The Impact of CEO Narcissism on Earnings Management

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We provide the first empirical test of the relation between CEO narcissism and earnings manipulation. We test the hypothesis that narcissistic leaders over-identify themselves with the organizations they lead and expend considerable effort to achieve their goals, including by engaging in unethical behaviour. Earnings announcements are highly anticipated information releases by organizations. They are a key performance indicator used to evaluate the performance of CEOs. This study examines the use of first person singular pronouns by CEOs in response to questions at analyst conferences to measure narcissism. We provide evidence that firms with narcissistic CEOs engage in accruals management to manage earnings positively, highlighting the important effect of CEO personality on accounting choices.

Many studies examine the determinants of accounting choices and the influence of firmand market-level characteristics on earnings management (Dechow et al., 2010; Fields et al., 2001; Libby et al., 2015). Recently, focus has shifted to identifying the impact of manager-specific factors on accounting choices. The literature identifies strong manager effects on: corporate decisions (Bertrand and Schoar, 2003; Elnahas et al. 2014); voluntary disclosures (Bamber et al., 2010); accruals and accounting practices (Dejong and Ling, 2013; Ge et al., 2011); and tax avoidance (Dyreng et al., 2010). However, this research examines manager effects in terms of corporate governance, remuneration, and institutional factors (Chava and Purnanandam, 2010; Jia et al., 2014). Research has now turned to examining the relationship between financial reporting policy and the innate characteristics of individual CEOs: optimism and managerial risk-aversion (Graham et al., 2013); overconfidence (Schrand and Zechman, 2012); gender (Huang and Kisgen, 2013; Srinidhi et al., 2011); ethics (Elias, 2002); and masculinity (Jia et al., 2014). We extend this literature by examining the impact of another manager-specific variable—narcissism.

A common personality examined in the leadership literature is narcissism. Chatterjee and Hambrick (2007) document that narcissistic CEOs are more likely to undertake frequent and larger acquisitions, develop highly dynamic and grandiose strategic initiatives, and ultimately deliver to shareholders greater fluctuations in performance. Similarly, Ham et al. (2013) find narcissistic CEOs undertake excessive investment, and deliver lower future profitability for shareholders. Chatterjee and Hambrick (2011) report that in comparison to their less narcissistic peers, highly narcissistic CEOs are less responsive to recent performance.

Of greater concern are findings that narcissists tend to resort to unethical behaviour to achieve their goals (Duchon and Drake, 2009; Amernic and Craig, 2010), as they continuously undertake actions to reinforce their self-image and maintain their ideal ego (Campbell and Foster, 2007). Narcissistic CEOs manifest this reinforcement by, for example, setting higher compensation packages for themselves (O'Reilly III et al., 2014). Over time, a narcissist's inflated sense of self-worth translates into a distorted view of their own abilities, and their inherent charisma, perceived or otherwise, enables them to manipulate and influence the perception of others (Chatterjee and Hambrick, 2011). Further, Rijsenbilt and Commandeur (2013) find a positive relationship between CEO narcissism and a propensity for corporate fraud, which includes intentional accounting misstatements. While cash flows are easily reconciled, a change in reported earnings is less observable and, therefore, subject to greater discretion.

An individual is said to suffer from narcissistic personality disorder if they exhibit 'a pervasive pattern of grandiosity (in fantasy or behavior), need for admiration, and lack of empathy ...' (American Psychiatric Association, 2013). According to the APA diagnostic criteria, narcissistic individuals possess an exaggerated sense of self-importance, which causes them to stress their abilities and achievements. They exhibit a predisposition to undertake grandiose and highly visible actions so that they receive continuous admiration from others. Narcissists also have an inflated sense of entitlement, and display arrogance or contempt towards others.[1] Narcissistic personalities constantly require and crave applause from external parties in the form of adulation and admiration (Wallace and Bausmeister, 2002). The need for such external validation is found to result in narcissistic leaders expending considerable effort in enhancing their public image (Bass and Steidlmeier, 1999; Conger, 1990). Earnings announcements are an important platform that enable CEOs to 'promote' (Henry, 2008) their 'personal report card' (Amernic and Craig, 2010) and have their skills and self-belief affirmed by investors.

