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## Does the Leader Make a Difference? Relationship Between Executive Leader Personality and Entrepreneurial Firm Performance

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# Does the Leader Make a Difference? Relationship Between Executive Leader Personality and Entrepreneurial Firm Performance

## Abstract

The purpose of this study was to expand research on personality and leadership by investigating the relationship between executive leader personality and firm performance. Drawing from research on the five-factor model of personality (the Big Five), executive leader emotional adjustment (low neuroticism) and conscientiousness were hypothesized to be positively related to firm performance. No specific hypotheses were offered for the relationships between the remaining Big Five personality traits (extraversion, agreeableness, and openness to experience) and firm performance. Using a longitudinal sample of initial public offering (IPO) firms, results indicated that emotional adjustment and extraversion were related to measures of firm performance. Specifically, after adjusting for the influence of prior firm performance, as well as for the effects of several industry, firm, and demographic variables, executive leader emotional adjustment was associated with firms that had higher earnings per share and higher stock price; executive leader extraversion was associated with firms that had lower earnings per share and lower productivity. Contrary to expectations, conscientiousness was not related to firm performance.

## Keywords

leader, personality, firm, relationship, earning, relationship, productivity

## Disciplines

Management Sciences and Quantitative Methods

## Comments

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## WORKING PAPER SERIES

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Working Paper 98 – 17



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This paper has not undergone formal review or approval of the faculty of the ILR School. It is intended to make results of Center research available to others interested in preliminary form to encourage discussion and suggestions.

Author Note

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### **Abstract**

The purpose of this study was to expand research on personality and leadership by investigating the relationship between executive leader personality and firm performance. Drawing from research on the five-factor model of personality (the Big Five), executive leader emotional adjustment (low neuroticism) and conscientiousness were hypothesized to be positively related to firm performance. No specific hypotheses were offered for the relationships between the remaining Big Five personality traits (extraversion, agreeableness, and openness to experience) and firm performance. Using a longitudinal sample of initial public offering (IPO) firms, results indicated that emotional adjustment and extraversion were related to measures of firm performance. Specifically, after adjusting for the influence of prior firm performance, as well as for the effects of several industry, firm, and demographic variables, executive leader emotional adjustment was associated with firms that had higher earnings per share and higher stock price; executive leader extraversion was associated with firms that had lower earnings per share and lower productivity. Contrary to expectations, conscientiousness was not related to firm performance.

Does the Leader Make a Difference?  
Relationship Between Executive Leader Personality and  
Entrepreneurial Firm Performance

Do leaders make a difference to their organizations? On the face of it, this question would appear to require little more than common sense to answer affirmatively. Among researchers who have considered this issue, however, there is not unanimity of opinion. The publication of several influential studies in the 1970's suggested that leaders have little influence on organizational outcomes (e.g., Lieberman & O'Connor, 1972; Salancik & Pfeffer, 1977). As noted by Finkelstein and Hambrick (1990), these studies have been interpreted to support the view that "top managers have relatively little influence on organizational outcomes because of environmental and inertial forces" (p. 484). Other studies have challenged the conclusions of this stream of research and have shown that leaders do make a difference. Weiner and Mahoney (1981) found that leaders accounted for 12.8% of the variance in corporate profits. Thomas (1988) showed that changes in company leadership explained much more variance in within-firm (changes within a firm over time) than between-firm performance. Other studies in non-business contexts also have demonstrated the importance of leaders (e.g., House, Spangler, & Woycke, 1991; Smith, Carson, & Alexander, 1984). Collectively, these studies show that leaders generally do make a difference to the performance of their organizations (see House & Singh, 1987, for a review), though as Bass (1990) and House and Aditya (1997) have noted, much remains to be known about the processes and boundary conditions that affect their influence on organizations.

If leaders can make a difference, what causes them to make a difference? One means of answering this question is to consider the relationship between leader behaviors and organizational outcomes (see Day & Lord, 1988, for a model of the direct and indirect behaviors by which executive leaders may affect firm performance). For example, one of the most popular contemporary perspectives on leadership—transformational or charismatic leadership theory—suggests that leaders who are charismatic, communicate with vision, and provide intellectual stimulation will lead their organizations to higher performance (Bass, 1997; House & Shamir, 1993). Only a handful of studies have linked transformational leadership behaviors to business unit performance, but all have found that transformational leaders are associated with better performing units (e.g., Barling, Weber, & Kelloway, 1996; Baum, Locke, & Kirkpatrick, 1998; Howell & Avolio, 1993).

Another means of answering the question of how leaders make a difference is to examine the traits (as opposed to behaviors as discussed in the previous paragraph) of leaders. Despite previous skepticism about the trait approach in leadership research, in recent years it has

received considerable support (Northouse, 1997). In a meta-analysis of the literature, Lord, De Vader, and Alliger (1986) found that personality traits were associated with leadership effectiveness. However, it is important to note that Lord et al.'s (1986) review, as well as the vast majority of leadership research, concerned only perceptions of leaders. As Lord et al. noted in describing their findings, "They do not directly imply that there are also traits that would generally predict the performance of a leader's work group or organization, nor do they imply that there are certain types of leadership behaviors that will generally produce superior performance" (p. 408). Although there have been a few exceptions (e.g., Gupta & Govindarajan, 1984), there is a paucity of research linking leader traits directly to organizational performance. Recently, House and Aditya (1997) called for more leadership research to take an organizational focus. This need is especially great for studies linking leader traits to organizational effectiveness.

