42	16.69	13.19	−0.19	.85	.91
Friend words (LIWC) 0.12	0.12	0.12	0.11	0.13	0.14	0.12	−1.13	.26	.82
<i>Disagreeable acts</i>									
Arguing	0.30	0.88	0.43	1.21	0.19	0.40	1.22	.23	— <sup>a</sup>
Swear words (LIWC)	0.50	0.44	0.63	0.52	0.38	0.32	2.61	.01*	.97
Anger words (LIWC)	0.69	0.45	0.77	0.52	0.63	0.37	1.45	.15	.99
<i>Academics</i>									
Attending class	4.18	3.47	3.16	2.83	5.07	3.76	−2.52	.01*	.99
<i>Sexual language use</i>									
Sexual words (LIWC)	0.30	0.25	0.31	0.26	0.29	0.26	0.34	.74	.97

\*  $p < .05$ . Means represent the percentage of sound files in which a coding category applied, or for LIWC variables, the percentage of sampled words that fell into the category. LIWC = variable coded in the Linguistic Inquiry and Word Count.

<sup>a</sup> The reliability could not be determined due to the lack of variance in the sound files in the training set (Vazire and Mehl, 2008).

**Table 3**  
Inter-correlations among the behavioral and linguistic variables.

	1	2	3	4	5	6	7	8
1. Talking								
2. Being in a group	.49**							
3. Socializing	.51**	.74**						
4. Friend words (LIWC)	.09	.21	.21					
5. Arguing	.38**	.24*	.26*	.06				
6. Swear words (LIWC)	.34**	.28*	.07	-.08	.36**			
7. Anger words (LIWC)	.41**	.30**	.14	.02	.31**	.94**		
8. Attending class	.09	.02	.17	.05	.10	-.19	-.13	
9. Sexual words (LIWC)	.15	.06	-.07	.02	.26*	.70**	.68**	-.15

\*  $p < .05$ .

\*\*  $p < .01$ . LIWC = variable coded in the Linguistic Inquiry and Word Count.

### 2.11. Sexual language use

Sexual language use was measured by the LIWC variable: “sexual words” (e.g., *fuck*, *naked*). Similar taboo words have been discussed elsewhere (Jay, 2009).

### 2.12. Aggregates

In addition to examining each variable separately, we aggregated the variables within Extraverted acts and, separately, within Disagreeable acts. To calculate these scores, we first converted participants’ raw scores to z-scores for each individual behavior and LIWC variable. Second, we averaged the z-scores across behaviors within a given domain for each participant. Despite the limited number of behaviors in each domain, the aggregates had moderate reliabilities for such composite measures: extraverted behaviors ( $\alpha = .69$ ) and disagreeable behaviors ( $\alpha = .56$ ).

## 3. Results

### 3.1. Descriptive statistics

As is evident in Table 1, overall scores on the NPI ( $M = 1.43$ ,  $SD = .18$ ) did not significantly differ between men and women ( $t[78] = 1.25$ , *n.s.*), although the trend did indicate that men had slightly higher scores, replicating past results (Vazire, Naumann, Rentfrow, & Gosling, 2008). Table 1 displays the means and standard deviations for each facet for the total sample and by gender. It also provides descriptive statistics within gender and it describes the evidence for gender-differences. Interestingly, there was a significant difference between men and women on the exploitativeness/entitlement facet of narcissism, indicating that the “darker” aspects of narcissism (Raskin & Novacek, 1989) were more likely to be found among men in this sample. Table 2 displays the means and standard deviations for each behavior, for the whole sample, and separately for each gender. As shown in the table, men tended to swear more often than women, and women attended class more often than men. No other gender differences were evident.

Thereafter, Table 3 displays the inter-correlations among the behavioral and linguistic outcome variables. As expected, moderate correlations are evident among the behavioral-linguistic variables within the extraverted domain (talking, being in a group, socializing, and friend words), and—separately—within the disagreeable domain (arguing, swear words, anger words).

### 3.2. Behavioral correlates of narcissism

#### 3.2.1. Extraverted acts

As expected, and as shown in Table 4, narcissism correlated positively with extraverted acts ( $r = .29$ ,  $p < .01$ ), and narcissists

were especially likely to be in a group, to socialize, and to talk about friends. The overall correlation remained significant after controlling for extraversion as measured by the BFI ( $r = .25$ ,  $p < .05$ ). Unexpectedly though, the zero-order relationship may have depended on participants’ gender. While male narcissists did not behave in especially extraverted ways ( $r = .08$ , *n.s.*), female narcissists did ( $r = .48$ ,  $p < .01$ ).