Using the question-and-answer sessions of conference calls held following earnings releases, we measure CEO narcissism as the ratio of the use of first person singular pronouns to total first person pronouns—a nonintrusive measure correlated with the Narcissistic Personality Inventory (NPI) score developed by Raskin and Terry (1988) and Raskin and Shaw (1988). In this study, we provide the first empirical support for Amernic and Craig (2010) who propose that narcissistic CEOs use accounting choices to indulge their egos and inflate their perceived self-worth. We find that more narcissistic CEOs distort financial information available to investors by positively managing earnings, which is consistent with the view that '[n]arcissism lies at the heart of leadership' (de Vries, 2004, p. 188) and that CEOs in their leadership duties act on the discretion afforded to them in the adoption of accounting policy to achieve their goals.

Our findings are robust to additional tests for endogeneity that may exist in a CEO's speech and changes in CEO stewardship. Additionally, further analysis demonstrates that the positive relation between CEO narcissism and earnings management is not conditional on a CEO's verbosity or CEO/Chair duality. While the practice of earnings management may not be illegal, this phenomenon is potentially a prescription for corporate fraud. Our results suggest that the information asymmetry caused by earnings management can be identified at an early stage by virtue of a CEO's personality.

DATA AND METHOD

To examine the relation between CEO narcissism and earnings management, financial accounting data for the period 2007 to 2013 are obtained from the Annual Compustat dataset, which includes all public filings by exchange-listed corporations. The sample of firms includes all NYSE listed securities with complete financial information. Consistent with empirical studies by Burgstahler et al. (2006) and Stubben (2010), we exclude firms in the financial services and insurance industry, due to distortions in the relation between revenues and accruals caused by regulatory compliance.

ESTIMATION OF EARNINGS MANAGEMENT

We employ the modified model of Dechow and Dichev (2002), suggested by McNichols (2002) and Stubben (2010), to estimate earnings management for the sample of firms. According to Dechow and Dichev (2002), discretionary accruals reflect the extent to which current accruals are not explained by cash flows from current, previous, and subsequent years. Underlying this model is the assumption that current earnings represent current operating cash flows and accruals, in addition to providing estimates of future cash flows. McNichols (2002) extends Dechow and Dichev's (2002) model to include changes in both revenue and property, plant, and equipment as additional control variables to estimate discretionary accruals. The model we estimate is:

$$\frac{TA_{i,t}}{AvgA_{i,t}} = \delta_1 \frac{1}{AvgA_{i,t}} + \delta_2 \frac{\Delta R_{i,t}}{AvgA_{i,t}} + \delta_3 \frac{PPE_{i,t}}{AvgA_{i,t}} + \delta_4 \frac{CFO_{i,t-1}}{AvgA_{i,t}} + \delta_5 \frac{CFO_t}{AvgA_{i,t}} + \delta_6 \frac{CFO_{t+1}}{AvgA_{i,t}} + \varepsilon_{i,t} \qquad (1)$$

where $TA_{i,t}$ is the total accruals for firm i in year t, measured as the difference between earnings before extraordinary income and operating cash flow from the cash flow statement; $\Delta R_{i,t}$ is the change in revenues between year t–1 and t; $PPE_{i,t}$ is the gross value of PPE in year t; and $AvgA_{i,t}$ is the average total assets at the start of year t and at the end of year t.[2] All input variables to this regression are winsorized at the 1% level by industry and year.

