

AN EMPIRICAL INVESTIGATION OF THE PREDICTORS OF EXECUTIVE CAREER SUCCESS

TIMOTHY A. JUDGE

Department of Management and Organizations
University of Iowa

DANIEL M. CABLE

College of Business and Management
Georgia Institute of Technology

JOHN W. BOUDREAU

Center for Advanced Human Resource Studies
Cornell University

ROBERT D. BRETZ, JR.

Department of Management and Organizations
University of Iowa

This study examined the degree to which demographic, human capital, motivational, organizational, and industry/region variables predicted executive career success. Career success was assumed to comprise objective (pay, ascendancy) and subjective (job satisfaction, career satisfaction) elements. Results obtained from a sample of 1,388 U.S. executives suggested that demographic, human capital, motivational, and organizational variables explained significant variance in objective career success and in career satisfaction. Particularly interesting were findings that educational level, quality, prestige, and degree type all predicted financial success. In contrast, only the motivational and organizational variables explained significant amounts of variance in job satisfaction. These findings suggest that the variables that lead to objective career success often are quite different from those that lead to subjectively defined success.

What factors lead some executives to be more successful in their careers than others? This interesting and important question has been only partially answered through prior research. In fact, examination of the relevant literatures reveals that knowledge of executive career success

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Correspondence and requests for reprints should be addressed to Timothy A. Judge, Department of Management and Organizations, College of Business Administration, University of Iowa, Iowa City IA 52242-1000.

can be enhanced in several ways. First, researchers have predicted career success primarily by using a few variables in a piecemeal fashion, without considering the relative effects of manifold sets of theoretically based variables (e.g., Gattiker & Larwood, 1989; Judge & Bretz, 1994). Furthermore, although executive career success has generated considerable interest in the business press, little rigorous empirical research is available. Third, little research has examined executives' satisfaction with their careers, and research that is available often has relied exclusively on common-method, self-report data (cf. Cox & Cooper, 1989; Gattiker & Larwood, 1986, 1988; Judge & Bretz, 1994). Finally, almost no research has simultaneously examined both the objective (e.g., compensation) and subjective (e.g., career satisfaction) aspects of career success (Gattiker & Larwood, 1989), although both appear to be essential to a complete treatment of this issue.

Accordingly, the present study proposes and tests a comprehensive model of executive career success that includes both objective and subjective elements. The predictors within this model are derived from past research, and include a wider range of theoretically relevant variables than have been included in any single prior study. Thus, results from the test of the hypothesized model should provide the most comprehensive evidence to date regarding the predictors of career success among executives.

Conceptual Model of Executive Career Success

Consistent with Judge and Bretz (1994) and London and Stumpf (1982), we define career success as the positive psychological or work-related outcomes or achievements one has accumulated as a result of one's work experiences. As Jaskolka, Beyer, and Trice (1985) noted, career success is an evaluative concept, so judgments of career success depend on who does the judging. Career success as judged by others is determined on the basis of relatively objective and visible criteria (Jaskolka et al., 1985). Researchers often refer to this type of career success as objective success because it can be measured by observable exoteric metrics such as salary and number of promotions (Gattiker & Larwood, 1988; Judge & Bretz, 1994; Kotter, 1982). Thus, we define objective career success as observable career accomplishments which can be measured against the metrics of pay and ascendancy (London & Stumpf, 1982).

Career success also can be judged by the individual pursuing the career. Most research on career success typically has focused on objective success (e.g., Kotter, 1982), rather than individual appraisals of their own success (Gattiker & Larwood, 1989). Even more rare is research that considers objective and subjective dimensions together (Gattiker

& Larwood, 1989). Past research has suggested that many individuals who are extrinsically successful do not feel successful or satisfied with their achievements (Korman, Wittig-Berman, & Lang, 1981), so it is important to consider both objective and subjective evaluations of career success (Howard & Bray, 1988; Gattiker & Larwood, 1989). Accordingly, our model includes subjective career success, defined as individuals' feelings of accomplishment and satisfaction with their careers. There is a link between objective success and subjective appraisals in that individuals define their success based, in part, on their objective accomplishments. In fact, past research generally has found that objective and subjective success are positively but moderately related (Bray & Howard, 1980; Harrell, 1969; Judge & Bretz, 1994).

Because a career is a sequence of work-related positions (jobs) occupied throughout a person's life (London & Stumpf, 1982), we define subjective career success to include current job satisfaction just as the career includes the current job. Consistent with Locke (1976), overall job satisfaction is defined as "a pleasurable or positive emotional state resulting from an appraisal of one's job or job experiences" (p. 1300). Career satisfaction, in turn, is defined as the satisfaction individuals derive from intrinsic and extrinsic aspects of their careers, including pay, advancement, and developmental opportunities (Greenhaus, Parasuraman, & Wormley, 1990).

Figure 1 displays the hypothesized model of career success. Consistent with Judge and Bretz (1994) and Whitely, Dougherty, and Dreher (1991), we assume that objective career success consists of compensation and ascendancy (number of promotions). As the figure shows, we hypothesize that several categories of variables (i.e., demography, human capital, motivation, organization, and industry/region) predict objective career success. We discuss each category of predictors in turn.

Demographic variables. According to Pfeffer (1983), the demography of an organization's members may influence many behavioral patterns and outcomes, including promotions and salary attainment. Thus, demographic variables need to be taken into account when investigating the predictors of career success. Several studies have found that demographic variables explain more variance in career success than other sets of influences (Gattiker & Larwood, 1988, 1989; Gould & Penley, 1984). One of the most obvious and consistent findings regarding demographic influences is that age positively predicts objective success (Cox & Nkomo, 1991; Gattiker & Larwood, 1988, 1989; Gutteridge, 1973; Harrell, 1969; Jaskolka et al., 1985), presumably because extrinsic outcomes accrue over time.

Another relatively consistent finding is that married individuals achieve higher levels of objective success than unmarried individuals

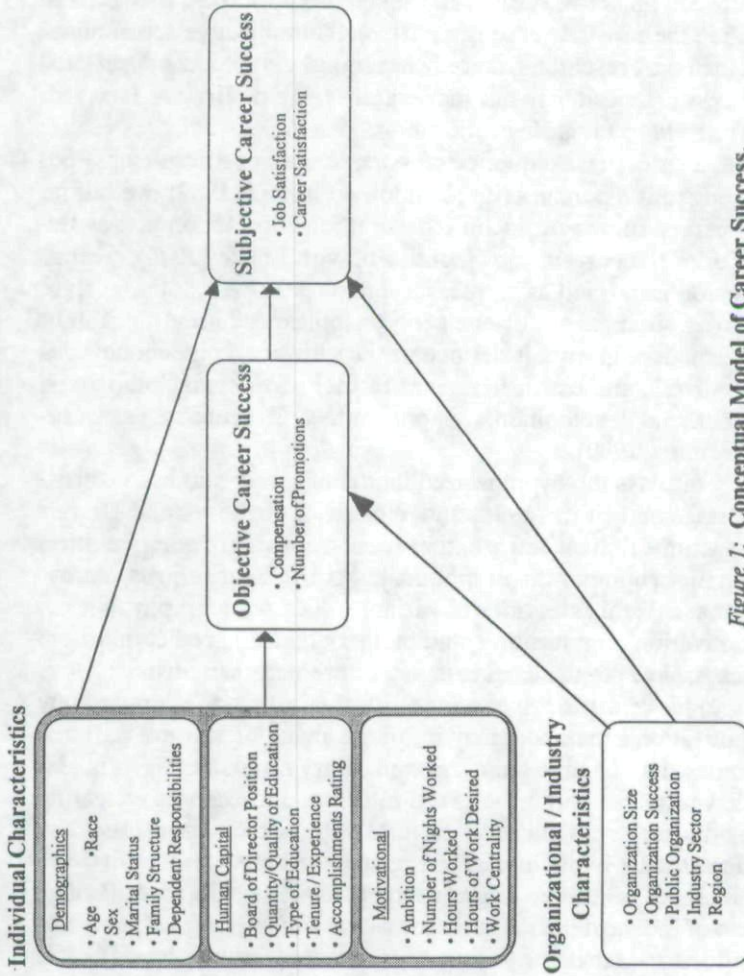


Figure 1: Conceptual Model of Career Success.

(Judge & Bretz, 1994; Pfeffer & Ross, 1982). As Pfeffer and Ross (1982) pointed out, marriage may act as a signal to organizations of the existence of positive attributes in the individual, such as stability, responsibility, and maturity (Bloch & Kuskin, 1978). Furthermore, spouses often act as resources for managers because they can assist with household responsibilities, offer emotional support, and provide consultation on job-related matters (Pfeffer & Ross, 1982). On the other hand, a spouse with a job outside the home diminishes the resources that can be devoted to the manager's career (Pfeffer & Ross, 1982). Thus, marital status should positively predict objective success whereas having a spouse employed outside the home should negatively predict objective career success (Pfeffer & Ross, 1982). Additionally, research has suggested that because hours devoted to dependent care and other household responsibilities represent time away from work, the time spent on such responsibilities negatively affects career success (Bielby & Bielby, 1988). Thus, time devoted to dependent responsibilities should negatively predict objective career success.