The purpose of the present study is to link the personality of executive leaders to firm performance. Consistent with other research that examined the influence of leaders on organizations (Baum et al., 1998), we focused our investigation on executive leaders in entrepreneurial "start-up" firms. The focus on entrepreneurial firms is important because leadership is more likely to be related to entrepreneurial firm performance (Hendrickson & Psarouthakis, 1992). Leaders in these smaller and younger firms are less constrained by corporate rules and bureaucracies; thus, their ideas can be more easily and quickly implemented (House & Aditya, 1997).

In relating executive leader personality to firm performance, we chose to use the taxonomy of personality known as the five-factor model or, more simply, the Big Five. Before hypothesizing relations between leader traits and firm performance, we provide a brief overview of the Big Five typology.

#### Five-Factor Model of Personality

Consensus is emerging that a five-factor model of personality, labeled the Big Five by Goldberg (1990), can be used to describe the most salient aspects of personality (see Block, 1995, and Ashton, 1998, for opposing views). The Big Five can be found in virtually any measure of personality (e.g., McCrae & John, 1992; Widiger & Trull, 1997), including the analysis of the trait adjectives in many languages, factor reanalyses of existing multidimensional measures, and decisions made by expert judges based on existing measures (see Mount & Barrick, 1995). The cross-cultural generalizability of the five-factor structure has been established through research in many countries, including Germany, Portugal, Korea, China, Israel, and the Netherlands. Evidence indicates that the Big Five are heritable and stable over time (Bergeman, Chipuer, Plomin, Pedersen, McClearn, Nesselroade, Costa, & McCrae, 1993; Costa & McCrae, 1988, 1994; Digman, 1989).



The dimensions comprising the five-factor model are emotional adjustment, extraversion, openness to experience, agreeableness, and conscientiousness. Emotional adjustment represents the tendency to be secure, calm, self-confident, and self-sufficient. Emotional adjustment is often labeled by its polar opposite—neuroticism—though these simply represent opposite ends of the same construct. Extraversion represents the tendency to be sociable, assertive, active, and to experience positive affects such as energy, zeal, and excitement. Openness to experience is the disposition to be imaginative, nonconforming, unconventional, and autonomous. Agreeableness is the tendency to be trusting, compliant, caring, and gentle. Conscientiousness is comprised of two related facets, achievement and dependability.

In industrial/organizational psychology, the major application of the five-factor model has been in the area of job performance. In fact, three meta-analyses have been conducted on the relationship between the Big Five traits and job performance (Barrick & Mount, 1991; Salgado, 1997; Tett, Jackson, & Rothstein, 1991). Two traits from the five-factor model stand out in terms of their relationship to job performance. A link between conscientiousness and job performance was established in separate meta-analytic investigations of American (Barrick & Mount, 1991) and European (Salgado, 1997) employees. Similarly, two of the meta-analyses supported a link between neuroticism and job performance (Salgado, 1997; Tett et al., 1991). Evidence regarding the relationship of job performance to the other three Big Five traits is less consistent.

### Hypotheses

The meta-analytic results reviewed above indicate that conscientiousness and emotional adjustment are the best personality predictors of job performance. This suggests a link between these traits and leader effectiveness. By itself, though, it does not demonstrate that conscientiousness and adjustment are the traits of effective leaders. As Kirkpatrick and Locke (1991) noted, leaders are not like other people.

There does appear to be some convergence, however, with the literature on the personality predictors of job performance if one considers reviews of the traits of effective leaders from leadership research. According to Bass' (1990) review, the two traits that have produced the most positive correlation with leader effectiveness are ascendancy and self-confidence. Ascendancy corresponds to one of the two major components of conscientiousness—achievement—and self-confidence corresponds to emotional adjustment. A review of the leadership literature conducted by Kirkpatrick and Locke (1991) also supports the relationship between achievement and self-confidence (noted in their review as being associated with emotional adjustment) and effective leaders.

What these reviews suggest is that conscientiousness may be linked to leader effectiveness through achievement orientation. As Kirkpatrick and Locke (1991) noted, "The need

for achievement is an important motive among effective leaders and even more among successful entrepreneurs. High achievers obtain satisfaction from successfully completing challenging tasks, attaining standards of excellence, and developing better ways of doing things" (p. 49). Achievement orientation is thought to be critical to effective entrepreneurship and small group effectiveness (House & Aditya, 1997).

The reviews also suggest that emotional adjustment is linked to leader effectiveness through one of the best predictors, self-confidence. Leaders must inspire and influence others; it is difficult to imagine negative leaders, or leaders who do not believe in themselves, being especially inspiring. Leaders with a positive self-concept also are "...more persistent in pursuit of difficult objectives...their optimism and persistence in efforts to accomplish a task or mission are likely to increase commitment by subordinates, peers, and superiors in support of the effort" (Yukl, 1998, p. 245). Furthermore, as House and Aditya (1997) noted, "Self-confidence is likely to be correlated with risk taking, as well as with assertiveness and prosocial dominance" (p. 416), all of which would appear to be important for effective leadership.

As a result of this evidence, we hypothesize the following:

H-1: Executive leader conscientiousness will be positively related to firm performance.

H-2: Executive leader emotional adjustment will be positively related to firm performance.