Equation 1 is estimated for the entire sample of Compustat firms which includes 6,375 firm-years and 250 industry-years,[3] for each industry-year. Next, we estimate non-discretionary accruals using δ_1 to δ_6 in equation 1 as follows:

$$NDA_{i,t} = \delta_1 \frac{1}{AvgA_{i,t}} + \delta_2 \frac{\Delta R_{i,t}}{AvgA_{i,t}} + \delta_3 \frac{PPE_{i,t}}{AvgA_{i,t}} + \delta_4 \frac{CFO_{i,t-1}}{AvgA_{i,t}} + \delta_5 \frac{CFO_{i,t}}{AvgA_{i,t}} + \delta_6 \frac{CFO_{i,t+1}}{AvgA_{i,t}} \tag{2}$$

The magnitude of discretionary accruals is estimated consistent with Armstrong et al. (2013) and Stubben (2010), who model the difference in actual and predicted accruals:[4]

$$DA_{i,t} = \frac{TA_{i,t}}{AvgA_{i,t}} - NDA_{i,t} \tag{3}$$

The magnitude of discretion (earnings management) is scaled by average total assets of firm i in years t and t–1, consistent with the empirical literature (Srinidhi and Gul, 2007; Srinidhi et al., 2011). Positive discretionary accruals indicate upward earnings manipulation, while negative discretionary accruals indicate downward earnings manipulation. Yu (2008) reports negative manipulation is used to manage expectations. In good years, negative earnings manipulation is used to hide earnings for future reporting periods. In bad years, firms can take a bath to make feasible future earnings targets. Consistent with Amernic and Craig (2010) we expect more narcissistic CEOs to demonstrate positive bias behaviour and manipulate earnings upwards.

MEASURE AND SOURCE OF CEO NARCISSISM

Originally, narcissism was mostly viewed and characterized categorically; individuals were either classified as normal (absence of narcissism) or as abnormal (presence of narcissism). Both clinicians and researchers adopted this view of narcissism until the mid-1980s. Researchers subsequently documented evidence that narcissism can be seen as a personality dimension whereby individuals can score on narcissism from low to high (see Raskin and Hall, 1979; Emmons, 1987; Raskin and Terry, 1988).

The psychology literature identifies a number of tests and questions to identify narcissistic individuals.[5] The NPI score, however, is the most established (Rhodewalt and Morf, 1995). The NPI questionnaire enables the measurement of narcissism in large samples (for examples of studies validating the NPI, see Emmons, 1987; Raskin and Hall, 1979, 1981). The NPI measures narcissism across four dimensions: exploitativeness/entitlement, leadership/authority, superiority/ arrogance, and self-absorption/self-admiration. The difficulty in measuring narcissism using the NPI lies in conducting the survey on a large scale. The requisite for individuals to undertake NPI tests impedes extensive empirical study of narcissism among leaders, as top executives in organizations are reluctant to participate in survey research, and may also answer differently, knowing they are being evaluated (Cycyota and Harrison, 2006).

Raskin and Shaw (1988) demonstrate that the proportion of first person singular pronouns to first person plural pronouns used by individuals in their speech is highly correlated with NPI scores of individuals, and can be a better indicator visà-vis tests that predispose individuals to a particular mindset. Their results are robust to age, gender, content of speech analyzed, and also persist after controlling for other personality traits—extroversion, neuroticism, psychoticism, and loss of control. The Raskin and Shaw (1988) measure relies solely on a spontaneous speech that results in a conversational script, rather than from a pre-determined publication.

Conference calls, held by firms in conjunction with earnings announcements, typically start with speeches by firm executives and usually involve the CEO, the CFO, and Head of Investors Relations, with additional executive officers present in some cases. After the formal speeches and earnings announcements, the conference opens up to a question-and-answer session. This is the session of importance to our analysis as it allows us to capture the spontaneity of the CEO's responses. Indeed, the capacity of public-relation minders to sanitize responses in these sessions is restricted.

