

PREDICTORS OF OBJECTIVE AND SUBJECTIVE CAREER SUCCESS: A META-ANALYSIS

THOMAS W. H. NG, LILLIAN T. EBY, KELLY L. SORENSEN,
DANIEL C. FELDMAN
University of Georgia

Using the contest- and sponsored-mobility perspectives as theoretical guides, this meta-analysis reviewed 4 categories of predictors of objective and subjective career success: human capital, organizational sponsorship, sociodemographic status, and stable individual differences. Salary level and promotion served as dependent measures of objective career success, and subjective career success was represented by career satisfaction. Results demonstrated that both objective and subjective career success were related to a wide range of predictors. As a group, human capital and sociodemographic predictors generally displayed stronger relationships with objective career success, and organizational sponsorship and stable individual differences were generally more strongly related to subjective career success. Gender and time (date of the study) moderated several of the relationships examined.

Career success is of concern not only to individuals but also to organizations because employees' personal success can eventually contribute to organizational success (Judge, Higgins, Thoresen, & Barrick, 1999). Consequently, researchers continue to try to identify the individual and organizational factors that facilitate employees' career success (e.g., Boudreau, Boswell, & Judge, 2001; Judge & Bretz, 1994; Seibert & Kraimer, 2001; Wayne, Liden, Kraimer, & Graf, 1999). Although several studies have taken broad-based multivariate approaches to identifying the predictors of career success (e.g., Kirchmeyer, 1998; Seibert & Kraimer, 2001), there have not been large-scale systematic attempts to summarize the existing literature.

A quantitative review of the career success literature is important for several reasons. First, a critical review and synthesis of a body of research can play an important role in construct development and theory building (Reichers & Schnieder, 1990). In the career success arena, this would be especially useful given the large number of studies on the topic and

An earlier version of this article was presented at the 2004 Annual Meeting of the Academy of Management and won the Best Paper Award from the Careers Division.

Correspondence and requests for reprints should be addressed to Thomas W.H. Ng, Department of Management, Terry College of Business, The University of Georgia, Athens, GA 30602; twng@uga.edu.

the large variability in findings across individual studies. Second, scholars have used various operationalizations of career success and some argue that objective indicators (e.g., salary, promotion) are conceptually distinct from subjective indicators (e.g., career satisfaction; Greenhaus, Parasuraman, & Wormley, 1990; Judge, Cable, Boudreau, & Bretz, 1995). As such, it would be theoretically valuable to review and compare the predictors of these two components of career success in order to guide the future research and theory building.

In this study, we provide a comprehensive meta-analysis of the predictors of objective and subjective career success. In doing so, we utilize two prominent theoretical perspectives that have been used to examine career mobility in the past (e.g., Cable & Murray, 1999; Rosenbaum, 1984; Wayne et al., 1999), namely, the contest-mobility perspective and the sponsored-mobility perspective (Turner, 1960). We also compare the predictors of objective versus subjective career success in order to further theoretical development of these multifaceted constructs.

In addition, two theoretically based moderators (gender, time) and one methodological moderator (common method bias) are examined. Examining gender is critical because men and women's career experiences are often different, which has implications for understanding the relationships between predictor variables and career success (e.g., Stroh, Brett, & Reilly, 1992). Time (operationalized in terms of the date of the study) is also important to consider here because there has been considerable effort to try to increase women's advancement opportunities and close the salary gap between men and women over the past 20 years. Finally, examining whether effect sizes may be influenced by common method variance is essential given that many studies of career success rely on percept-percept data, which can lead to concerns about artificially inflated correlations among predictor-criterion relationships.

Definitional Issues

Career success is defined as the accumulated positive work and psychological outcomes resulting from one's work experiences (Seibert & Kraimer, 2001). Researchers often operationalize career success in one of two ways. The first includes variables that measure objective or extrinsic career success (e.g., Gutteridge, 1973). These include indicators of career success that can be seen and therefore evaluated objectively by others, such as salary attainment and the number of promotions in one's career (Judge et al., 1995). The second way that career success is operationalized is by variables that measure subjective or intrinsic career success (e.g., Judge et al., 1995). Such variables capture individuals' subjective judgments

about their career attainments, such as job and career satisfaction (e.g., Burke, 2001; Judge et al., 1999).

In the present meta-analytical review, the focus is on both objective and subjective career success. Although we recognize that these represent different outcomes of one's career experience, the phrase "career success" is used in the following theoretical discussion to encompass both components of the construct. In a subsequent section of the article, a more fine-grained differentiation of these two aspects of career success is provided.