#### 3.2.2. Disagreeable acts

As predicted, narcissism correlated positively with our composite measure of disagreeable behaviors ( $r = .28$ ,  $p < .05$ ), which consisted of arguing, swear words, and anger words (Table 4); the trend for this correlation remained positive albeit non-significant, after controlling for disagreeableness as measured by the BFI ( $r = .13$ , *n.s.*). Interestingly, exploitativeness/entitlement correlated in the positive direction with disagreeable behavior ( $r = .35$ ,  $p < .01$ ; men:  $r = .32$ ; women:  $r = .36$ ), indicating that—for both genders—participants higher in exploitativeness/entitlement tended to be disagreeable in their everyday lives.

Our data also allow us to test for and extend a previously documented suppressor relationship that has not been explored in naturalistic data. Using self- and informant-report data, Paulhus et al. (2004) documented that the narcissism–disagreeableness correlation is dampened by the suppressing effect of self-esteem. That is, the effect size of the narcissism–disagreeableness relationship is smaller in zero-order relationships than it is after controlling for self-esteem as a suppressor. Accordingly, after standardizing all three variables, we compared the zero-order coefficient between narcissism and disagreeable behavior without controlling for self-esteem ( $\beta = .28$ ,  $t[77] = 2.59$ ,  $p < .05$ ) to the coefficient between the two when we did control for self-esteem ( $\beta = .39$ ,  $t[77] = 3.51$ ,  $p < .001$ ). A resampling approach (Preacher & Hayes, 2004, 2008), which used 5000 bootstrapped samples, allowed us to determine that, indeed, self-esteem acted as a suppressor of the narcissism–disagreeableness effect. Most importantly, the nonparametric simulation revealed a significant boost in  $\beta$  relative to the zero-order effect (change in  $\beta = .11$ ,  $p < .05$ ; bias-corrected and accelerated 95% CI = .03–.23). Thus, self-esteem acted as a suppressor, and the effect discovered by Paulhus and colleagues (2004) generalized to naturalistic settings.<sup>2</sup>

#### 3.2.3. Academic disengagement

Counter to our prediction, narcissism was not significantly related to class attendance ( $r = -.16$ , *n.s.*), our negative indicator of academic disengagement (Table 4); when controlling for conscientiousness, the correlation between narcissism and academic

<sup>2</sup> We explored whether self-esteem suppressed each zero-order correlation listed in Table 4. Only one other interesting pattern emerged: the relationship between narcissism and sexual language use was even stronger when controlling for self-esteem ( $\beta = .38$ ,  $p < .01$ ). E-mail N.S. Holtzman for more information.

**Table 4**  
Correlations between narcissism (and its facets) and four behavioral categories.

	Total (N = 79)					Males (n = 37)					Females (n = 42)				
	NPI	LA	SS	SA	EE	NPI	LA	SS	SA	EE	NPI	LA	SS	SA	EE
<i>Extraverted acts</i>															
Talking	.10	.09	.27*	.18	-.01	.00	-.02	.39*	.12	-.22	.23	.22	.15	.27	.23
Being in a group	.22*	.11	.16	.34**	.09	-.09	.01	-.02	-.01	-.12	.44**	.18	.29	.61**	.23
Socializing	.27*	.17	.24*	.37**	.01	.13	.17	.22	.25	-.09	.38*	.17	.26	.50**	.10
Friend words (LIWC)	.27*	.24*	.20	.29*	.11	.18	.14	.07	.14	.21	.39*	.34*	.32*	.50**	.08
Aggregate	.29**	.21	.30**	.40**	.07	.08	.11	.23	.18	-.08	.48**	.30	.33*	.62**	.21
<i>Disagreeable acts</i>															
Arguing	.22*	.14	.17	.13	.15	.37	.24	.45**	.37*	.13	.27	.16	.12	.17	.27
Swear words (LIWC)	.17	.20	-.02	.24*	.31*	.12	.10	-.03	.19	.31	.19	.34*	-.02	.22	.23
Anger words (LIWC)	.21	.25*	.01	.28*	.30**	.15	.16	.01	.21	.27	.25	.35*	.01	.31*	.29
Aggregate	.28*	.27*	.07	.30*	.35**	.21	.17	.07	.27	.32	.33*	.36*	.07	.30*	.36*
<i>Academic disengagement</i>															
Attending class (rev.)	.16	.05	-.01	.23*	.38**	.04	.00	-.25	.17	.33*	.18	.05	.14	.20	.34*
<i>Sexual language use</i>															
Sexual words (LIWC)	.31**	.32**	.02	.26*	.41**	.35*	.29	.02	.33*	.52**	.27	.34*	.02	.18	.33*

\*  $p < .05$ .