Several comments must be made in offering these hypotheses. First, it is possible that other Big Five traits are related to leader effectiveness. In particular, some reviews have suggested that sociability is related to leader effectiveness (Northouse, 1997). This would appear to suggest that extraverts would be more effective leaders than would introverts. However, several reviews have not identified sociability as a leadership trait (Kirkpatrick & Locke, 1991) and others have pointed out that some aspects of extraversion, such as need for affiliation, often have been associated with lower degrees of leader effectiveness (Yukl, 1998). Thus, we are not sufficiently confident to offer hypotheses regarding the relationship between the other Big Five traits and leader effectiveness, though these relations can and will be investigated. Second, it must be acknowledged that, by and large, previous studies have only related these traits to ratings of leader effectiveness and not "hard" outcomes. However, as noted by Lord et al. (1986), one would expect an association between the traits that influence the perception of effective leaders and those that affect unit outcomes.

To test the hypotheses, we conducted a longitudinal study of firms that "went public" (i.e., offered stock for purchase by shareholders) during 1993. To obtain Big Five personality data, we surveyed executive leaders who were listed in the prospectuses of these companies. Due to the fact that not all executives responded to the survey, we used data from the most senior member of the management team to conduct our study. Firm performance data was obtained from

COMPUSTAT and measured in 1993 and 1996. Our methodology is explained in greater detail in the following section.

## Method

### Setting, Participants, and Procedure

We selected a sample of young firms that initiated their IPO in 1993 (the first time a firm offers stock for purchase by the public is termed an IPO or initial public offering; Ernst & Young, 1993). A single year was chosen for firm inclusion (as opposed to a sample of IPO firms in numerous years) in order to obtain a sample of firms that were all experiencing the same general economic conditions. By selecting 1993, we were able to conduct a longitudinal analysis (from 1993 to 1996). We focus on the three-year time period because we think it permits a long-term study without presenting methodological problems due to leadership changes that are common in young IPOs.

The focus on entrepreneurial firms is important because leadership is more likely to be related to entrepreneurial firm performance (Hendrickson & Psarouthakis, 1992). Executive leaders in these smaller and younger firms are less constrained by corporate rules and bureaucracies; thus, their ideas can be more easily and quickly implemented (House & Aditya, 1997).

The study was designed to predict firm performance from 1993 to 1996 based on the characteristics of the firm at the time of its IPO in 1993. Personality data were collected from firm leaders during early 1995. Given research findings that personality does not change over time and that personality is not something that is affected by coworkers or the organization (Bergeman et al., 1993; Costa & McCrae, 1988, 1994; Digman, 1989), we conduct our study assuming that the personality in 1995 is the same personality the executive leaders had in 1993 (the three to six year average test-retest reliability of the Big Five as measured by the NEO-PI is .78; Costa & McCrae, 1994). Additionally, we conduct our analyses with only those firms for which we obtained personality data and for which the executive leaders had been with the firm since the IPO (we received surveys from leaders who joined the organization after the IPO, but we did not use these data for our analyses). Therefore, even though we did not collect the personality data in 1993, because personality is stable and because we conduct our study only with those leaders who had been with the firm since the IPO, we think that using personality to predict firm performance from 1993 to 1996 is appropriate.

Although according to Going Public: The IPO Reporter, a total of 706 organizations initiated initial public offerings in 1993; we were able to obtain prospectuses for 535 of those companies in 1994. After we obtained names of the members of the top management team and

updated the firm mailing list (some firms' addresses changed), a total of 2,675 personality surveys were sent to executive leaders in the 535 companies (in early 1995).

Each survey had an identification code that allowed us to link the personality survey data with the prospectus and firm performance data. From the organizational perspective, personality surveys were returned from at least one executive leader in 243 of the 535 organizations (representing 45% of the sample of organizations). From the individual perspective, 419 personality surveys were returned (representing 16% of the surveys mailed out). We compared personality survey respondents to nonrespondents on various firm characteristics to investigate the possibility of response bias. Respondents did not differ significantly from the nonrespondents on the information obtained from the prospectus or from COMPUSTAT or Securities Data Corporation, which were the sources used for financial data (e.g., earnings per share in 1996 and time of IPO, stock price in 1996 and time of IPO, productivity in 1996 and time of IPO, number of employees, risk factors, etc.). For purposes of our study, the sample was further reduced to 211 organizations because we included only those organizations for which the highest ranking responding leader had been with the organization since the time of the IPO.

Of the executive leaders who responded to the personality survey, 20% were Chief Executive Officers, 22% were Chief Financial Officers, and 58% were in other senior vice president positions (e.g., marketing, production, engineering, etc). Of the respondents in the "other" category, 6% were Chairmen of the Board and 16% had a financial-related positions (e.g., Treasurer, Controller). We chose the personality survey of the highest ranking leader in each firm for the analysis. Our logic was that the highest ranking leader had the greatest ability to influence firm performance. We selected the CEO, Chairman, or President first. Next, we chose the Chief Financial Officer because that individual is involved in many resource allocation decisions, particularly at the IPO stage. After that we utilized the most senior executive leader based on salary ranking patterns (technical individual, marketing, and lastly someone in human resource management or administration). In the case where only one leader responded, we used that leader's responses.