Numerous studies have found that compared to White managers, minority managers receive lower evaluations in terms of estimated job qualifications, performance ratings, and pay and promotions (Cox & Nkomo, 1991; Greenhaus et al., 1990). A considerable amount of research on gender differences in career progression has revealed similar findings in terms of pay, performance ratings, and promotions (e.g., Carlson & Swartz, 1988). Conversely, some research suggests that in certain situations women and minorities receive *more* favorable treatment with respect to promotions and pay raises than White men (Gerhart & Milkovich, 1989; Tsui & Gutek, 1984).

Thus, evidence suggests that women and minorities are treated differently (and sometimes more favorably) than their White male counterparts. However, when levels of career attainment are evaluated—as opposed to the outcomes of specific personnel decisions—the evidence is also fairly clear that women and minorities have lower levels of career success than White men (Cox & Nkomo, 1991). Accordingly, we expect that minority and female executives will have lower levels of objective career success than White and male executives.

Human capital variables. Human capital theory posits that the labor market rewards investments individuals make in themselves, and that these investments lead to higher ascendancy rates and salaries (Becker, 1964). Here we define human capital to include the cumulative educational, personal, and professional experiences that might enhance an executive's value to an employer. Level of education is the human capital attribute that has been the subject of the most research. Research from the labor economics and careers literatures indicates that returns

from educational attainment in terms of pay and promotions are significant (Jaskolka et al., 1985; Pfeffer & Ross, 1982; Psacharopoulos, 1985; Whitely et al., 1991). Thus, we predict a positive relationship between level of education and objective career success. It also appears important to examine the effect of the educational content (e.g., executive's major field of study) because research suggests that organizations reward business, law, and engineering degrees more than other types of education (e.g., Swinyard & Bond, 1980; Useem & Karabel, 1986). Thus, we expect that executives with degrees in business, engineering, and law will have higher levels of objective success than executives with degrees in other areas.

Although research has revealed a great deal of information concerning the relationship between quantity of education and career success, less is known about the effects of educational quality on career outcomes (for an exception see Solmon, 1973). Descriptive studies suggest that successful executives are disproportionately graduates from well-regarded universities (Swinyard & Bond, 1980; Warner & Abegglen, 1955), so the role of educational quality in executive career attainment is an important yet unexplored issue. As noted by Useem and Karabel (1986), an educational institution may bestow three distinct types of human capital upon its graduates: scholastic capital (the amount of knowledge acquired), social capital (personal contacts, network ties, inculcation of achievement motivation), and cultural capital (the value society places on symbols of prestige). The quality of the school attended, in terms of research and instruction, resources, quality of students, and so on, would seem to provide a future executive with scholastic capital. Thus, the quality of the university from which the executive earned his or her highest degree should positively predict objective success.

On the other hand, the quality of the school *per se* may or may not provide social and cultural capital. These latter forms of capital would seem to be prevalent in universities that have achieved a certain level of prestige and status, such as Ivy League universities (Dumhoff, 1967). Analyses of educational institutions' status have found that Ivy League universities are disproportionately represented, and estimates of universities with the most prestige usually include most or all Ivy League universities (Useem & Karabel, 1986). Although there is likely a positive relationship between the status and quality of a university, some universities' reputations surpass their actual quality, and other universities' true value exceeds their reputation. Because Ivy League universities have a high degree of status, because such universities are likely to be particularly beneficial in bestowing social and cultural capital upon their graduates (Useem & Karabel, 1986), and because graduates from these universities may benefit from policies of nepotism or favoritism beyond any

human capital acquired (Thelin, 1976), we predict that controlling for educational quality, being a graduate of a prestigious (i.e., Ivy League) university positively predicts objective career success.

Other than education, we expect other human capital variables to predict objective career success. Research suggests that job tenure and total time in one's occupation are positively related to career attainment (Cox & Harquail, 1991; Gutteridge, 1973; Jaskolka et al., 1985; Judge & Bretz, 1994; Pfeffer & Ross, 1982; Whitely et al., 1991). Along with amount of experience, type of experience may be relevant in predicting career success. Specifically, it is becoming more important for executives to have international work experience (Cava & Mayer, 1993), suggesting that organizations are more likely to reward and promote executives who have had international exposure (Kets de Vries & Mead, 1992). Thus, we expect that having job and occupational tenure and international experience positively predict objective career success. An important characteristic of professionals that should affect their career success is their level of accomplishment in their job and career (Hough, 1984). One indicator of an executive's "portable" value, or market value, is an assessment of executives' cumulative accomplishments and future potential. An organization specializing in assessing the marketability of executives, such as an executive search firm, could provide an estimate of executives' cumulative accomplishments. Thus, we expect that executives' accomplishment ratings should be positively related to their objective career success.

Finally, an attribute that is expected to positively influence executives' objective career success is their appointments to the boards of directors of other firms. From a resource dependency perspective, executives on external boards play the important role of establishing inter-firm coordination and serving as boundary spanners who cope with environmental uncertainty (Edstrom & Galbraith, 1977; Haunschild, 1993). Coping with uncertainty and controlling external information is believed to confer power, often leading to scarce resources, such as pay and promotions (Pfeffer, 1981). Thus, service on an external board of directors should positively predict objective career success.

Motivational variables. Wolfle (1973) concluded that most studies have not adequately considered the role of motivation in predicting earnings, and Whitely et al. (1991) argued that motivational variables are likely to be influential in predicting career success. Two variables included by Whitely et al. as indicators of motivation were hours worked per week and work centrality. Considerable research supports the relationship between the number of hours worked per week and salary and ascendancy (Cox & Cooper, 1989; Gutteridge, 1973; Harrell, 1969;

Judge & Bretz, 1994; Whitely et al., 1991). In the present study, we assessed not only the number of hours worked per week, but also the number of evenings worked. Although hours worked and evenings worked are related, working late at the office is a somewhat unique signal of motivation because of the family sacrifices it entails, and because of the positive impressions it may generate among colleagues and superiors (Judge & Bretz, 1994). Because both suggest high levels of motivation (Cox & Cooper, 1989), we expect hours worked and evenings worked to positively predict objective success. In addition to time actually spent at work, it is possible that the desire to spend time at work predicts career success. Cox and Cooper (1989), in trying to discover the motivation behind successful executives' long work hours, found that these executives enjoyed working long hours. Extrapolating from their findings, executives who desire to work more hours find their work motivating, and thus should have a greater probability of success than other executives.

It seems logical that work centrality, or the degree of importance that working has to the identity of an individual (England & Whitely, 1990), positively relates to career attainment because individuals who see their work as a central part of their lives should be more willing to make significant investments in their work and in their careers. In fact, England and Whitely (1990) found that the group of individuals who had the highest work centrality also had the highest net incomes. Another relevant motivational variable is ambition. Howard and Bray (1988) found that ambition, or the desire to get ahead, was one of the best predictors of advancement in their study of AT&T managers. A positive relationship between ambition and career success has been found in several other studies of managers and executives (Cannings & Montmarquette, 1991; Cox & Cooper, 1989). Thus, we expect that the greater the number of levels executives desire to advance, the greater will be their objective success.

Organizational, industrial, and regional variables. Pfeffer (1991) emphasized the influence of structural variables, including both industry and organizational characteristics, on individual outcomes such as performance, turnover, and salaries. Several organizational-level variables seemed reasonable to examine. One such variable is organization size. Researchers have demonstrated that larger organizations pay employees more than smaller organizations (see Brown & Medoff, 1989). However, because this finding may be attributed to causes that vary with firm size, such as ability to pay, higher-quality workers, or lack of monitoring ability, not all research has supported this relationship (e.g., Whitely et al., 1991). Researchers also have argued that larger firms have a

greater number of job vacancies available, and thus have more promotion opportunities (Dalton & Kesner, 1985; Whitely et al., 1991). However, it is not clear that there are more promotions available per individual employee in larger organizations, because there are also more people competing for the same promotions (e.g., Konda & Stewman, 1980; Pfeffer, 1983; Stewman & Konda, 1983). In fact, evidence has been found for both a positive (Cox & Harquail, 1991) and a negative (Cox & Nkomo, 1991) relationship between organization size and promotion levels. Thus, size was included as a relevant variable to the prediction of pay and promotions, but no projections were made about the relationship between organization size and objective success.

Another relevant organizational variable is organization success. Although the reported effects of firm performance on executive pay range from a direct relationship (e.g., Murphy, 1985) to no relationship (e.g., Kerr & Bettis, 1987), most research suggests that organizational performance positively influences executive earnings (Gomez-Mejia & Welbourne, 1989). Thus, we expect a positive relationship between organization success and objective career success. We also examine whether executives whose organizations' stock is publicly traded are more successful than those who work in private organizations. Although the effect of public status has not been investigated in the context of career success, researchers have indicated that executives' compensation should be related to the complexity and exposure of their organizations (Gomez-Mejia & Balkin, 1992, p. 169), both of which should be greater in public firms.