\*\*  $p < .01$ . LIWC = variable coded in the Linguistic Inquiry and Word Count. NPI = Narcissistic Personality Inventory; [facets: LA = Leadership/Authority; SS = Self-Absorption/Self-Admiration; SA = Superiority/Arrogance; EE = Exploitativeness/Entitlement]. Rev. = reverse scored.

disengagement likewise was not significant ( $r = .19, n.s.$ ). However, we found that the exploitativeness/entitlement facet did have a strong positive relationship with academic disengagement ( $r = .38, p < .01$ ), in both men ( $r = .33, p < .05$ ) and women ( $r = .34, p < .05$ ), indicating that the most maladaptive facet of narcissism (Raskin & Novacek, 1989) was particularly predictive of academic disengagement. When controlling for conscientiousness, the correlation between exploitativeness/entitlement and academic disengagement remained significant and positive ( $r = .38, p < .01$ ), indicating that this facet of narcissism was capturing unique variance in academic disengagement.

### 3.2.4. Sexual language use

As expected, narcissism correlated with greater sexual language use ( $r = .31, p < .01$ ). This relationship was similar in magnitude for both men and women, and was strong for the exploitativeness/entitlement and leadership/authority facets. Once again, the most maladaptive facet of narcissism, exploitativeness/entitlement, showed utility in predicting a key outcome—this time, sexual language use. One potential concern about this analysis is that (in the LIWC categories) sexual words and anger words are partially overlapping (e.g., the word “fuck” is contained in both categories). Therefore, it is important to determine whether narcissists are truly using more sexualized language, independent of using anger words and swearing. The correlation between narcissism and sexual language use remained significant ( $r = .23, p < .05$ ), after statistically removing variance associated with anger words usage. Similarly, the relationship between narcissism and sexual language use remained significant ( $r = .26, p < .05$ ), after statistically removing variance associated with swear words usage. Thus, narcissism was indeed uniquely related to sexualized language use even after controlling for potential overlap with the use of anger and swear words that have sexual connotations.

## 4. Discussion

Although narcissism has been extensively studied by social and personality psychologists in recent decades, little is known about how narcissists behave in their everyday lives (Baumeister et al., 2007). The present study explored narcissists' daily behavior using the EAR as a naturalistic observation method. Our analyses revealed evidence that is largely consistent with current theorizing

about narcissism. Specifically, narcissism was associated with more extraverted behavior (e.g., talking about friends; see also: Foster, Misra, & Reidy, 2009), more disagreeable behavior (e.g., swearing; see also McCullough, Emmons, Kilpatrick, & Mooney, 2003), and more sexual language use (e.g., “nude”). Furthermore, exploitativeness/entitlement—the most maladaptive facet of narcissism—was associated with more academic disengagement (i.e., not attending class). Finally, we found evidence for the generalizability of the suppressor effect reported by Paulhus et al. (2004), who demonstrated that accounting for a key suppressor variable, self-esteem, increases the strength of the relationship between narcissism and disagreeableness.

Overall, these results support the view that narcissism has positive and negative aspects (Paulhus, 1998, 2001). Specifically, while most narcissists (especially women in this particular sample) exhibit many extraverted behaviors that are likely to make a good first impression (e.g., socializing, talking about friends), they also exhibit disagreeable behaviors, which probably helps to explain the difficulties they have maintaining favorable reputations over time (Back et al., 2010; Campbell, 2005; Paulhus, 1998). Furthermore, narcissists are probably not aware of all of these behaviors (Vazire, 2010), pointing to the importance of going beyond self-reports in understanding narcissism.