The adoption of CEO speech to infer company performance is consistent with literature on measuring verbal and nonverbal vocal cues in detecting financial misreporting (see Craig et al., 2013; Hobson et al., 2012; Larcker and Zakolyukina, 2012). Hobson et al. (2012) examined a CEO's emotional profile (nonverbal vocal cues), measured by speech waveform, to detect financial misreporting, while Larcker and Zakolyukina (2012) examined the verbal cues of both CEOs and CFOs. These studies provide direct evidence that the outcome of an earnings conference call goes beyond solely the announcement of earnings and company performance.

Consistent with Aktas et al. (2016) and Raskin and Shaw (1988), we compute CEO narcissism scores by utilizing Bloomberg distributed transcripts of earnings releases. Specifically, the narcissism score for each CEO is measured by obtaining the ratio of first person singular pronouns (I, me, my, mine, myself) to total first person pronouns (I, me, my, mine, myself, we, us, our, ours, ourselves) in CEO responses to analysts questions:

$$\textit{Narcissism Score} = \frac{\sum n_{(I, me, my, mine, myself)}}{\sum n_{(I, me, my, mine, myself, we, us, our, ours, ourselves)}} \tag{4}$$

The relevant question-and-answer sections of the earnings release transcripts are parsed by a natural language processing (NLP) algorithm, which provides counts of the number of utterances of first person singular pronouns and utterances of first person plural pronouns for each CEO, at every meeting.[6]

Table 1 details the sample selection criteria for the analysis, which combines the Compustat and Bloomberg data. Bloomberg transcripts of conference calls are obtained for US-domiciled stocks listed on the New York Stock Exchange over the fiscal years 2008–2012. For each firm-year, transcripts for fourth quarter results are sampled. A total of 5,467 transcripts are parsed through a NLP algorithm, resulting in a total of 5,096 transcripts with measurable CEO narcissism scores. Each instance of a non-response is investigated and explained by one of three reasons: (i) the question-and-answer session is not held; (ii) CEO is absent; or (iii) CEO is present but does not participate in the question-and-answer session.

Aggregating the sum of first person singular pronouns and the sum of total first person pronouns uttered by the CEO across all their transcripts over the period enables measurement of a narcissism score for each CEO. Our measure of CEO narcissism score is time invariant, in accordance with prevailing views that narcissism is a stable disposition (Livesley et al., 1993). Following Chatterjee and Hambrick (2007, 2011) to reliably measure narcissism, a CEO is required to speak at a minimum of two conferences for a firm, removing any biases associated with measuring narcissism from only one transcript. Matching the transcript data to the accounting data from Compustat, a final sample of 4,021 transcripts across 936 firms is identified.

Table 2, Panel A presents summary statistics for the sample firms. The average firm in the sample has a market value of approximately $7.7 billion, a leverage ratio of 0.69, a book-to-market ratio of 0.58, and return on assets of 4%. The mean narcissism score reported in Table 2 is 0.26, with a median of 0.25. This is similar to the findings of Aktas et al. (2016), who report a mean narcissism score of 0.215 and a median of 0.204. Descriptive statistics for our signed estimates of earnings management are similar to those reported by Hribar and Nichols (2007). Table 2, Panel A reports the mean discretionary accruals is –0.42% of average total assets, with a standard deviation of 6.03% of average total assets. Median discretionary accruals of 0.01% of average total assets are reported in Table 2, Panel A.

Table 2, Panel B provides correlation coefficients between the level of discretionary accruals and firm characteristics. Because our results from Pearson and Spearman coefficients are qualitatively similar our discussion is limited to the Pearson correlations. Results in Table B provide prima facie evidence that CEO narcissism scores exhibit a positive correlation with the level of discretionary accruals. The relation between discretionary accruals and other firm characteristics are consistent with existing empirical evidence (see, for example, Kim et al., 2012).