Organization size, success, and public visibility reflect factors associated with the executive's organization. However, executives also exist within a broader labor market, which may reflect geographic and industry differences in pay and career patterns (Campbell, Dunnette, Lawler, & Weick, 1970; Gomez-Mejia & Welbourne, 1989; Gutteridge, 1973; Judge & Bretz, 1994). Thus, our model includes these variables because they have been suggested by past research, and to control for unmeasured factors that may be associated with industry and region.

Subjective career success. As noted earlier, subjective career success can be conceptualized as consisting of two components: current job satisfaction and career satisfaction. Figure 1 shows a link between objective and subjective career success. Based on past research that has found that objective and subjective career success are positively related (Bray & Howard, 1980; Harrell, 1969; Judge & Bretz, 1994), we believe that objective success will positively predict subjective career success. Although the causal direction of this relationship could be argued to be reciprocal, in this study we assume that objective career success predicts subjective success for several reasons. First, research has clearly established that

pay and promotion opportunities affect job and career attitudes (e.g., Gattiker & Larwood, 1988; Locke, 1976). The opposite causal direction—from subjective to objective success—is possible, but such a link has not been directly demonstrated in the literature. Second, the temporal ordering of the measurement of our variables was consistent with the hypothesized ordering in Figure 1 (e.g., pay was measured prior to job and career satisfaction), so our model is temporally correct (at least with respect to pay). Although we use objective career success to predict subjective success, we do not suggest that any link between these constructs can be inferred to be causal.

Past research has suggested that many of the variables that influence objective career success do not similarly influence subjective success (Cox & Harquail, 1991; Judge & Bretz, 1994). As with job satisfaction (e.g., Hulin, 1991; Judge & Locke, 1993), we expect that frames of reference predict judgments of career success. Frames of reference are *self-referents*—versus *other-referents*—where individuals evaluate their inputs and outcomes against their own expectations (not against what others receive; Hulin, 1991). The desirability of a particular level of extrinsic outcomes likely depends on what standard or reference point the executive uses. Demographic, human capital, and motivational factors, because they serve as career inputs, may influence the internal standards by which career success is judged. Thus, it is likely that these variables act as frames of reference in evaluating job and career outcomes (Judge & Locke, 1993).

Age and experience (job and occupation) may act as frames of reference in evaluating career outcomes because older and more experienced executives may find a particular level of objective success (e.g., earning a \$100,000 salary and four promotions) less satisfying than would a younger or less experienced executive. In fact, empirical data support a negative relationship between career satisfaction and age and tenure, when controlling for extrinsic factors (Cox & Harquail, 1991; Cox & Nkomo, 1991). Similarly, because individuals use their goals as criteria against which they evaluate their success, those who set high goals (are ambitious) have been found to be less satisfied with their current situation (Judge & Locke, 1993). Thus, we expect that ambition negatively predicts job and career satisfaction. Another potentially relevant frame of reference is gender. As Greenberg and McCarty (1990) noted, several studies have shown that women have lower expectations regarding pay and promotions than do men. This suggests that female executives may be equally satisfied with a lesser level of objective outcomes (cf. Dreher & Ash, 1990) or, equivalently, more satisfied with an equal level of objective outcomes, compared to male executives. A comparable argument could be made with respect to race.

Although past research has not directly assessed the effects of other variables that might act as frames of reference, we extrapolated from Hulin's (1991) job satisfaction model to formulate possible relationships. First, in addition to tenure (discussed above), we propose that variables serving as career inputs (e.g., education, hours worked) will negatively predict career satisfaction when outcomes are held constant. For example, if two executives earn similar salaries, we would expect the one who has an undergraduate degree from a university of average quality or prestige and who works relatively few hours per week to be more satisfied than an executive who has earned a graduate degree from a high quality or prestigious university and who works many hours per week. Similarly, a particular level of objective outcomes should be less satisfying to a highly accomplished executive. Thus, as with education quality and prestige, holding outcomes constant, we expected rating of executive accomplishments to negatively predict subjective career success.

Despite a number of the variables that are hypothesized to predict objective career success, no comparable hypothesis can be made with respect to subjective career success. For example, we have no basis to offer directional hypotheses concerning the relationship between industry/region variables and subjective success. Thus, with some variables no specific directional effect on subjective career success was expected. However, they were included in the model to preserve comparability between the objective and subjective career success equations. Further, it is possible that industry or region variables predict subjective success if they happen to operate as frames of reference in the same way as career inputs.

The data source of this study served as the basis for two other publications. One paper (Bretz, Boudreau, & Judge, 1994) focused on the antecedents of job search behavior and the degree to which job search relates to turnover decisions. The other paper (Judge, Boudreau & Bretz, 1994) tested a causal model of executive job and life attitudes (involving job stress, work-family conflict, job satisfaction, and life satisfaction). The conceptual foundation, methodology, criterion variables, and practical implications of these prior studies are quite different from the present study. Thus, they could not feasibly be combined without detracting from their scientific contribution. However, because the data source is the same and because all three studies focus on the same sample of executives, it is important to acknowledge the common data source while also pointing out the distinctiveness of the studies (American Psychological Association, 1994).

*Method**Sample and Procedures*

Subjects were executives contained in the database of Paul Ray Berndtson, one of the largest executive search firms in the U.S. As is typical of high-level executives, the vast majority of subjects were White (97%) and male (93%). Average age of the executives was 45.5 years. Ninety-one percent of executives were married; 43% of executives had a spouse who was working outside the home. The average executive spent 55.7 hours per week in paid work and spent 4.9 hours per week caring for dependents. Average annual salary was \$126,890 ($SD = \$89,721$); average total pay, including bonuses, was \$155,951 ($SD = \$133,642$). On average, executives had earned 6.4 promotions in their career, their last promotion occurred 3.2 years ago, and they were positioned 2 levels below the chief executive officer of their organization. Seventy percent of respondents' highest degree was an undergraduate degree, and 30% of respondents had earned a master's degree or higher. Roughly 9% of the sample received their degree from an Ivy League university. The distribution of degree type was as follows: business = 50%; engineering = 16%; law = 2%; other = 32%. The average number of employees in the executive's organization was 11,690 and 12% of executives worked in companies whose stock was publicly traded.

Paul Ray Berndtson's database was used to identify the target sample and to collect archival data on the executives. The database contained information concerning executives who had been identified by the search firm as potential candidates for past and current position openings. The search firm does not accept applications from executives, but rather identifies candidates for inclusion in the database from a variety of sources (10-K reports, industry publications & directories, etc.). Surveys were mailed to a sample of 3,581 executives (a 50% random sample of the data base). Accompanying the survey was a cover letter from the chief executive officer of Paul Ray Berndtson soliciting the executives' participation, and a stamped envelope addressed to the authors. We encoded surveys so that those returned could be matched with information contained in the search firm's data base. Executives were told in the cover letter that their responses were confidential (the authors would not know the names of the respondents and the search firm would not have access to individual responses). Of the surveys that were mailed, 1,388 usable surveys were returned, representing a response rate of 39%. A MANOVA model, simultaneously considering the interrelated effects of all variables, revealed no differences between respondents and non-respondents concerning the study variables in the database (education,

salary, promotions, experience, marital status, age, race, sex, industry, and region). This suggests that the sample was representative of all executives in the database.

Measures

Objective career success. Information on annual salary—as well as bonuses, stock options, and other forms of cash compensation—was obtained from Paul Ray Berndtson's database. Although we used total annual cash compensation as the measure of pay, annual salary and total cash compensation were highly correlated with total pay ($r = .94$). The search firm took numerous steps to ensure the accuracy of the compensation data, as it is a critical piece of information in their placement process. Archival salary was closely related to self-reported salary (the average deviation between self- and archival reports of salary was \$1,497, only a 1% deviation); to preserve independence in methods, the archival data were used to measure compensation. The compensation levels of executives in this sample are lower than the total compensation levels typically reported in articles on executive pay in the popular press and executive compensation literature. This may be due to several factors, such as this sample includes many small and privately-held firms, where pay levels may be lower. This sample also includes executives up to five levels below the CEO, whereas these other literatures often focus on top executives. Finally, it is possible that equity-based aspects of pay are not fully reflected due to difficulty in valuing equity rights. However, compensation remains a key success measure, and thus this measure seems appropriate.

Because incomes of executives are likely to be positively skewed (in this study the skewness coefficient for salary was quite high [$\gamma_1 = 6.88$, $p < .001$]), a natural logarithmic transformation is suggested as a means of normalizing the distribution of pay (Gerhart & Milkovich, 1989). Thus, consistent with standard practice in wage regressions, we transformed the compensation variable by computing its natural log. Number of promotions was measured on the survey by asking executives to indicate the total number of promotions (upward changes in job levels) they received in their career.