Theoretical Background

Research on upward mobility is relevant to career success because those who are able to move up the societal or organizational hierarchy are typically regarded as successful and are more likely to view themselves as successful. According to Turner (1960), there are two systems of upward mobility in society: contest mobility and sponsored mobility. A contest-mobility system reflects the central belief that all people can compete for upward mobility; in contrast, a sponsor-mobility system permits only those who are chosen by the powerful to obtain upward mobility. Although these perspectives are fundamentally different, they are not necessarily mutually exclusive (Rosenbuam, 1984; Wayne et al., 1999). That is, a society or an institution may have an upward mobility system that reflects one perspective more than the other but not necessarily to the point of exclusion.

The *contest-mobility* perspective suggests that what makes the greatest difference in getting ahead in an organization is performance on the job and adding value to the company. One can only get ahead on the basis of one's own abilities and contributions. People compete with each other in an open and fair contest for advancement, and victory comes to those who demonstrate the greatest accomplishments. In a study of the careers of doctoral students, Cable and Murray (1999) found that publication records in graduate school was a significant predictor of job offers received and salary—more so than the prestige of their educational institutions—and illustrated that the contest-mobility perspective can be used effectively to predict career success. Further, this perspective suggests that those in power (established elites) cannot necessarily determine who will achieve upward mobility. Using competing in a race as a metaphor, this perspective suggests that those who start off slowly are still able to win in the end by devoting the necessary time and energy.

On the other hand, the *sponsored-mobility* perspective suggests that established elites pay special attention to those members who are deemed to have high potential and then provide sponsoring activities to them to

help them win the competition. Thus, those who have early successes are more likely to receive sponsorship, and those who do not are likely to be excluded from such support activities. Once identified as potential elites, the chosen individuals are given favorable treatment to make them even better and differentiate them even further from the non-elite group. Using competing in a race as a metaphor again, those identified by the elites are allowed to start the race earlier, gain momentum more quickly, and are more likely to be declared as winners. Thus, in contrast to a contest-mobility system, individuals in a sponsored-mobility system do not have as much personal discretion in determining whether or not they can attain victory, especially if they are not identified as potential elites in the early rounds.

By using these two perspectives, we identified four sets of variables that have been frequently used as predictors of career success. These predictors are *human capital*, *organizational sponsorship*, *socio-demographic status*, and *stable individual differences*. Traditionally, human capital predictors (such as amount of work experience or knowledge) have been used to examine career success using the contest-mobility lens (e.g., Becker, 1964). By the same token, organizational sponsorship and socio-demographic status have been typically used to examine career success using the sponsored-mobility perspective (e.g., Greenhaus et al., 1990; Turban & Dougherty, 1994). Turner's (1960) model did not include stable individual differences and they do not appear to be more closely allied to one perspective than to the other. Nonetheless, we include stable individual difference variables because they have often been examined in previous research on career success.

In this study, we will be taking a similar approach to that adopted in previous research in classifying predictors. However, we recognize that this classification is not hard and fast with no potential overlaps. For example, having substantial work experience is a human capital factor that increases one's attractiveness in terms of getting promoted on the basis of merit. However, individuals with greater work experience may also get identified as the members of the organization's elite and therefore receive more organizational sponsorship as a consequence. However, the weight of evidence to date suggests that human capital factors are the most commonly used predictors in the contest-mobility model and organizational sponsorship and socio-demographic status are the most commonly used predictors in the sponsored-mobility model, and we adhere to the same conventions in this article.

Human capital refers to individuals' educational, personal, and professional experiences (Becker, 1964) that can enhance their career attainment and is frequently examined as a predictor of career success (e.g., Judge et al., 1995; Wayne et al., 1999). In this study, we broadly include several

variables as indicators of one's human capital. They include *number of hours worked*, *work centrality* (i.e., job involvement), *job tenure*, *organization tenure*, *work experience* (i.e., number of years worked), *willingness to transfer*, *international work experience*, *education level*, *career planning*, *political knowledge and skills*, and *social capital* (i.e., quantity or quality of accumulated contacts).

Organizational sponsorship predictors represent the extent to which organizations provide special assistance to employees to facilitate their career success. These predictors include *career sponsorship* (the extent to which employees receive sponsorship from senior-level employees that helps enhance their careers; Dreher & Ash, 1990), *supervisor support*, *training and skill development opportunities*, and *organizational resources* (measured by organization size). Even though the variable of *organizational resources* does not directly represent sponsorship given by an organization, organization size can at least partially signal the amount of sponsorship resources an organization has available to allocate to employees (Whitely, Dougherty, & Dreher, 1991).

Socio-demographic predictors reflect individuals' demographic and social backgrounds. We include the following variables that are commonly examined in career success literature: *gender*, *race* (White vs. non-White), *marital status* (married vs. not married), and *age*.