In order to test whether using the data from the highest ranking leader biased our results, we conducted an analysis to determine how similar the personality data were for executive leaders within the same firm. We received multiple responses from 72 of the 211 organizations. Therefore, we utilized the sub-sample of data (where we had multiple respondents) to determine whether the personality dimensions of the leaders were similar enough to be considered interchangeable. We determined interchangeability by computing  $r_{wg}$  statistics for each personality dimension for each of the 72 organizations (James, Demaree, & Wolf, 1993). The mean  $r_{wg}$  values for each personality dimension across the 72 organizations were as follows:

agreeableness (.91), conscientiousness (.94), extraversion (.93), emotional adjustment (.91), and openness to experience (.86). As all values were above .70, the results show that there was sufficient similarity to indicate the interchangeability of the leaders. These findings are consistent with research examining homogeneity of personality among managers (Schneider, Smith, Taylor, & Fleenor, 1998).

### Measures

Big Five traits. The Big Five personality dimensions—agreeableness, conscientiousness, extraversion, emotional adjustment, and openness to experience—were measured with the NEO-FFI Personality Inventory (Costa & McCrae, 1992), the most widely used measure of the five-factor model. For each dimension, respondents were asked to indicate their agreement with 12 statements using a 1=Strongly disagree to 5=Strongly agree response scale. Sample statements from each dimension include the following: “I try to be courteous to everyone I meet” (agreeableness); “I work hard to accomplish my goals” (conscientiousness); “I really enjoy talking to people” (extraversion); “I rarely feel fearful or anxious” (emotional adjustment); and “I often enjoy playing with theories or abstract ideas” (openness to experience). Reliabilities of the dimensions were as follows: agreeableness,  $\alpha=.66$ , conscientiousness,  $\alpha=.82$ , extraversion,  $\alpha=.74$ , emotional adjustment,  $\alpha=.80$  and openness to experience,  $\alpha=.76$ . Mean composite measures were created for each personality dimension.

Firm performance. We utilized three measures of firm performance: earnings per share, stock price, and productivity. Both earnings per share and stock price data are closely watched by analysts, and therefore may be less susceptible to manipulation than other accounting measures of performance (Lev & Thiagarajan, 1993). We added productivity (measured as sales per employee) as an internal measure of performance. We used year-end stock prices, year-end earnings per share, and year-end productivity data for 1996, obtained from COMPUSTAT, as our dependent variables. The mean earnings per share at year-end 1996 was \$0.26 (SD=\$1.60). Mean stock price at year-end 1996 was \$15.99 (SD=\$12.20). Mean productivity was .34 (in millions) with a standard deviation of .69.

Control variables. In order to insure that the effects of the Big Five traits on firm performance were unbiased, we took into account a number of controls that were both firm level (data obtained from the prospectus, COMPUSTAT, or Security Data Corporation) and individual level variables (data obtained from surveys). Prior firm performance was controlled so that the effect of the independent variables (including the traits) represents the change in firm performance over the time period of the study. Additionally, firm size, industry, and risk factors of the firm were included because both are known to affect longer-term firm performance, and they

have been used in other studies of initial public offering firms (Welbourne & Andrews, 1996; Beatty & Zajac, 1994).

Firm performance, at the time of the IPO, was measured with two variables: Initial stock offering price and earnings per share at the time of the IPO. We also measured productivity (sales per employee) at time of IPO, but we only controlled for it in the analysis for which productivity in 1996 was the dependent variable. Productivity has not typically been used as a control variable when relating variables to stock price and earnings per share. However, in an effort to ensure that productivity at time of IPO did not have an impact on these dependent variables, we reran the analyses controlling for productivity at time of IPO. The results were not appreciably different. The mean earnings per share at the time of the IPO was \$0.34 (SD=\$0.85), and the mean stock price at the time of the IPO was \$12.08 (SD=\$7.71). Firm size was measured by total number of employees. The average firm in our sample had 911 employees (median 217, with a range of 1 to 7,150). Risk was defined as the volatility in an organization's performance and measured as the firm's sensitivity to overall market movements (beta; Miller & Bromily, 1990).

Dichotomous variables for industry were used, and we utilized the nine categories recommended by the Small Business Administration and used in prior IPO research (Welbourne & Andrews, 1996). A total of 0.3% firms were in agriculture, 4.7% in mining, 1% in construction, 40.1% in manufacturing, 8.7% in transportation and utilities, 4.7% in wholesale trade, 7.7% in retail trade, 19.1% in financial services and insurance, and 13.7% in services. The industry variables were dummy coded with firms in the agriculture industry serving as the excluded group.

Leader-specific control variables. In addition to these firm-level controls, we also took into account several characteristics of the leader: education, age, gender, and job title. Leader education, age, and gender were measured with specific questions from the leader survey. Education was coded on a 1-9 scale with 1=less than a high school education and 9=Ph.D. Sex was coded 0=male, 1=female.

Additionally, we coded job title as six dichotomous categories: (1) Chief Executive Officer, President or General Manager, which represents 36% of the sample (2) Vice President of Finance or Chief Financial Officer, 32% (3) Vice President of Marketing or Sales, 3.3% (4) Vice President of Technology, Science, or Engineering, 4.6% (5) Vice President of Human Resources, 1.3% and (6) Other Vice President, 23.2%. Given that these factors may influence the performance of the firm (e.g., individuals with higher levels of education may make more informed decisions; people in various jobs have different amounts of influence), or that they may have an effect on their responses to the personality survey (age and gender are correlated with

some of the Big Five traits [Costa & McCrae, 1992]), we decided to include these additional controls.