Career satisfaction. Career satisfaction was measured with the five-item scale developed by Greenhaus, Parasuraman, and Wormley (1990), which appears to be the best measure available in the literature (Oberfield, 1993). The five items are: (a) I am satisfied with the success I have achieved in my career; (b) I am satisfied with the progress I have made toward meeting my overall career goals; (c) I am satisfied with the

progress I have made toward meeting my goals for income; (d) I am satisfied with the progress I have made toward meeting my goals for advancement; (e) I am satisfied with the progress I have made toward meeting my goals for the development of new skills. Greenhaus et al. (1990) reported an acceptable level of internal consistency for this scale ($\alpha = .88$). In the present study, the coefficient alpha reliability estimate was .87.

Overall job satisfaction. Overall or general job satisfaction was measured with three items. First, the Gallup Poll measure of job satisfaction was used, where the respondent circles a "yes" or "no" response to the question, "All things considered, are you satisfied with your job?" Second, the single item job-in-general scale was used, which was adapted by Scarpello and Campbell (1983) from the G.M. Faces Scale, where the respondent uses a 1 = *very dissatisfied* to 5 = *very satisfied* scale in responding to the question, "How satisfied are you with your job in general?" These two measures were used due to their favorable reviews by Scarpello and Campbell (1983). Finally, an adapted version of the Fordyce Percent Time Satisfied Item was used (Diener, 1984), in which respondents are asked to report the percent time they are happy, neutral, and unhappy with their job on average (only the percent happy figure is used). To reduce consistency effects, the three job satisfaction measures were placed in different parts of the survey. Because the three items had different response formats, they were standardized before computation of the composite measure. The alpha of this composite measure was .85.

Education. Level of education was taken from the Paul Ray Berndtson database, which contained information on the highest degree received (coded 0 = bachelor's degree, 1 = master's degree or higher). The database also identified the universities the executives attended. Thus, we created a variable representing whether the executive's highest degree was from an Ivy League school, coded 1 = yes, 0 = no. Dummy variables were created from the database representing executives' major fields of study, including business, law, and engineering (other degrees served as the excluded group in the regressions).

The Gourman Report (Gourman, 1993) is the only guide to higher education quality that assigns numerical scores measuring university quality, and has consequently been used by a number of researchers (e.g., Ehrenberg, 1989; Solmon, 1973). The Gourman Report rates virtually every degree-granting university in the U.S. on the basis of 18 criteria (e.g., qualifications of the faculty members, admission requirements, curriculum, quality of instruction). Ratings are based on archival data and interviews or surveys of students, alumni, faculty members, and administrators. Each university receives a continuous overall rating that ranges from 1.00 to 5.00; this rating served as the measure of educational quality (to take full advantage of the precision of the Gourman rating,

each rating was multiplied by 100 for the analyses). The Gourman rating was applied to the university from which the executive's highest degree was granted, based on the rating of the major in which the degree was earned.

Work centrality. Job importance/work centrality was assessed using a measure developed by researchers involved in the Meaning of Working (MOW) project (MOW International Research Team, 1987). Work centrality is measured by asking the respondent to assign 100 points to five different life domains (work, family, religion, leisure, and community). Most of the research on this scale has been conducted cross-culturally, and, due to its ipsativity, internal consistency estimates of reliability are inappropriate in evaluating the measure. However, research on U.S. samples has indicated that the measure has high test-retest reliabilities (Claes & Quintanilla, 1992) and is correlated with related measures such as job involvement (MOW International Research Team, 1987).

Other variables. Hours worked per week, hours spent on dependent care, whether the executive's spouse was currently employed (coded 1 = yes, 0 = no), number of evenings worked per month, and number of hours per week the executive wished to work, were assessed with specific questions on the survey. Organizational success was measured by asking executives to respond to the question "How successful would you say your organization has been in reaching its strategic goals during the last two years?" with a percentage estimate (0% to 100%). Consistent with past research (Howard & Bray, 1988; Judge & Locke, 1993), ambition was defined as the number of levels executives wished to advance in their organization ("How many levels do you want to move up from your current position?"). The following variables were collected from information contained in the search firm's database: marital status (coded 1 = married, 0 = otherwise), age, race (coded 1 = White, 0 = other), sex (coded 1 = male, 0 = female), whether the stock of the company for which executive worked was publicly traded (coded 1 = yes, 0 = no), industry in which the executive worked, region of the country in which the executive currently worked, whether the executive occupied a position on an external board of directors (coded 1 = yes, 0 = no), years of job and occupational tenure, and international experience (coded 1 = yes, 0 = no). Also, the data base contained information on number of employees working in the executive's organization. Due to the large number cases with missing data on this variable, $n = 80$, missing values were coded to the mean; dropping cases which had missing values instead of recoding them had no effect on the coefficient estimates. Associates of Paul Ray Berndtson, whose job is to evaluate and place executives in new organizations, rated the level of accomplishment of the executive using a single item three point scale (3 = *marginal*, 4 = *good*, 5 = *excellent*). This

rating was based on interviews of the candidate, which focused on their past accomplishments, current skills, and future plans and potential.

Analyses

When multiple criterion variables are regressed on a single set of predictors, the error terms associated with the different equations often are correlated (Johnson & Wichern, 1992, p. 314). Because correlations between the error terms violate an assumption of ordinary least squares (OLS) regression (Greene, 1993, p. 143), it was important to ascertain the level of error correlation before proceeding with OLS regression. The Bartlett test of sphericity estimates the degree to which the error terms are correlated; a significant coefficient suggests significant inter-correlations among the error terms (Johnson & Wichern, 1992). In the present study, the Bartlett coefficient was highly significant ($p < .001$), indicating that the error terms were significantly correlated. To control for the relationships among the error terms, and therefore to predict the set of criterion variables more accurately and efficiently, we used multivariate multiple regression (Johnson & Wichern, 1992, p. 314), which is a method of analysis that controls for the relationships among the error terms of the dependent variables. In SPSS, this is accomplished by using the MANOVA multivariate command (SPSS Inc., 1990, p. 383). Results from multivariate regression analysis are interpreted in the same way as they are using ordinary least squares regression. Because hierarchical regression is not possible with the multivariate regression module in SPSS, changes in R^2 values were computed using SPSS by removing each bloc of variables from the full OLS equation, and testing the decrease in R^2 for significance. For the industry and region variables, those cases with no industry or region specified were treated as the excluded groups for the regression analyses.

Recently, Cohen (1994) and Schmidt (1994) have persuasively argued against the use of statistical significance testing in psychological research. Their criticisms of statistical significance testing (many of which are interrelated) include the fact that significance testing ignores effect sizes, it leads to ignorance of actual (vs. presumed) error rates, and it ignores (and thus leads to increases in) Type II error. Because of these problems inherent in statistical significance testing, erroneous conclusions are often reached in data interpretation. The alternative to statistical significance testing recommended by both Cohen and Schmidt is to draw confidence intervals around point estimates. Accordingly, 90% confidence intervals are drawn around the estimated effects of the independent variables on career outcomes. Also reported are the lower and upper limits of the confidence intervals.

Results

Table 1 contains the means, standard deviations, and intercorrelations of the individual variables used in the analyses. The multivariate regressions predicting objective career success (compensation, number of promotions) are provided in Table 2. As the table indicates, each set of hypothesized variables (demographic, human capital, motivational, organizational, and industry/region) explained a significant amount of variance in pay. For most of the specific variables within each bloc, the confidence intervals around the effect sizes did not include zero.

The demographic variables of age, gender, marital status, and spouse employment all predicted compensation level; executives who were older, male, married, and whose spouse did not work outside the home earned higher salaries than other executives. For the human capital variables, executives who earned their degree in business or in law, who had a graduate degree, and who earned their degree from an Ivy League or high-quality university, and who were evaluated as high in job and career accomplishments, earned more money than other executives. Each additional point in educational quality as measured by the 1.00 to 5.00 scale of the Gourman Report was associated with a predicted increase in cash compensation of \$2,291 per year. This finding is consistent with Ehrenberg (1989), who found that a one point increase in the Gourman ratings for law schools led to a \$1,500 increase in starting salary for lawyers. Executives who graduated from an Ivy League university earned \$30,929 more per year than other executives, controlling for the quality of the university and the type of degree held. The pay advantages for those with business and law degrees were \$5,116 and \$30,328, respectively. Finally, the confidence intervals for all the motivational variables excluded zero. More hours per week and evenings per month worked was associated with higher levels of pay. Executives who desired to work more hours per week, who had high ambitions for advancement, and whose work was a central part of their lives, earned more than other executives.

All of the organizational variables and several of the industry/region variables predicted executive pay. Executives who worked in small companies, in organizations perceived as successful, or in companies whose stock was publicly traded, earned higher salaries than executives who worked in small or unsuccessful or private firms. Finally, executives who worked in the consumer durable goods industry earned higher salaries while those who worked in the health care industry and in the South earned lower salaries.