Our findings also show that exploitative and entitled narcissists are less likely to attend class. This finding suggests a mechanism by which self-enhancement is associated with academic disengagement over time (Robins & Beer, 2001)—inflated self-importance may lead to shirking academic obligations, which may potentially contribute to disappointing academic outcomes. Furthermore, narcissists' impulsive academic behavior (skipping class, at least among those high in exploitativeness/entitlement) was paralleled by an impulsive sexual strategy (explicit talk about sex). These findings are consistent with the view that narcissists tend to be impulsive and seek short-term gains (Vazire & Funder, 2006).

The link between narcissism and sexual language use may provide further hints about the relationship between narcissism and a short-term promiscuous sexual strategy. Previously, both self-reports (Reise & Wright, 1996) and ex-partners' reports (Campbell et al., 2002) of short-term sexual strategies have been linked to narcissism. The novelty in the current study is that we reveal one way in which narcissists' sexual strategies may be manifested in their everyday lives—through extensive use of

sexual language. This new finding is purely descriptive, begging for functional explanations. One such functional explanation, offered by Holtzman and Strube (2010a), integrates evidence that narcissists are more attractive than average (Holtzman & Strube, 2010b), and that narcissists are slightly more inclined to have sexually-coercive tendencies (Bushman, Bonacci, van Dijk, & Baumeister, 2003). Holtzman and Strube argue that one possible functional explanation of why these patterns tend to co-exist in narcissists is that the viability of short-term mating may have molded narcissism over evolutionary time. Thus, the hypothesis is that, in the sub-population of people who pursued short-term mating, nature selected simultaneously for several short-term mating advantages (e.g., attractiveness and coercive-tendencies), perhaps resulting in the co-occurrence of these traits in narcissists today. It is possible that sexual language use is a manifestation of (or simply bolsters) the proposed evolutionary function of narcissism: short-term reproduction. Clearly, much more research is needed to systematically explore the potential evolutionary functions of narcissism. See Holtzman and Strube (2010a) for potential falsification tests and extensions of this emerging hypothesis.

Because previous research has shown that narcissism is associated with personal pronoun use (Fast & Funder, 2010; Raskin & Shaw, 1988), we also examined whether any such pattern emerged in our data, but found little evidence for strong associations.<sup>3</sup> Future research should examine this further with greater power to detect small effect sizes.

This study has two primary limitations. First, many of our analyses were exploratory, especially the analyses of the facets of narcissism. We did not statistically correct for the number of statistical tests, and therefore the results should be interpreted with caution until replicated. Second, the EAR method captures auditory information only, and thus our analyses were restricted to behaviors that are acoustically detectable (among them, most importantly, verbal behavior). Thus, these results do not account for other important types of behavior that may reflect narcissism levels. For example, Back and colleagues (2010) showed that visible behaviors indicative of narcissism include a charming smile, self-assured body movements, and upright body posture (see their Table 3). Similarly, Vazire et al. (2008) found that narcissism has correlates in physical appearance, such as wearing expensive clothes and having a neat and tidy appearance. Future studies should examine additional behavioral manifestations of narcissism that go beyond acoustically-detectable behaviors.

In sum, narcissists exhibit distinct behaviors in their everyday lives, and these behaviors are consistent with current theories about the causes and consequences of narcissism. In addition to replicating previous associations that had only been documented in laboratory settings (e.g., disagreeable behavior), our naturalistic approach led to the discovery of new behavioral correlates of narcissism (e.g., sexual language use). Indeed, by combining laboratory-based research with naturalistic designs, we will acquire more knowledge of the behavioral manifestations of narcissism. In the present study and elsewhere, such manifestations are just beginning to be discovered (Back et al., 2010; Buffardi & Camp-

bell, 2008; Vazire et al., 2008) and many more are sure to be realized as we continue to explore personality in its natural habitat.

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<sup>3</sup> We explored the correlations between narcissism and the following LIWC categories: “I”, “We”, and “You”. In addition, we also examined the relationship between narcissism and “self words” and “other words” (as in “she”, “he”, etc.). None of the total NPI scores or facet scores were significantly correlated with any of these five LIWC categories (all  $p$ 's > .10). Separate analyses for men and women included merely one significant correlation: among men the exploitativeness/entitlement factor correlated with greater use of LIWC “self words” ( $r = .34, p < .05$ ). This effect should be interpreted with caution given the large number of correlations examined here. Larger datasets could be particularly useful in identifying these linguistic effects (Fast & Funder, 2008; Yarkoni, 2010), primarily because the true effect sizes are probably small to medium. Please e-mail N.S. Holtzman for the full results.

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