### Results

Table 1 presents the means, standard deviations, and correlation matrix for the variables used in the analyses. (Due to space constraints, the industry and job title dummy variables are not included in Table 1.) The correlations suggest that leader emotional adjustment and agreeableness were significantly related to 1996 stock price (leader emotional adjustment:  $r = .14$ ,  $p \leq .05$ ; leader agreeableness:  $r = .14$ ,  $p \leq .05$ ) and 1996 earnings per share price (leader emotional adjustment:  $r = .13$ ,  $p \leq .05$ ; leader agreeableness:  $r = .12$ ,  $p < .05$ ); and leader extraversion was significantly related to 1996 productivity (leader extraversion:  $r = -.19$ ,  $p \leq .05$ ). The other relationships were not statistically significant. It is important to exercise caution in interpreting the correlations because, when relating executive leader variables to firm performance, it is critical that other variables that may affect performance are taken into account (Thomas, 1988). Accordingly, in the next step of the analysis, we predicted firm performance using the control variables and Big Five traits.

Table 1 Means (M), Standard Deviations (SD), and Intercorrelations of Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. 1996 earnings per share (\$)	0.26	1.60	---															
2. 1996 stock price (\$)	15.99	12.21	.52	---														
3. Productivity (1996) (in thousands)	.34	.69	.20	.22	---													
4. 1993 earnings per share (\$)	.34	.85	.30	.21	.05	---												
5. 1993 offering price (\$)	12.08	7.71	.02	.30	.19	.21	---											
6. Productivity (1993) (in thousands)	.31	.11	.24	.26	.07	.06	.17	---										
7. Log total number of employees	5.48	1.68	.31	.33	-.04	.33	.15	-.03	---									
8. Risk (Beta)	.82	.79	.04	.13	-.02	-.04	-.18	-.06	.06	---								
9. Leader education	6.23	1.43	.01	.02	-.06	.06	.09	-.001	-.09	.07	---							
10. Leader age	45.44	8.13	.13	.07	.05	-.05	-.08	-.08	-.01	.04	-.01	---						
11. Leader sex (0=male, 1=female)	0.08	0.26	-.05	.03	-.04	.03	.04	-.02	.01	.08	.00	-.12	---					
12. Leader agreeableness	3.54	0.42	.12	.14	-.07	.17	.15	.09	.16	.08	.01	.07	.13	---				
13. Leader conscientiousness	4.03	0.47	-.04	.00	-.05	-.05	.00	.005	.00	-.02	.14	.04	.02	-.03	---			
14. Leader extraversion	3.75	0.43	-.11	-.01	-.19	-.12	.07	-.02	.00	.00	.03	.09	.02	.16	.16	---		
15. Leader emotional adjustment	3.96	0.50	.13	.14	-.01	-.04	.01	.04	-.08	-.08	.03	.06	-.11	.19	.11	.35	---	
16. Leader openness to experience	3.31	0.54	.01	-.10	-.11	-.02	-.11	.38	-.11	.07	.14	-.04	.15	-.08	-.22	.25	-.09	---

Notes: The industry and job title dummy variables are excluded from the table. Total number of employees was computed by taking its natural log. Decimals are omitted from correlations. Correlations greater than .11 are significant at the .05 level (two-tailed). N=211.



Ordinary least squares (OLS) regression was used to test the study hypotheses. Table 2 shows the results of regressions predicting stock price, earnings per share, and productivity. We conduct the analysis from 1993 to 1996 using data only from those executives who were with the firm at the time of the IPO (i.e., 1993). Therefore, the analysis examines the relationship between executive leader personality and firm performance, where performance is from the time of the IPO through year-end 1996.

In terms of the control variables, several firm-level variables were significantly related to firm performance. Specifically, firm size and firm performance at the time of the IPO were related to performance. The industry variables generally were not related to firm performance. The only exception was that firms operating in the transportation and utility industry had significantly lower earnings per share than the excluded group, the agriculture industry. The executive leader demographic variables (education, age, title, or sex) were generally not significantly related to firm performance measures. The exception was the significant relationship between age and earnings per share.

In terms of the Big Five traits, as hypothesized, leader emotional adjustment was significantly positively related to stock price (Beta = .21,  $p \leq .01$ ) and earnings per share (Beta = .25  $p \leq .01$ ). According to these findings, the emotional adjustment of an organization's executive leader was associated with higher earnings per share and higher stock prices. Leader extraversion was significantly negatively related to earnings per share (Beta = -.21,  $p \leq .01$ ) and productivity (Beta = -.17,  $p \leq .05$ ). These results indicate that greater extraversion in an executive leader is related to lower earnings per share and lower productivity. Leader emotional adjustment was not significantly related to productivity. Leader extraversion was not significantly related to stock price. Leader agreeableness, conscientiousness, and openness to experience were not significantly related to stock price, earnings per share, or productivity. Thus, H-2 (executive leader emotional adjustment will be positively related to firm performance) was supported, while H-1 (leader conscientiousness will be positively related to firm performance) was not supported.