Finally, *stable individual difference* variables represent dispositional traits. These include the Big Five personality factors (Costa & McCrae, 1992) of *Neuroticism*, *Conscientiousness*, *Extroversion*, *Agreeableness*, and *Openness to Experience*. We also consider here *proactivity* (Bateman & Crant, 1993) and *locus of control* (Spector, 1982). Where sufficient studies exist, *cognitive ability* is also considered in this predictor group.

Hypotheses

A Contest-Mobility Model of Career Success: Human Capital Predictors

The contest-mobility model of career success suggests that people compete for career success in an open and fair contest. No one employee would have preexisting advantages over the others, and therefore, winners of favorable career outcomes are those who are the most skilled and most willing to put forth the effort. A career can therefore be viewed as a tournament in which one has to constantly compete with others by improving oneself if one wants to succeed (Rosenbaum, 1984). With this premise in mind, one's human capital should be highly relevant for predicting career success because human capital is highly rewarded in the labor market (Becker, 1964). Thus, the contest-mobility model of career success leads us to predict:

Hypothesis 1: Human capital predictors, including the *number of hours worked* (H1a), *work centrality* (H1b), *job tenure* (H1c), *organization tenure* (H1d), *work experience* (H1e), *willingness to transfer* (H1f), *international work experience* (H1g), *education level* (H1h), *career planning* (H1i), *political knowledge and skills* (H1j), and *social capital* (H1k) are each positively related to career success.

A Sponsored-Mobility Model of Career Success: Organizational Sponsorship and Socio-Demographic Predictors

According to the sponsored-mobility model of career success, winners are those who receive greater sponsorship from the elites in their organizations. Access to such activities helps individuals stand out from other employees and eventually obtain better career outcomes. Therefore, unlike the contest-mobility model, the sponsored-mobility model implies that not everyone can win a career contest. This perspective on career success is supported by the internal labor market theory (Spilerman, 1977), which posits that organizations invest in their employees and these investments segment employees into “separate opportunity circumstances” (Rosenbaum, 1984 p. 20). The organizational sponsorship predictors illustrate the essence of the sponsored-mobility model of career success; those who are singled out to receive career sponsorship, obtain supervisor support, have access to training and skill development opportunities, and work in organizations with greater resources available for development should be more likely to attain career success. Thus, based on this perspective, we predict:

Hypothesis 2: Organizational sponsorship predictors, including *career sponsorship* (H2a), *supervisor support* (H2b), *training and skill development opportunities* (H2c), and *organizational resources* (H2d) are each positively related to career success.

Although the effects of organizational sponsorship predictors on career success illustrate *how* organizations sponsor employees, another issue involves *who* is likely to be chosen for sponsorship. We suggest that socio-demographic characteristics are often used as the criteria to allocate sponsorship. For instance, due to traditional gender and racial stereotypes, women and ethnic minority groups may be less likely to be chosen for career development (Kanter, 1977). As Tharenou (1997) comments, “discrimination is said to operate . . . based on employers expecting women, on average, to be less productive or to leave the firm sooner than men, and thus assigning individual women to lower level positions than men” (p. 53). In a similar manner, due to prevailing racial stereotypes, non-Whites may be viewed as less competent or worthy of organizational sponsorship compared to Whites (Greenhaus et al., 1990). Marital status may also be used as a criterion for allocating sponsorship because managers

may view married individuals as more stable and responsible than singles (Pfeffer & Ross, 1982). Finally, sponsorship activities may be disproportionately allocated to those who are more skilled and experienced, and both experience and organizational savvy accumulates with age. This leads us to predict:

Hypothesis 3: Socio-demographic variables, including *being married* (H3a) and *age* (H3b), are each positively related to career success. *Being female* (H3c) and *non-White* (H3d) are each negatively related to career success.

Stable Individual Difference Predictors

Stable individual differences should play an important role in determining career success because careers unfold over time and are often driven by one's enduring attitudes and behaviors (Boudreau, Boswell, Judge, & Bretz, 2001; Seibert, Crant, & Kraimer, 1999). Moreover, a planful career development is important to securing career success and is often guided by one's internal attributes (Feldman, 2002). Further, because both organizational and career life is full of "weak" situations, stable traits such as personality factors are likely to exert a sizable effect (Seibert et al., 1999).

Stable dispositional traits can affect career success in both the contest-mobility model and the sponsored-mobility model. For example, individual differences may endow some individuals with extra resources for competing in the career contest, such as higher levels of ability and initiative. However, dispositional traits may also attract or repel sponsorship, which can also affect career success (e.g., Turban & Dougherty, 1994). Because of the different nature of the stable individual difference variables examined, each is briefly discussed before offering a summary hypothesis.