In order to illustrate the practical effects of the predictors of compensation, Table 3 provides the estimated effects for realistic levels of

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
1. Log cash comp.	11.62	.50	-													
2. # of promotions	6.39	3.52	.261	-												
3. Job satisfaction	.02	2.63	.062	.052	-											
4. Career satisfaction	23.72	6.03	.192	.150	.482	-										
5. Age	45.47	7.32	.230	.274	.004	-.001	-									
6. Male	.93	.26	.196	.129	.011	-.013	.187	-								
7. Married	.91	.29	.112	.079	.002	.027	.173	.223	-							
8. Spouse employed	.43	.50	-.172	-.070	.005	-.012	-.082	-.109	.266	-						
9. Time/child care	4.93	8.75	-.095	-.123	-.019	-.068	-.260	-.180	.013	.048	-					
10. White	.97	.16	.053	.060	-.062	-.078	.120	.102	.030	-.080	-.032	-				
11. Bd. of dir. mem.	.01	.12	.108	.066	-.003	.045	.103	.029	.035	-.044	-.022	.019	-			
12. Grad. degree	.30	.46	.105	.029	.009	.020	.119	.042	.007	.063	-.080	.013	.063	-		
13. Qual. highest deg.	261.08	216.92	.139	.041	.016	.067	-.028	.024	.016	-.052	-.013	-.010	.063	.073	-	
14. Ivy League grad.	.09	.28	.164	.007	.053	.018	-.020	-.063	-.046	.004	.011	-.040	.078	.064	.254	-
15. Business degree	.50	.50	.110	.063	.005	-.005	-.057	.092	.036	.019	.038	.044	.009	.142	.090	.062
16. Law degree	.02	.15	.051	-.053	.052	.025	.000	-.029	-.009	-.003	-.033	.029	.033	-.051	-.060	-.018
17. Engineering degree	.16	.37	-.037	.029	-.033	.042	.119	.108	.025	-.052	-.062	-.013	-.029	-.018	.186	-.069
18. Job tenure	3.10	2.53	.073	-.050	.052	.031	.171	.027	-.007	.054	-.019	.030	-.026	.060	-.044	.026
19. Occupational tenure	19.92	8.06	.180	.278	.049	-.003	.514	.169	.120	-.064	-.180	.089	.023	.050	.015	.018
20. Internat'l experience	.44	.50	.076	.154	.003	.056	.115	.081	.042	-.050	-.052	-.019	.008	.089	.001	.049
21. Accompl. rating	4.73	.46	.139	.063	.036	.081	-.016	-.038	-.037	-.024	-.051	.020	-.012	.003	.014	.023
22. Ambition	1.30	.98	.192	.109	-.133	-.205	-.259	.045	-.029	-.002	.075	-.002	-.127	-.106	-.043	-.063
23. Evenings wrkd/mo.	4.80	4.25	.155	.138	.090	.061	.041	.068	.016	-.081	-.062	.031	.022	-.036	.004	.002
24. Hours wrkd/wk.	55.67	8.87	.031	.061	-.063	.024	.060	.094	.053	-.062	-.057	-.035	-.026	.000	.001	-.060
25. Hours wrk. desired	49.02	8.05	.162	.095	.034	.034	-.076	.045	-.009	-.072	-.047	-.027	.075	.020	.022	.038
26. Work centrality	38.53	14.72	.166	.073	.086	-.008	-.060	.101	-.002	-.064	.015	.042	.065	.043	.115	.062
27. # of emps.	11690.00	20886.08	.121	.051	-.018	-.011	.066	.038	-.172	-.106	-.160	-.014	.009	.062	.007	.041
28. Org. success	65.67	26.08	-.013	.029	.000	-.027	.016	.020	.034	-.015	-.006	-.028	-.013	-.001	.019	.035
29. Public firm	.12	.33	.113	.063	.325	.180	.041	.054	.019	-.048	-.030	.022	.028	-.028	-.053	.012
30. Cons. dur. gds. ind.	.04	.20	.127	.085	-.014	-.007	.040	.023	-.019	-.054	-.058	-.042	.036	.023	.028	-.027
31. Entertmnt ind.	.07	.26	.062	.021	.038	.051	.096	.054	.014	-.055	-.008	-.021	.018	.027	.004	-.023
32. Food/bev. ind.	.15	.36	.035	.027	-.007	-.013	-.003	.005	.043	-.005	.061	.023	.003	-.027	.022	-.013
33. Health care ind.	.17	.38	.067	.024	.022	.029	-.024	-.003	-.070	-.034	.015	.024	.000	.026	-.051	-.006
34. High tech. ind.	.25	.43	-.167	-.046	.035	.007	.039	-.104	-.077	.051	-.014	.013	-.050	-.003	-.003	.018
35. Indus. mfg. ind.	.05	.22	-.051	-.037	.048	-.033	-.041	.005	.026	.013	-.026	-.039	-.026	-.004	-.007	-.019
36. Non-profit ind.	.14	.34	.059	-.105	-.023	-.030	-.126	-.035	.016	.039	.073	.002	.079	.028	.042	.051
37. Petrol. ind.	.07	.25	-.018	.014	-.005	-.021	-.041	.000	.037	.039	.014	.020	.042	-.036	-.028	-.019
38. M.W. region	.13	.34	-.035	-.006	.006	-.033	-.024	.044	.006	-.033	.048	.008	-.042	-.084	-.012	-.022
39. N.E. region	.16	.37	.108	-.028	-.016	-.032	-.035	.002	-.014	.018	-.028	.011	.021	-.079	.062	.164
40. S. region	.22	.41	-.144	-.012	.006	-.032	.077	.021	.058	-.004	-.025	-.020	-.019	.032	-.046	-.078
41. W. region	.28	.45	.043	.000	.044	.042	.000	-.036	.003	-.016	.029	-.009	-.013	.033	-.011	-.030

Note: Decimals are omitted from correlations; $N = 1,012$.

the variables in Table 2 whose confidence interval did not include zero. For the dummy variables, effect sizes were provided by the raw regression coefficient obtained from an equation predicting the unlogged measure of compensation. For the continuous variables, effect sizes were computed by multiplying the coefficient estimate by the standard deviation of the variable. The values presented in the table show that the variables have appreciable effects on compensation earned per year. These effects ranged from \$3,855/year for hours worked per week to

15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
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\$54,195/year for working in the consumer durable goods industry. In part, the considerable pay advantage enjoyed by executives working in the consumer durable goods industry is due to the fact that in the regression, their salary (as with all the industry variables) is compared to executives where no industry was specified. The average salary for executives in this latter group was only \$109,434. Thus, executives in the consumer durable goods industry enjoy twice the pay advantage over the excluded group (no industry specified) as they do over the average of all

TABLE 2
Multivariate Regressions Predicting Objective Career Success

Predictor	Log cash compensation			Number of promotions		
	B	CI _L	CI _U	B	CI _L	CI _U
<u>Demographic variables</u>						
Age	+ .010*	+ .006	+ .014	+ .079*	+ .048	+ .109
Male	+ .248*	+ .145	+ .351	+ .388	-.390	+ 1.165
Married	+ .218*	+ .128	+ .307	+ .306	-.368	+ .981
Spouse employed	-.156*	-.205	-.107	-.143	-.515	+ .229
Time devoted to dependent care	+ .001	-.002	+ .004	-.009	-.030	+ .011
White	-.007	-.146	+ .132	+ .491	-.557	+ 1.539
Change in R ²	.067*			.024*		
<u>Human capital variables</u>						
Board of directors position	+ .062	-.133	+ .258	+ .788	-.688	+ 2.264
Graduate degree	+ .062*	+ .012	+ .112	-.133	-.510	+ .244
Quality of highest degree	+ .001*	+ .000	+ .000	+ .000	-.001	+ .001
Ivy League graduate	+ .200*	+ .120	+ .280	-.042	-.646	+ .561
Business degree	+ .033	-.029	+ .094	+ .321	-.143	+ .785
Law degree	+ .187*	+ .044	+ .331	-.987	-2.071	+ .098
Engineering degree	-.044	-.124	+ .035	+ .032	-.570	+ .634
Job tenure	+ .006	-.005	+ .016	-.166*	-.244	-.088
Occupational tenure	+ .002	-.001	+ .006	+ .080*	+ .054	+ .105
International experience	+ .040	-.007	+ .088	+ .853*	+ .495	+ 1.211
Accomplishment rating	+ .158*	+ .107	+ .209	+ .528*	+ .144	+ .912
Change in R ²	.060*			.052*		
<u>Motivational variables</u>						
Ambition	+ .068*	+ .043	+ .092	+ .126*	+ .059	+ .311
Evenings worked per month	+ .011*	+ .005	+ .016	+ .078*	+ .034	+ .121
Hours worked per week	+ .003*	+ .000	+ .007	+ .019	-.006	+ .044
Hours of work desired	+ .006*	+ .002	+ .009	+ .028*	+ .002	+ .054
Work centrality	+ .002*	+ .001	+ .004	+ .002	-.010	+ .015
Change in R ²	.041*			.021*		
<u>Organizational variables</u>						
Number of employees in firm	-.000*	-.000	-.000	+ .000	+ .000	+ .000
Organization success	+ .001*	+ .001	+ .002	+ .005	-.002	+ .012
Public firm	+ .135*	+ .064	+ .207	+ .598*	+ .057	+ 1.139
Change in R ²	.015*			.004		
<u>Industry/region variables</u>						
Consumer durable goods industry	+ .230*	+ .080	+ .381	-.476	-1.612	+ .659
Entertainment/leisure industry	+ .049	-.082	+ .181	+ .083	-1.076	+ .910
Food and beverage industry	+ .070	-.044	+ .184	-.112	-.973	+ .750
Health care industry	-.177*	-.228	-.005	-.653	-1.495	+ .189
High technology industry	+ .019	-.088	+ .126	-.425	-1.233	+ .383
Industrial manufacturing ind.	+ .230	-.168,	+ .109	-.571	-1.613,	+ .472
Non-profit industry	+ .112	-.003,	+ .228	-.941*	-1.814,	-.068
Petroleum industry	-.008	-.141,	+ .125	-.080	-1.086,	+ .926
Midwest region	-.050	-.136,	+ .036	-.451	-1.099,	+ .198
Northeast region	+ .051	-.027,	+ .129	-.680*	-1.268,	-.092
South region	-.203*	-.275,	-.130	-.502	-1.050,	+ .046
West region	-.008	-.075,	+ .059	-.418	-.925,	+ .089
Change in R ²	.037*			.012		
Constant	+ 9.327*	+ 8.933,	+ 9.722	-4.571*	-7.550,	-1.591
R	.557*			.425*		
R ²	.310*			.181*		
Adjusted R ²	.285			.151		