Table 2

Regression of Organizational Performance Measures on Control Variables and Big Five Traits

Independent Variable	Stock Price 1996	Earnings per share 1996	Productivity 1996
<u>Firm-Level Control Variables</u>			
Earnings per share 1993	.23**	.20**	.09
Offering price 1993	.26***	-.01	.15
Total number of employees	.18**	.15*	-.03
Firm level risk	.22**	.08	-.001
Productivity 1993			.36***
<u>Leader Demographics</u>			
Leader education	.003	-.002	-.01
Leader age	.11	.16*	.08
Leader sex	.02	-.05	.04
CEO, president, or general manager	-.09	-.17	.13
Vice President Finance or CFO	.12	.07	.07
VP Marketing or Sales	-.001	.03	.07
VP Technology or engineering	-.07	-.07	.03
VP Human Resources	-.02	.04	-.02
<u>Leader Personality Traits</u>			
Agreeableness	-.02	-.004	-.06
Conscientiousness	-.04	-.03	.02
Extraversion	-.04	-.21**	-.17*
Emotional adjustment	.21**	.25**	.03
Openness to experience	-.05	.06	-.06
R <sup>2</sup>	.36***	.34***	.48***

Notes: With the exception of the R and R<sup>2</sup> statistics, entries are standardized regression ( $\beta$ ) coefficients. Agriculture was the omitted industry category. \*  $p \leq .05$ ; \*\*  $p \leq .01$ .

## Discussion

In this study, we examined the relationships between the Big Five personality dimensions of executive leaders and entrepreneurial firm performance. The results indicated that emotional adjustment of executive leaders was associated with both higher earnings per share and higher stock prices. Additionally, extraversion was associated with lower earnings per share and lower productivity. Our study is unique in that it is the first research to extend what we know about the individual personality-individual performance relationship to the organization level. By doing so, this research contributes to the literatures on personality and leadership. Each of these areas is discussed in turn.

### Implications for Personality Research

Most of the personality research conducted to date has focused on the relationship between personality and individual performance (Barrick & Mount, 1991; Salgado, 1997; Tett et al., 1991). Our research extends this line of research to the organizational level, and we find that, consistent with most individual level research, emotional adjustment of executive leaders is associated with firm performance. Our finding for emotional adjustment is also similar to what has been found in other research examining the relationship between team personality and performance. Research conducted by Kichuk and Wiesner (1997) demonstrated that emotional adjustment differed greatly between successful and unsuccessful teams. Thus, our results provide additional support for the link between emotional adjustment and performance, extending what has been found at the individual and team levels to the organizational level.

At the same time, however, we discovered no significant relationship between conscientiousness and firm performance. The finding for conscientiousness may be due to the level of analysis being studied. Conscientiousness is a trait that is associated with individual work habits. Thus, its effect on individual outcomes seems appropriate. However, conscientiousness may not be as important for leader effectiveness at the organizational level. As noted previously, achievement (a component of conscientiousness) has been found to be a characteristic of effective leaders. Because the two components of conscientiousness (achievement and dependability) have been found to be related in other samples, we believed that the same would hold true for this sample of executive leaders. Thus, we hypothesized relationships between conscientiousness (the construct level) and firm performance. However, it may be dependability of executive leaders is unrelated to firm performance, while achievement of executive leaders is related to firm performance. Given that we only measured the traits at the construct (as opposed to the facet) level, we cannot test this explanation. Future research should include both construct- and facet-level measures of the trait in addition to examining a variety of contexts to investigate the various issues raised in our findings.

The results for extraversion and earnings per share and productivity are also unique. Given that the negative effect for extraversion did not hold for stock price, one may speculate that introverted leaders were more likely to spend time on company operations and did things to maximize earnings and sales rather than stock price (spending time with internal affairs vs. working with outside constituencies such as stockholders, investment bankers, etc.). An alternative explanation for the negative finding is that leaders with a high need for affiliation may be more concerned about achieving harmonious relationships than with the success of the business. As a result, they may be unwilling to make unpopular (but sometimes necessary) decisions (Yukl, 1998). Future research relating traits with behavior would help address this issue.

#### Implications for Leadership Research

Not only does our study extend what is known about personality-performance relations, it also responds to calls to extend the leadership research to the firm level (House & Aditya, 1997). Given the importance of the leader to the smaller firm (such as those in our sample), and the importance of the leader at particularly critical times in the firm's life cycle (such as the initial public offering stage), it seems reasonable to expect a relationship between executive leader personality and entrepreneurial firm performance. Employees in smaller firms have more access to the leadership team and, particularly during critical times of change, they look to the executive leaders for reassurance. If the executive leader is able to provide reassurance, this should have a positive effect on all employees in the organization. That same type of assurance is needed by those who invest at the company at this relatively early stage. Investors closely watch initial public offering firms, and they want to know that the firm is moving forward and on the right track. Investors look to the leadership of the firm for that reassurance.

We do not know from this study whether this research is generalizable to samples of larger firms. Future research needs to examine exactly how traits affect business decisions and business relationships (with employees, shareholders, investment bankers, etc.). We may find that the leadership traits in a business unit of a larger firm has the same effect on that business unit's performance that we found in our study. The key difference, however, is that in a business unit, the division leadership is often constrained by leadership in corporate headquarters. The executives in our study are, generally speaking, not part of a larger organization. Most are start-up firms (the median firm had 217 employees and was 6 years old). Simply based on their age and size, the executive in the typical firm in our sample has greater ability to influence the performance of the company.

Additional research should also examine more proximal factors that might explain our results. For example, perhaps emotionally stable individuals are more likely to exhibit behaviors

that are associated with charismatic leaders with clear vision; both charisma and vision have been found to be important to entrepreneurial firm success (Baum et al., 1998; House & Aditya, 1997). Future research should examine the links between and among executive leader personality, executive leader behavior, and firm performance.