TABLE 1

SAMPLE FIRMS

	Number of firms	Number of observations
Bloomberg download	1,192	5,467
(–) Transcripts without Q&A, CEO participation in Q&A	(29)	(371)
With data to compute narcissism score	1,163	5,096
(–) Firm-years with only one transcript to infer CEO narcissism score	(56)	(285)
For each CEO, minimum of two Bloomberg transcripts	1,107	4,811
Observations with Compustat download (Available data from 2007–2013)	1,082	4,723
(–) Observations with missing variables including average total assets, earnings before extraordinary items, cash flow from operations, change in revenues, property, plant, and equipment, lag (cash flow from operations) and lead (cash flow from operations)	(58)	(339)
	1,024	4,384
(–) Observations with missing control variables	(6)	(36)
	1,018	4,348
(–) Firms and observations in the financial industry	(82)	(327)
	936	4,021

TABLE 2

EARNINGS MANAGEMENT AND CORRELATION WITH CONTROL VARIABLES

Panel A: Summary statistics

Variable	Mean	Std	Median	Q1	Q3
Narcissism score	0.26	0.08	0.25	0.20	0.31
Market capitalization (A$m)	7,693.21	19,113.60	2,073.39	731.55	5,859.87
Leverage	0.69	1.67	0.32	0.13	0.72
ROA	0.04	0.11	0.04	0.01	0.08
Book-to-market ratio	0.58	0.79	0.52	0.32	0.77
Age	31.36	19.45	26.00	14.00	50.00
Size	21.81	1.49	21.72	20.76	22.75
Discretionary accruals	–0.0042	0.0603	0.0001	–0.0207	0.0198

Panel B: Correlation matrix

	Discretionary accruals	Narcissism score	BM ratio	Size	Age	Leverage	Return on assets
Discretionary accruals	1.0000	0.0430	0.0268	0.1216	0.0899	–0.1543	0.6483
Narcissism score	0.0400	1.0000	–0.0131	0.0838	0.0669	0.0155	0.0290
BM ratio	–0.0576	0.0113	1.0000	–0.1880	–0.0009	–0.0337	–0.0933
Size	0.0998	0.0726	–0.3313	1.0000	0.3259	–0.2417	0.3068
Age	0.1081	0.0756	0.0305	0.3142	1.0000	–0.0488	0.0501
Leverage	–0.1497	0.0040	0.3005	–0.1422	0.0561	1.0000	–0.2987
Return on assets	0.4119	0.0263	–0.4476	0.3486	0.0435	–0.5178	1.0000

CEO Narcissism and Earnings Management

To assess the relation between CEO narcissism and earnings management across firms, we estimate the following regression:

$$DA_{i,t} = \alpha_t + \gamma_k + \beta Narcissism\,Score_i + \theta_1 BM_{i,t} + \theta_2 AGE_{i,t} + \theta_3 SIZE_{i,t} + \theta_4 LEV_{i,t} + \theta_5 ROA_{i,t} + \varepsilon_{i,t} \quad (5)$$

where DA is signed discretionary accruals, t indexes years, i indexes firms, k indexes industries, α_t are year fixed effects, γ_k are industry fixed effects, and $\varepsilon_{i,t}$ is an error term. Narcissism $Score_i$ is the CEO narcissism score measured for firm i.

REGRESSION RESULTS OF CEO NARCISSISM ON EARNINGS MANAGEMENT

	Panel A		Panel B			
	McNichols (2002)		Jones model (1991)		Modified Jones (1995)	
	Coefficient	*t*-stat	Coefficient	*t*-stat	Coefficient	*t*-stat
Narcissism score	0.0222	(2.74)***	0.0210	(2.02)**	0.0224	(2.16)**
Book-to-market ratio	0.0049	(3.10)***	0.0092	(4.73)***	0.0092	(4.71)***
Size	–0.0035	(–5.06)***	–0.0080	(–8.85)***	–0.0076	(–8.44)***
Age	0.0002	(5.33)***	0.0003	(6.35)***	0.0003	(6.09)***
Leverage	0.0013	(1.67)	0.0018	(2.06)**	0.0018	(2.00)**
Return on assets	0.4108	(14.03)***	0.4621	(19.05)***	0.4714	(19.17)***
Year fixed effects	Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes	
Adj R-square	0.4719		0.3983		0.4111	