Note: Entries are unstandardized coefficients; CI_L = Lower limit of 90% confidence interval; CI_U = Upper limit of 90% confidence interval; N = 1,057.

* Indicates coefficient estimates whose confidence interval does not include zero and R/R² values significantly different from zero; incremental R² values were taken from ordinary least squares (OLS) estimations.

TABLE 3
*Effect Sizes for Significant Independent Variables
 Predicting Compensation Levels*

Variable	Change in level	Effect size
<u>Demographic variables</u>		
Age	7 years	\$10,262
Male	no→yes	\$ 6,575
Married	no→yes	\$27,845
Spouse employed	no→yes	-\$22,011
<u>Human capital variables</u>		
Graduate degree	no→yes	\$ 7,488
Quality of highest degree	2.17 points	\$ 4,581
Ivy League graduate	no→yes	\$30,929
Law degree	no→yes	\$30,328
Accomplishment rating	.5 rating	\$11,816
<u>Motivational variables</u>		
Ambition	1 level	\$ 9,238
Evenings worked per month	4 evenings	\$ 3,855
Hours of work desired	8 hours	\$ 8,624
Work centrality	15 points	\$ 4,545
<u>Organizational variables</u>		
Number of emps. in firm	20,886 emps.	-\$ 3,046
Organization success	26%	\$ 5,306
Public firm	no→yes	\$19,831
<u>Industry/region variables</u>		
Consumer durable goods industry	no→yes	\$54,195
Health care industry	no→yes	\$ 4,738
South region	no→yes	-\$24,452

Note: Effect sizes are predicted changes in earnings/year as a result of specified change in the independent variable.

executive salaries. The coefficients of many of the nonsignificant variables in the compensation equation revealed substantial effect sizes. For example, serving on an external board of directors was associated with a predicted pay increase of \$41,772/year and the predicted pay advantage enjoyed by Whites was \$7,689/year. However, these and other differences were not statistically reliable—the confidence interval around these variables included zero.

As a whole, the variables predicted number of promotions similarly to how they predicted compensation, although their effects were somewhat weaker in magnitude. This replicates findings from previous research on lower-level managers (Whitely et al., 1991). Three of the five individual sets of variables explained a significant amount of the variance in number of promotions: demographic, human capital, and motivational. Within the set of demographic variables, only the confidence

interval around age did not include zero, indicating that older executives had achieved more promotions in their careers than had younger executives. In terms of the human capital variables, executives who had international experience, had a high degree of occupational tenure, or were rated as high in their accomplishments earned more promotions. Contrary to expectations, job tenure negatively predicted number of promotions. Although nearly all the educational variables predicted cash compensation, they only weakly predicted number of promotions. As in predicting compensation, the confidence intervals around most of the motivational variables in predicting number of promotions did not include zero. Promotion ambition, evenings worked per month, and desired hours worked per week, were associated with more promotions. Also similar to the variables predicting compensation, several organizational and industry/region variables predicted number of promotions. Executives who worked in organizations whose stock was publicly traded earned more promotions than executives who worked in private companies. Executives who worked in the non-profit sector, and those who worked in the Northeast region, earned fewer promotions in their careers.

Table 4 displays the results of the regressions predicting subjective career success. As the table indicates, the variables that predicted job satisfaction tended to be different from those that predicted career satisfaction. Specifically, motivational and organizational variables explained a significant amount of variance in job satisfaction whereas objective career success, and demographic, human capital, motivational, and organizational variables explained a significant amount of variance in career satisfaction. Overall, the total variance explained in the job and career satisfaction equations was significant and comparable in magnitude.

In terms of the specific coefficient estimates in the job satisfaction equation, neither objective career success nor any of the human capital characteristics predicted job satisfaction, with the exception of educational quality, which *positively* predicted job satisfaction. In terms of the demographic attributes, White executives were less satisfied with their jobs than minority executives. Contrary to expectations, the motivational variables evenings worked per month and hours of work desired positively predicted job satisfaction. Ambition negatively predicted job satisfaction. Organization success was the only organizational variable to predict (positively) job satisfaction. Finally, the confidence intervals for all of the industry/region variables included zero.

A number of variables predicted career satisfaction. Both pay and promotions positively predicted career satisfaction. In terms of demographic variables, older and White executives, and those who devoted more time to dependent care, reported lower levels of career satisfaction

TABLE 4
Multivariate Regressions Predicting Subjective Career Success

Predictor	Job satisfaction			Career satisfaction		
	B	CI _L	CI _U	B	CI _L	CI _U
<u>Objective success variables</u>						
Log cash compensation	+0.019	-.020	+0.058	+1.651*	+0.966	+2.336
Number of promotions	-.087	-.382	+0.208	+.208*	+.118	+.298
Change in R ²	.001			.031*		
<u>Demographic variables</u>						
Age	-.018	-.041	+0.005	-.097*	-.151	-.043
Male	+0.158	-.434	+0.750	-1.024	-2.396	+0.348
Married	-.077	-.591	+0.437	+0.649	-.543	+1.842
Spouse employed	+0.091	-.194	+0.377	+0.056	-.607	+0.719
Time devoted to dep. care	-.003	-.018	+0.013	-.045*	-.081	-.010
White	-1.152*	-1.937	-.366	-2.825*	-4.647	-1.002
Change in R ²	.008			.019*		
<u>Human capital variables</u>						
Bd. of directors position	-.637	-1.811	+0.537	+0.792	-1.930	+3.515
Graduate degree	+0.030	-.253	+0.313	-.170	-.826	+0.487
Quality of highest degree	+0.001*	+0.001	+0.001	+0.001*	+0.001	+0.003
Ivy League degree	+0.269	-.190	+0.729	-.532	-1.597	+0.534
Business degree	+0.044	-.306	+0.393	+0.376	-.434	+1.187
Law degree	+0.741	-.076	1.559	+1.298	-.598	+3.194
Engineering degree	-.129	-.582	+0.324	+1.170*	+0.119	+2.220
Job tenure	+0.018	-.041	+0.078	+0.116	-.021	+0.253
Occupational tenure	+0.008	-.011	+0.028	-.057*	-.102	-.012
International experience	+0.097	-.175	+0.369	+0.557	-.074	+1.187
Accomplishment rating	+0.227	-.067	+0.520	+0.718*	+0.038	+1.399
Change in R ²	.007			.017*		
<u>Motivational variables</u>						
Ambition	-.318*	-.459	-.177	-1.121*	-1.448	-.793
Evenings worked per mo.	+0.037*	+0.004	+0.070	+0.003	-.073	+0.079
Hours worked per week	-.008	-.027	+0.011	+0.019	-.025	+0.063
Hours of work desired	+0.027*	+0.008	+0.047	-.042	-.087	+0.002
Work centrality	-.007	-.017	+0.003	-.013	-.035	+0.010
Change in R ²	.020*			.031*		
<u>Organizational variables</u>						
Number of emp. in firm	+0.001*	+0.001	+0.001	+0.001*	+0.001	+0.001
Organization success	+0.031*	+0.026	+0.036	+0.038*	+0.027	+0.050
Public firm	-.115	-.527	+0.297	-.604	-1.559	+0.352
Change in R ²	.093*			.028*		
<u>Industry/region variables</u>						
Cons. durable goods ind.	+0.643	-.222	+1.507	+2.019*	+0.014	+4.023
Entertainment/leisure ind.	-.322	-1.077	+0.433	-.191	-1.942	+1.560
Food and beverage ind.	-.128	-.788	+0.533	+0.687	-.845	+2.220
Health care ind.	+0.155	-.491	+0.802	+1.045	-.455	+2.544
High technology ind.	-.302	-.927	+0.323	+0.579	-.870	+2.028
Industrial mfg. ind.	+0.393	-.411	+1.197	-.254	-2.118	+1.611
Non-profit industry	-.205	-.878	+0.469	+0.142	-1.420	+1.705
Petroleum industry	-.090	-.861	+0.680	-.082	-1.869	+1.706
Midwest region	-.070	-.560	+0.419	-.734	-1.869	+0.401