### Limitations

Although our study expands the personality and leadership literatures, there are several limitations that must be considered when interpreting the results. First, our sample selection, although intended as a strategy to focus on executive leader personality, is also a shortcoming because we are unsure whether our results generalize to other types of firms. In particular, they may not generalize to larger firms or even to smaller firms that are not at the IPO stage. Additional research on the link between executive leader personality and firm performance is needed before this question can be answered.

Second, the survey response rate was somewhat low. We did not expect to obtain responses from all members of the top management team, which is why we sent surveys to all members of the team. This survey strategy resulted in sending a large number of surveys and reporting an overall response rate that was relatively low (16%). However, given that our goal was at least one survey from each company, the company level response rate, which was 45%, is adequate for our study. In addition, our analysis of non-respondent bias helped to alleviate some of our concern about nonrespondents.

An additional limitation is that our surveys were sent to executives in early 1995. Therefore, the personality data were not gathered at the time of the IPO. We attempted to correct for that concern by only conducting the study with data from firms where the respondent had been with the company since the time of the IPO. Given the fact that personality has been found to be stable over time, our data should be adequate in testing the hypotheses. Furthermore, the design is consistent with the presumed causal ordering among the variables, since firm performance occurred after personality was measured, and prior firm performance (assessed before the personality surveys were completed) was controlled in the analyses. However, we do recognize that other explanations of the findings are possible. For example, it may be possible that individuals with certain personalities are more likely to be attracted to or selected for executive leader roles with organizations that have more potential success. Future research is needed to examine more fully these potential alternative explanations.

Although we obtained significant results, the beta coefficients were not large. Given all of the factors that go into predicting firm performance (particularly longer-term performance) and the number of factors that are not under the control of the top management team (external market-based forces and competitor threats), we were not surprised with the size of the

correlations and the beta coefficients. In addition, House and Aditya (1997) argue that leader trait effects are likely to be mitigated when the company is in a “strong situation.” Given the importance of the IPO and the number of changes that it results in, the IPO situation may indeed be an example of a “strong situation” and thus one where the leader effect is somewhat depressed. Moreover, if we compare our correlational results with the results of a recent meta-analysis of personality-individual performance relations, we find that our findings are quite comparable to the findings in this literature. As an illustration, according to Tett, Jackson, Rothstein, & Reddon’s (1994) meta-analysis, the weighted mean correlation between personality and individual performance corrected for upward bias across all samples was .116, and for the managerial subgroups it was .091. In this study, the average mean uncorrected correlation between executive leader personality and firm performance was .082. Thus, we feel that the relationships between leader personality and the firm performance measures were not trivial.

### Conclusion

Although our research design does present some limitations, as the first paper to relate the Big Five personality traits to firm performance, we think that our research findings make several important contributions to both the personality and leadership literatures. Key is the finding that the dimension of personality that has been found to predict individual performance (conscientiousness) is not associated with firm performance. This is important for firms interested in using personality for recruitment and selection. It is also important for companies that are attempting to use personality as a criterion for building high performance teams. The people who may be successful individual contributors may not be the same ones who can lead an organization and make the entire group of employees (the company) successful. Future research on additional facets of personality in smaller firms and comparable research in larger firms would help expand our research and further understand the relationship between leader personality and firm performance.

## References

- Ashton, M. C. (1998). Personality and job performance: The importance of narrow traits. Journal of Organizational Behavior, 19, 289-303.
- Barling, J., Weber, T., & Kelloway, E. K. (1996). Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment. Journal of Applied Psychology, 81, 827-832.
- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. Personnel Psychology, 44, 1-26.
- Barrick, M. R., Day, D. V., Lord, R. G., & Alexander, R. A. (1991). Assessing the utility of executive leadership. Leadership Quarterly, 2, 9-22.
- Bass, B. M. (1990). Bass & Stogdill's handbook of leadership (3<sup>rd</sup> ed.). New York: Free Press.
- Bass, B. M. (1997). Does the transactional-transformational paradigm transcend organizational and national boundaries? American Psychologist, 22, 130-142.
- Baum, J. R., Locke, E. A., & Kirkpatrick, S. A. (1998). A longitudinal study of the relation of vision and vision communication to venture growth in entrepreneurial firms. Journal of Applied Psychology, 83, 43-54.
- Beatty, R. P., & Zajac, E. J. (1994). Managerial incentives, monitoring, and risk behavior: A study of executive compensation, ownership, and board structure in initial public offerings. Administrative Science Quarterly, 39, 313-335.
- Bergeman, C. S., Chipuer, H. M., Plomin, R., Pedersen, N. L., McClearn, G. E., Nesselroade, J. R., Costa, P. T., & McCrae, R. R. (1993). Genetic and environmental effects on openness to experience, agreeableness, and conscientiousness: An adoption/twin study. Journal of Personality, 61, 159-179.
- Block, J. (1995). A contrarian view of the five-factor approach to personality description. Psychological Bulletin, 117, 187-215.
- Costa, P. T., Jr., & McCrae, R. R. (1988). Personality in adulthood: A six-year longitudinal study of self-reports and spouse ratings on the NEO Personality Inventory. Journal of Personality and Social Psychology, 54, 853-863.
- Costa, P. T., Jr., & McCrae, R. R. (1992). Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor (NEO-FFI) Inventory professional manual. Odessa, FL: PAR.
- Costa, P. T., & McCrae, R. R. (1994). Set like plaster? Evidence for the stability of adult personality. In T. F. Heatherton & J. L. Weinberger (Eds.), Can personality change? (pp. 21-40). Washington, D.C.: American Psychological Association.
- Day, D. V., & Lord, R. G. (1988). Executive leadership and organizational performance: Suggestions for a new theory and methodology. Journal of Management, 14, 453-464.
- Digman, J. M. (1989). Five robust trait dimensions: Development, stability, and utility. Journal of Personality, 57, 195-214.