Consistent with the literature (see, for example, Fields et al., 2001; Healy and Wahlen, 1999), the model includes controls for past performance, firm age, size, and capital structure.[8]

RESULTS

Table 3, Panel A presents coefficient estimates of equation 5. The coefficient of interest, Narcissism score, is significant and positive, indicating that more narcissistic CEOs are associated with a higher level of earnings management. Our results indicate that a 1% increase in the narcissism score of a CEO results in 2.22% higher discretionary accruals. These findings are consistent with the theory espoused by Duchon and Drake (2009) and Amernic and Craig (2010) who conceptualize that the discretion facilitated by financial accounting enables narcissistic CEOs to produce measured performance consistent with unethical behaviour.

In terms of control variables, coefficient estimates reported in Table 3 identify firm size is statistically significant and negative, suggesting that larger companies exhibit lower levels of earnings management. Consistent with the empirical literature (see, for example, Kim et al., 2012), we find a positive relation between earnings management and leverage and book-to-market ratio. In contrast to findings by Armstrong et al. (2013) and Bergstresser and Philipon (2006), the coefficients for firm age and return on assets are significant and positive. This implies that in our sample of firms, more profitable firms and more established firms exhibited a higher tendency to manipulate accounts. Alternatively, this could be viewed as firms being more profitable because they have manipulated their earnings positively.[9]

In light of the alternative earnings management models that exist in the literature (DeFond and Jiambalvo, 1994; Jones, 1991) Table 3, Panel B reports estimates of equation 5, where discretionary accruals are measured using the Jones (1991) and the Modified Jones (Dechow et al., 1995) models. Results reported in Table 3, Panel B provide further support for our finding that CEO narcissism is positively related to earnings management, as identified by the Jones (1991) and Modified Jones (1995) models.

ROBUSTNESS TESTS

Chatterjee and Hambrick (2011) suggest that narcissistic individuals are drawn to certain situations, and have a tendency to speak or act in a certain way depending on the situation, such as under examination or during a speech. Privy to underlying firm performance and earnings management prior to announcement, CEOs may present more or less narcissistic tendencies in their responses at conference calls, to create a better perception among the investment community. As such, our results are assessed in view of potential endogeneity and self-selection bias. Perhaps the good results (managed earnings) cause CEOs to display narcissistic tendencies in their speech, or narcissistic CEOs are attracted to certain firms and self select into firms with desired levels of performance or accounting policies. Additionally, the narcissism score and research design adopted requires that a CEO speak during the question-and-answer sessions. Therefore, sampled observations may suffer from a sample selection bias. Further, it may be meaningful to explore whether the CEO is also Chair of the Board. To address these issues, we perform additional robustness tests to evaluate the relation between CEO narcissism and earnings management.

ENDOGENEITY

First, the positive relation between CEO narcissism and earnings management may be driven by the current performance of the firm. Consequently, the direction of causality may run from earnings management to CEO narcissism. To address this potential endogeneity, we modify our narcissism measure by excluding the contemporaneous year in which earnings management is estimated. This has the effect of ensuring that the measure of CEO narcissism is unrelated to the period in which earnings management or performance is released or measured.[10] Specifically, we estimate the following regression:

$$DA_{i,t} = \alpha_t + \beta Instr(Narcissism\ Score)_{i,t-1} + \theta_1 BM_{i,t} + \theta_2 AGE_{i,t} + \theta_3 SIZE_{i,t} + \theta_4 LEV_{i,t} + \theta_5 ROA_{i,t} + \varepsilon_{i,t} \quad (6)$$

where Instr(Narcissism Score) for firm i in year t–1 is measured from transcripts from years t–1 to t–n, where n takes a minimum value of two and a maximum value of four. For example, if earnings management is estimated for fiscal year 2012, Instr(Narcissism Score) is computed from transcripts in years 2008–2011. Instr(Narcissism Score) is cross checked to ensure the same CEO is in office, in year t.