Table 4 (continued)

Predictor	Job satisfaction			Career satisfaction		
	<i>B</i>	<i>CI_L</i>	<i>CI_U</i>	<i>B</i>	<i>CI_L</i>	<i>CI_U</i>
Northeast region	+0.088	-.354	+0.530	-.746	-1.771	+0.279
South region	+0.025	-.390	+0.441	-.553	-1.517	+0.411
West region	+0.344	-.037	+0.725	+0.210	-.673	+1.094
Change in <i>R</i> ²	.011			.010		
Constant	-1.132	-4.727	+2.462	+7.631	-.705	+15.968
<i>R</i>	.394*			.392*		
<i>R</i> ²	.155*			.154*		
Adjusted <i>R</i> ²	.121			.120		

Note: Entries are unstandardized coefficients; *CI_L* = Lower limit of 90% confidence interval; *CI_U* = Upper limit of 90% confidence interval; *N* = 1,012.

* indicates coefficient estimates whose confidence interval does not include zero and *R*/*R*² values significantly different from zero; incremental *R*² values were taken from ordinary least squares (OLS) estimations.

than other executives. Several of the human capital attributes predicted career satisfaction; executives whose terminal degree was in engineering, who earned their degree from a high-quality university, and who received a high accomplishment rating from the search firm reported higher levels of career satisfaction while those with high levels of occupational tenure reported lower levels of career satisfaction. In terms of the motivational variables, ambition negatively predicted career satisfaction. As with job satisfaction, organization success positively predicted career satisfaction. Finally, executives in the consumer durable goods industry reported higher levels of career satisfaction than the excluded group (no industry specified).

Discussion

The overall goal of this study was to investigate more comprehensively what predicts executive career success. Although various limitations in the study (see below) prohibit definitive explanations, and relatively small effect sizes for some of the variables circumscribe the implications of some of the results, this study did reveal several interesting insights into the predictors of executive career success. The conceptual model of career success received general support from the results in that most sets of variables contributed a unique amount of variance in predicting objective and subjective career success. Several aspects of the findings deserve further discussion. We begin with the findings regarding objective career success.

Demographic characteristics explained a significant amount of variance in both dimensions of objective success (particularly with respect to pay, where demographics explained more variance than any other set

of predictors). This result is consistent with past research, which has reported a similar finding on lower-level employees (Gattiker & Larwood, 1988, 1989; Gould & Penley, 1984). After controlling for a wide range of factors, women and minorities had lower levels of objective success than White males (the gaps were \$6,575 per year and 0.66 promotions over a career for women and \$7,689 per year and 0.60 promotions over a career for minorities). Although the relative disadvantage in objective success experienced by minority and female executives is not trivial, we cannot conclude that it represents discrimination because there were relevant variables we could not include (e.g., personal choices, entry patterns into the labor market), the representation of women and minorities in our sample was relatively small, and computation of indirect effects (e.g., the effects of gender and race on success mediated through variables such as education quantity and quality) also may affect the gaps. Thus, due to low power and the likelihood of omitted variables, considerable caution must be exercised in interpreting the race and gender gaps. Without more complete data, the results cannot reasonably be inferred to represent discrimination.

Motivational and human capital variables also explained a significant amount of variance in objective career success. Executives who developed their human capital, and who displayed a desire to get ahead, were substantially more likely to achieve objective success. The overall importance of human capital and motivational variables, and the noteworthy effects of the specific variables within these categories of variables, suggests how aspiring executives may be more extrinsically successful in their careers.

An intriguing finding was the effect of promotion ambition on pay and promotions. Ambitious executives earned more pay and promotions in their careers. Interestingly, promotion ambition is positively (but not strongly) related to job level ($r = +.18, p < .001$). Thus, higher level executives display more promotion ambitions than lower level executives even though their prospective opportunities may be more limited due to their high position in the organization. In fact, the effect of promotion ambition on objective success does not appear to be subject to ceiling effects—ambition was related to pay and promotions even when expected advancement (i.e., number of levels executives thought they realistically could advance) was taken into account.

Especially interesting is the role education played in financial success. Quantity of education made a material difference in executive earnings. Over the course of an average career in our sample (20 years), the estimated cumulative earnings gap between executives with a graduate degree and those with an undergraduate degree was nearly \$150,000.

Perhaps the most interesting and unique findings describe how university quality and prestige relate to financial success. At the extremes, the difference in earnings due to educational quality was substantial. Executives who obtained their degrees from a university *not* recommended by the Gourman Report (i.e., those scoring a rating of 1), earned \$16,070 less per year than executives who obtained their degrees from a highly recommended university (i.e., those scoring between 4 and 5 on the Gourman Report). Over the course of a 20-year career, this could amount to a earnings disadvantage over \$320,000. This represents a unique finding in this study, but it remains for future research to investigate *why* educational quality affects compensation level. Some possible explanations have been suggested before (Useem & Karabel, 1986): High-quality universities teach students more than lower quality institutions; high-quality educational institutions are more likely to admit high-quality students in the first place; students are more likely to make connections and plug into influential networks in high-quality schools; high-quality schools provide important "signs" or credentials that organizations use in selection and promotion decisions.

An intriguing result was the very large pay premium enjoyed by graduates from Ivy League universities, particularly because this effect was observed after controlling for educational quality. The predicted earnings advantage for Ivy League graduates, over the course of a 20-year career, is more than \$600,000. One plausible interpretation of this finding is Useem and Karabel's (1986) hypothesis that prestigious universities, besides being more likely to bestow scholastic capital upon their graduates (which should be captured by educational quality), also provide graduates with social and cultural capital in the form of personal contacts, network ties, symbols of prestige, and perhaps even inculcation of the motivation to succeed. Alternatively, this result may be due to favoritism or bias in favor of prestigious schools (Thelin, 1976). For whatever reason, the executive labor market attaches a premium to matriculation from an Ivy League university, and this premium is higher than the quality of the school would dictate. As shown in Table 1, university quality and Ivy League status were positively correlated ($r = +.25$, $p < .01$), but the correlation was far from unity. Again, it remains for future research to investigate the relative validity of these different interpretations.

Finally, executives who possessed law degrees earned substantially higher salaries than executives who possessed degrees in other areas. We had expected business and engineering degrees to positively predict salary. In fact, business school graduates did earn a compensation advantage (\$5,116) but this effect size was not distinguishable from zero.

A law degree may put an executive in a different labor market (i.e., corporate attorney market), and because few executives have law degrees (only 32 in our sample), it is a scarce resource that apparently yields significant dividends.

Organization size negatively predicted compensation, but the effect size was quite small (a 10,000 employee increase in firm size corresponded to a predicted increase in pay of \$1,458). This finding is contrary to other findings in the literature (e.g., Brown & Medoff, 1989). One possible explanation of these findings is that the firms in this study were relatively small by Brown and Medoff's (1989) standards (although only 12% of executives in our sample worked in firms with less than 500 employees). However, the negative firm size-earnings effect persisted even when the small organizations (those with less than 500 employees) were removed from the analysis. Part of the explanation for these incongruous findings may be the differences in the samples (executives vs. broader employee groups). Another explanation may be the extensive use of control variables in this study (in fact, with no controls, a 10,000 employee *increase* in firm size corresponded to a slight increase [\$840] in predicted pay). Clearly, these issues should be investigated more thoroughly in future research.

Consistent with past research (Dreher & Ash, 1990; Whitely et al., 1991), financial success was easier to predict than hierarchical success. Still, few coefficients of particular variables were in opposite directions across the two equations. Perhaps one reason for the decrement in the promotions equation is that compensation is a better measure of objective success than number of promotions because the latter variable is partly confounded with organizational structure and unmeasured mobility patterns. Also, promotions were measured in terms of job level changes but not other criteria (raises, increases in responsibilities, etc.), which may have limited its variation and thus its covariance with other variables. Because the relationship between pay and promotions is positive but not overwhelmingly strong (Judge & Bretz, 1994; Whitely et al., 1991; see also Table 1), variables that predict one may not predict the other. Because past research has found results similar to ours, it would be interesting for future research to investigate the circumstances under which variables that predict compensation do not predict promotions.