- Ernst & Young (1993). Deciding to go public: Understanding the process and alternatives. Published by Ernst & Young.
- Finkelstein, S., & Hambrick, D.C. (1990). Top-management-team tenure and organizational outcomes: The moderating role of managerial discretion. Administrative Science Quarterly, 35, 484-503.
- Goldberg, L. R. (1990). An alternative "description of personality": The Big-Five factor structure. Journal of Personality and Social Psychology, 59, 1216-1229.
- Gupta, A. K., & Govindarajan, V. (1984). Business unit strategy, managerial characteristics, and business unit effectiveness at strategy implementation. Academy of Management Journal, 27, 25-41.
- Hendrickson, L. U., & Psarouthakis, J. (1992). Managing the growing firm. Englewood Cliffs, NJ: Prentice Hall.
- House, R. J., & Aditya, R. N. (1997). The social scientific study of leadership: Quo vadis? Journal of Management, 23, 409-473.
- House, R. J., & Shamir, B. (1993). Toward the integration of transformational, charismatic, and visionary theories. In M. M. Chemers & R. Ayman (Eds.), Leadership theory and research: Perspectives and directions (pp. 81-107). San Diego: Academic Press.
- House, R. J., & Singh, J. V. (1987). Organizational behavior: Some new directions for I/O psychology. Annual Review of Psychology, 38, 669-718.
- House, R. J.; Spangler, W. D., & Woycke, J. (1991). Personality and charisma in the U.S. presidency: A psychological theory of leader effectiveness. Administrative Science Quarterly, 36, 364-396.
- Howell, J. M., & Avolio, B. J. (1993). Transformational leadership, transactional leadership, locus of control, and support for innovation: Key predictors of consolidate-business-unit performance. Journal of Applied Psychology, 78, 891-902.
- James, L. R., Demaree, R. G., & Wolf, G. (1993).  $r_{wg}$ : An assessment of within-group interrater agreement. Journal of Applied Psychology, 78, 306-309.
- Kichuk, S. L., Wiesner, W. H. (1997). The Big Five personality factors and team performance: Implications for selecting successful product design teams. Journal of Engineering and Technology Management, 14, 195-221.
- Kirkpatrick, S. A., & Locke, E. A. (1991). Leadership: Do traits matter? Academy of Management Executive, 5, 48-60.
- Lev, B., & Thiagarajan, R. (1993). Fundamental information analysis. Journal of Accounting Research, 31, 190-215.
- Lieberson, S., & O'Connor, J. F. (1972). Leadership and organizational performance: A study of large corporations. American Sociological Review, 37, 117-130.



- Lord, R. G., De Vader, C. L., & Alliger, G. M. (1986). A meta-analysis of the relation between personality traits and leadership perceptions: An application of validity generalization procedures. Journal of Applied Psychology, 71, 402-410.
- McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. Journal of Personality, 2, 175-215.
- Miller, K. D., & Bromily, P. (1990). Strategic risk and corporate performance: An analysis of alternative risk measures. Academy of Management Journal, 33, 756-779.
- Mount, M. K., & Barrick, M. R. (1995). The Big Five personality dimensions: Implications for research and practice in human resources management. Research in Personnel and Human Resources Management, 13, 153-200.
- Northouse, P. G. (1997). Leadership: Theory and practice. Thousand Oaks, CA: Sage.
- Salancik, G. R., & Pfeffer, J. (1977). Constraints on administrator discretion: The limited influence of mayors on city budgets. Urban Affairs Quarterly, 12, 475-498.
- Salgado, J. F. (1997). The five factor model of personality and job performance in the European Community. Journal of Applied Psychology, 82, 30-43.
- Schneider, B., Smith, D. B., Taylor, S., & Fleenor, J. (1998). Personality and organizations: A test of the homogeneity of personality hypothesis. Journal of Applied Psychology, 83, 462-470.
- Smith, P. B., Carson, K. P., & Alexander, R. A. (1984). Leadership: It can make a difference. Academy of Management Journal, 27, 765-776.
- Tett, R. P., Jackson, D. N., & Rothstein, M. (1991). Personality measures as predictors of job performance: A meta-analytic review. Personnel Psychology, 44, 703-742.
- Tett, R. P., Jackson, D. N., Rothstein, M., & Reddon, J. R. (1994). Meta-analysis of personality-job performance relations: A reply to Ones, Mount, Barrick, and Hunter (1994). Personnel Psychology, 47, 157-172.
- Thomas, A. B. (1988). Does leadership make a difference to organizational performance? Administrative Science Quarterly, 33, 388-400.
- Weiner, N., & Mahoney, T. A. (1981). A model of corporate performance as a function of environmental, organizational, and leadership influences. Academy of Management Journal, 24, 453-470.
- Welbourne, T. M., & Andrews, A. O. (1996). Predicting performance of initial public offerings: Should human resource management be in the equation? Academy of Management Journal, 39, 891-919.
- Widiger, T. A., & Trull, T. J. (1997). Assessment of the five-factor model of personality. Journal of Personality Assessment, 68, 228-250.
- Yukl, G. (1998). Leadership in Organizations. Upper Saddle River, NJ: Prentice Hall.