Table 4, Panel A reports parameters estimates after controlling for endogeneity. These results largely are consistent with results reported in Table 3. The coefficient on Instr(Narcissism Score) is positive and significant. These results support our findings that CEO narcissism impacts earnings management.

Second, to rule out an alternative explanation that narcissistic CEOs self select into firms with a level of performance or earnings management, we examine the relation between changes in narcissism and changes in earnings management following a change in CEO stewardship. If CEOs are drawn to firms with a preferred level of earnings management, we would observe no change in earnings management following the entry of a new CEO.

Consistent with Ahmed and Duellman (2013), we identify a sample of CEO changes such that the incoming/outgoing has sufficient time to impact their respective firm's accounting policies. In our sample, we identify 185 instances of CEO changes were the incoming CEO remains in office for a minimum of two years and the outgoing CEO was in office for a minimum of two years. We take the values of discretionary accruals, narcissism, and the control variables measured at the end of the period following the CEO change and subtract the values of the corresponding variables in the period preceding the CEO change to estimate equation 5 in changes form. Table 4, Panel B reports parameter estimates of this specification. Consistent with the aforementioned results, a positive and statistically significant relation is identified between changes in narcissism score and changes in earnings management, providing direct evidence that a positive change in CEO narcissism leads to positive changes in earnings management. Overall, these additional tests suggest that our results are robust and unlikely to be driven by endogeneity issues.

Table 4

ENDOGENEITY: SELF-SELECTION AND PERFORMANCE

Panel A			Panel B		
Variable	Coefficient	*t*-stat	Variable	Coefficient	*t*-stat
Instr(narcissism score)	0.0105	(1.96)**	ΔNarcissism score	0.0454	(2.03)**
Book-to-market ratio	0.0159	(2.64)***	ΔBook-to-market ratio	–0.0004	(–0.12)
Size	–0.0026	(–2.24)**	ΔSize	0.0044	(0.29)
Age	0.0003	(5.21)***	ΔAge	–0.0003	(–0.75)
Leverage	0.0025	(1.34)	ΔLeverage	0.0035	(1.37)
Return on assets	0.3660	(5.78)***	ΔReturn on assets	0.3255	(3.1)***
Year fixed effects	Yes			No	
Industry fixed effects	Yes			Yes	
Number of observations	1,853			185	
Adj. R-square	0.3683			0.2862	

CEO VERBOSITY AND CEO/CHAIR DUALITY

A lack of participation in the question-and-answer session by a CEO prevents measurement of narcissism. Removing firm-years in which the CEOs were present, but did not participate in the question-and-answer sessions, possibly introduces a bias. Lack of data for measurement is not diagnostic of a CEO who necessarily scores low on narcissism. To address this measurement issue we examine whether a CEO's verbosity at a conference call influences whether their narcissism score is biased. This is achieved by including an interaction variable between the CEO narcissism score and a dummy variable that reflects how much a CEO participates in the question-and-answer session—verbosity. First, a measure of the proportion of words spoken by CEOs relative to words spoken by other executives is computed. The median of this verbosity ratio is used as a benchmark and equation 5 is extended as follows:

$$\begin{aligned} DA_{i,t} &= \alpha_t + \gamma_k + \beta NScore_i + \lambda Dummy_{i,t} + \delta NScore * Dummy_{i,t} + \theta_1 BM_{i,t} + \theta_2 AGE_{i,t} \\ &+ \theta_3 SIZE_{i,t} + \theta_4 LEV_{i,t} + \theta_5 ROA_{i,t} + \varepsilon_{i,t} \end{aligned} \tag{7}$$

where Dummy is a dummy variable that takes the value of one if the response by the CEO for firm i in year t in the question-and-answer session is greater than or equal to the median CEO response in year t, and zero otherwise. Dummy is an indicator of how much a CEO participated in the question-and-answer session and the inference from this test assesses whether CEO verbosity has any influence on the measure of CEO narcissism. If verbosity is not a factor, the coefficient estimate on the interaction variable should not exhibit statistical significance.