However, several variables did not predict pay, but did predict ascendancy. In particular, three types of experience (international experience, job, and occupational tenure) predicted promotions but not pay. The positive relationship between occupational tenure and number of promotions is not surprising because promotions accrue over time; the longer an executive is in a career, the more chances for promotion. In fact, this is what has led some researchers to construct age or tenure

normed measures of career success (e.g., Judge & Bretz, 1994). In effect, this is what we have done because age and occupational tenure are partialled out in estimating the other coefficients. The negative effect of job tenure on promotions is probably a reflection of being plateaued in one's position. It may reflect that one of the important ingredients of ascendance is velocity (Stewman, 1988), or how quickly one moves up the corporate ladder; the longer the job tenure, the slower the movement. It also may reflect job hopping behavior (Judge & Watanabe, 1995). Finally, the relationship between international experience and promotions suggests that global assignments may help aspiring executives climb the corporate ladder (Kets de Vries & Mead, 1992).

Interestingly, the blocs of variables that explained variance in objective career success explained similar amounts of variance in career satisfaction. Furthermore, both pay and promotions positively predicted career satisfaction. These results suggest that, to some degree, the standards society uses to judge the success of an individual's career are also those that executives use to evaluate the success of their own careers. Thus, career satisfaction of the executives in this sample appears to be a function of their level of objective success and several frame of reference variables. Results suggested that the frame of reference variables operated largely (but not totally) as expected. After controlling for objective success, frames of reference like age, ambition, time devoted to dependent care, occupational tenure, and nonminority status negatively predicted career satisfaction. We have argued that these variables index career expectations in the sense that older, more ambitious, more senior, and nonminority executives, who have achieved a particular level of objective success are more likely to be dissatisfied with their careers than a younger, less senior or less ambitious, or minority executives achieving the same level of objective success. However, we should note that several of the hypothesized variables did not predict career satisfaction, although a few others (e.g., educational quality, accomplishment rating) were *positively* related to career satisfaction. We can only speculate why we observed these latter results; one explanation is that high-quality educational institutions and career accomplishments bestow enriching qualities on executives (e.g., personal growth) that reach beyond the qualities which predict objective success.

With respect to job satisfaction, the results suggest that the variables that predict objective success, and even career satisfaction, are different from those that predict executives' job satisfaction. Demographic and human capital variables, which explained more variance in objective career success and career satisfaction than the other sets of variables, did

not account for a unique amount of the variance in job satisfaction. Conversely, the organizational variables explained more variance in job satisfaction than in any of the other equations. One interpretation of these unexpected findings is that job and career satisfaction are related but distinct attitudes subject somewhat different psychological processes. Because extrinsic success predicted career but not job satisfaction, perhaps for executives career satisfaction may be more outcome or achievement oriented whereas job satisfaction is more process oriented. Past accomplishments may be more relevant to career satisfaction while current organizational characteristics are more important to executive judgments of job satisfaction. Thus, although job satisfaction and career satisfaction are related (as shown in Table 1, the correlation between the two variables is $+0.48$, $p < .01$), they are associated with different variables, at least for this sample of executives. Of course, it is possible to overinterpret the job satisfaction results. Many of the effect sizes in the job satisfaction equation could not be distinguished from zero, and the strongest predictor, organization success, was measured with a common method. Perhaps the most prudent interpretation of these results is that we have only begun to model the career-related predictors of job and career satisfaction. Given the modest degree to which the variables predicted these attitudes, clearly further work is needed, particularly in the area of career satisfaction.

Limitations

This study has several limitations. Because executives are pressed for time, we were forced to limit the length of the survey. This may have caused several problems. First, some of the predictor variables were measured with single items (e.g., executive accomplishment, organization success, ambition), which have unknown reliability and validity. Because the rating of executive accomplishments was measured with a single item that was provided by the search firm, we cannot have strong confidence in the psychometric qualities of this measure. Second, limitations on survey length forced us to exclude some potentially relevant variables such as mentoring and socioeconomic status (although other studies have found little biasing effects from excluding mentoring [Dreher & Ash, 1990] and home backgrounds [Wolfe, 1973; Solmon, 1973]).

Although the present paper examined the main effects of individual and environmental characteristics on career success, a developing literature suggests that interactive effects between environmental and individual characteristics are important to consider (e.g., Olian & Rynes, 1984). Relevant to the present paper, research has suggested that certain

executive characteristics (e.g., functional area, tenure, education) may be considered more or less valuable to organizations depending on their strategy (Hitt, Ireland, & Palia, 1982; Olian & Rynes, 1984), past executives (Smith & White, 1987), and size (Olian & Rynes, 1984). Thus, the effects of the variables in the present study may be influenced by the possible interactions between executives and organizations. Future research could clarify these relationships.

Another potential limitation is that some relationships may be biased. The survey data were collected after the archival data had been compiled, so the causal nature of some of the relationships might be called into question. For example, although we posited that motivation leads to objective success, it also is possible that success leads to motivation. Furthermore, because some of the variables used to predict job and career satisfaction were collected from the same survey, it is possible that common method variance inflated some of the relationships. Finally, it is possible that collection of the objective success data influenced responses to the survey. Several factors partly mitigate these concerns. First, priming is not likely with many relationships in the model either because both variables were collected from archival data (e.g., age and objective success), or because the archival data were collected with a different method (interview) some time before the survey was distributed. Second, the effects reported in Table 2 do not vary according to whether the data were collected from the same source. In fact, with respect to the correlations between the criteria and the predictors, a *t* test revealed no significant difference between common-method correlations and different-method correlations ($t = -0.56, ns$). Third, there were no significant differences in correlations between two variables measured at the same point in time versus variables measured at different points in time ($t = +0.38, ns$). These factors suggest that the nature of the data collection has not biased the results, although the possibility cannot be fully dismissed.

Some discussion of the advantages and limitations of the sample is in order. It is likely that most executives have a relationship with an executive search firm; surveys reveal that this is the method through which most executive-level staffing decisions are made in the U.S. (Magnus, 1989) and abroad (Rock, 1990). Thus, there is no reason to believe that the source of this sample makes it unrepresentative of the larger population of executives. Also, the executives in this sample worked in many different types and sizes of organizations, in many different industries and regions throughout the U.S. Still, there is very little normative data on the characteristics of executives, so the representativeness of our sample is unknown. Thus, it must be acknowledged that some characteristics of the sample (e.g., compensation figures are lower than those

for most high-level executive positions, 12% of executives in our sample worked in publicly-held organizations although 4% of corporations earning more than \$1,000,000/year are publicly-held [U.S. Bureau of the Census, 1994], a higher than expected number of executives worked in privately-held organizations, executives with few accomplishments may be less likely to have contacts with a search firm in the first place) may have influenced the results.

Practical Implications

The results suggest a profile of a successful executive. The most objectively successful executive appears to be one who is a married, middle-aged, White man whose spouse does not work outside the home, who has impressive (high quality and prestigious) educational credentials, and who displays a high commitment to his work. From the perspective of an individual who aspires to be a "successful" executive, it appears that educational credentials and high commitment to work pay off. Previous research has shown that executives report only average levels of life satisfaction and high levels of stress and work-family conflict (Judge et al., 1994). Thus, for some executives, objective success is achieved at some cost. On the other hand, given the comparability in results between the objective career success and career satisfaction equations, many of the factors that make executives objectively successful also contribute to their career satisfaction (including objective success itself). A comparable conclusion, however, cannot be drawn with respect to executive job satisfaction.

Finally, we should note that although variance explained by the blocs of variables was relatively small, the practical effect sizes are substantial. Specifically, with respect to the human capital attributes, an executive who earned a master's degree in business from an Ivy League school with international experience is projected to earn \$54,434 more per year than an executive with no international experience and with an undergraduate degree from a non-Ivy League school. Similarly, an executive whose accomplishment rating was "5," with 20 years occupational tenure, and with international experience, is projected to have earned nearly three more promotions than an executive who was rated as a "3," with 10 years of occupational tenure, and with no international experience. Comparable effect sizes can be demonstrated with respect to the demographic, motivational, and organizational variables. Thus, although incremental R^2 is an informative measure of effect sizes, it does have limitations in estimating practical effects (Champoux & Peters, 1980) which in some cases were substantial. In interpreting the practical effects of the specific variables, it is interesting to note that the variables that contributed

to one definition of success are not necessarily the same as those that contributed to another definition of career success. Thus, these results suggest that the career preparation strategies of aspiring executives may depend on the career outcome(s) that is most important to them. Perhaps an even more fundamental conclusion suggested by these results is that the attainment of executive career success is a complex phenomenon that defies simple prescriptions and, due to the importance of the topic, is deserving of further research that would extend the results presented in this paper.

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