Table 5, Panel A reports parameters estimates of equation 7. The positive coefficient on narcissism score supports the aforementioned results. Further, results in Table 5 suggest that the association between CEO narcissism score and earnings management is not conditional on the verbosity of the CEO's responses. This is highlighted by the absence of statistical significance on the interaction variable of narcissism score and the dummy variable.

We further modify equation 7 to include a control for whether the CEO is also the Chair of the Board (CEO&Chair). The results of this test, reported in Table 5, Panel B, are quantitatively similar to those reported in Panel A, and do not change any of our inferences. Collectively, results reported in Table 5 indicate a lack of support for the possibility that a CEO can 'game' their participation in the question-and-answer session of earnings announcements or is influenced by CEO/Chair duality.

CONCLUSIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This study explores the role of management personality in the context of a firm's accounting decisions to manage earnings. A leading personality trait that attracts widespread interest in leadership research is narcissism (Aktas et al., 2016; Amernic and Craig, 2010; Chatterjee and Hambrick, 2011; Duchon and Drake, 2009). We report a positive relation between CEO narcissism and earnings management. This constitutes the first empirical evidence confirming the relation. Our results are robust to several additional tests. Controlling for endogeneity, we show that

TABLE 5

CEO VERBOSITY AND CEO/CHAIR DUALITY

Panel A			Panel B		
Variable	Coefficient	*t*-stat	Variable	Coefficient	*t*-stat
Narcissism score	0.0229	(1.96)**	Narcissism score	0.0229	(1.96)**
Volume of speech	0.0013	(0.29)	Volume of speech	0.0013	(0.29)
Narcissism score*dummy (Volume of speech)	–0.0021	(–0.13)	Narcissism score*dummy (Volume of speech)	–0.0021	(–0.13)
Book-to-market ratio	0.0049	(3.1)***	Book-to-market ratio	0.0049	(3.10)***
Size	–0.0035	(–4.97)***	Size	–0.0035	(–4.88)***
Age	0.0002	(5.37)***	Age	0.0002	(5.30)***
Leverage	0.0013	(1.67)	Leverage	0.0013	(1.67)
Return on assets	0.4106	(14.00)***	Return on assets	0.4106	(14.01)***
			CEO&Chair	0.0002	(0.10)
Year fixed effects	Yes			Yes	
Industry fixed effects	Yes			Yes	
R-square	0.4626			0.4625	

CEO narcissism impacts the magnitude of a firm's earnings management. Our results are unchanged by incorporating the verbosity of CEO responses and CEO/Chair duality. Moreover, our results are robust to several earnings management models.

Earnings management is a well-known practice firms rely upon to influence their stakeholders' perceptions. While the practice of earnings management is not illegal, its occurrence potentially is a prescription for corporate fraud and unethical behaviour. Our results suggest that the information asymmetry caused by earnings management can be identified at an early stage by virtue of a CEO's narcissistic personality.

Since narcissism is a multidimensional concept, several avenues for further research remain. There exists an inherent overlap between overconfidence and narcissism with respect to the former's cognitive bias of 'better than average'. Given Ahmed and Duellman (2013) document a negative relation between overconfidence and accounting conservatism, it would be interesting to identify whether narcissism is associated with lower levels of accounting conservatism. Furthermore, Maccoby (2007) identifies narcissism as a possible desirable feature of CEOs; consequently it would be interesting to identify the circumstances under which a narcissistic CEO should be selected (employed) by a board.

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