The Big Five. Neuroticism is likely to be negatively related to career success because characteristics such as emotional instability and anxiety are likely to reduce job performance and hinder effective career management (Boudreau et al., 2001; Judge et al., 1999; Seibert et al., 2001; Turban & Dougherty, 1994) and reduce the likelihood of career sponsorship. In contrast, higher dependability and stronger achievement orientation (Conscientiousness) should be positively related to career success due to the consistent relationship between Conscientiousness and job performance (Barrick & Mount, 1991). The tendency to be dutiful and responsible should help in attracting organizational sponsorship too. The extent to which one is outgoing, energetic, joyful, and assertive (Extroversion) should also be positively related to career success because such attributes are important for jobs requiring interpersonal interaction, such as managerial positions (Judge, Bono, Illies, & Gerhardt, 2002). In addition, those

with strong “people skills” may be more likely to be chosen for organizational sponsorship.

Predictions for the effects of Agreeableness and Openness to Experience are less clear. Agreeableness may be advantageous because better work relationships may facilitate better job performance and career success (Seibert & Kraimer, 2001). However, some research finds that Agreeableness is negatively related to career success (Boudreau et al., 2001), perhaps because highly agreeable individuals may receive less sponsorship as a result of being regarded as docile and easily manipulated. Openness to Experience, the extent to which people are imaginative and unconventional, is not clearly linked to career success except for jobs that require creativity. Because studies of personality and career success typically include both Agreeableness and Openness to Experience, they are investigated in the present meta-analysis although specific directional hypotheses are not proposed.

Other stable individual differences. Three other stable individual differences were examined. Proactivity should enhance career success because proactive people are more likely to take the initiative to select, create, and influence work situations and environment that are more likely to provide opportunities for advancing their careers (Seibert et al., 1999). They are also more likely to be sponsored because proactivity is perceived as an indicator of leadership potential (Bateman & Crant, 1993). Similarly, an internal locus of control should relate to career success because it reflects the belief that one can master his/her external environment (Spector, 1982). Locus of control is also an indicator of one’s core self-evaluation (Judge, Locke, Durham, & Kluger, 1998); those with a more internal focus may have greater psychological resources for preserving and succeeding in the face of setbacks. Because cognitive ability is positively related to skill and knowledge acquisition, it, too, should be positively related to career success (Dreher & Bretz, 1991). Cognitive ability is also one criterion that is often used in making sponsorship decisions (Turner, 1960). Thus, we predict:

Hypothesis 4: Stable individual difference variables, including *conscientiousness* (H4a), *extroversion* (H4b), *proactivity* (H4c), *internal locus of control* (H4d), and *cognitive ability* (H4e), are each positively related to career success. *Neuroticism* (H4f) is negatively related to career success.

Objective Versus Subjective Career Success

Historical interest in the topic of career success focuses on objective career success (e.g., Gutteridge, 1973). Those who earn higher salaries and are promoted faster are typically regarded as more successful in their careers. However, there is an increasing emphasis on examining people’s

subjective evaluations of their careers (e.g., career satisfaction) to obtain a more comprehensive understanding of career success (e.g., Judge et al., 1995; Seibert & Kraimer, 2001). Based on previous research, it is reasonable to expect that objective and subjective career success are positively correlated (Judge et al., 1995).

Here, we make explicit the rationales for this relationship that have not been fully articulated in previous research. First, according to attribution theories (e.g., Johns, 1999), people have the tendency to attribute successes to internal causes and failures to external factors. As such, one's objective career success is likely to engender positive self-perceptions, which in turn should lead to greater satisfaction with one's career. Social comparison theory (Festinger, 1954) leads to a similar prediction. According to this theory, people have the tendency to compare themselves with others. Salary level and the number of promotions are important and convenient means of such comparisons. Obtaining a higher salary level and more promotions relative to others is likely to enhance one's perceptions of success. Because wealth and social standing are valued in society, tangible career achievements may lead to feelings of greater career satisfaction.

Although we expect objective and subjective career success to be positively correlated, we hypothesize that these constructs are empirically distinct. More specifically, subjective career success may not be solely predicted by tangible indicators of career success such as salary or promotions. Rather, in seeing themselves as "career successful," some individuals may rely more on how satisfied they are in their job (Judge et al., 1995) or career (Greenhaus et al., 1990). Moreover, there are many reasons that individuals may continue to advance within an organization other than career satisfaction (e.g., opportunity costs associated with leaving, accumulated benefits and pensions, lack of alternatives). This leads us to predict:

Hypothesis 5: Objective and subjective career success are positively related yet empirically distinct.

This hypothesis raises an interesting research question: Are some predictors more important in predicting objective career success but others are more important in predicting subjective career success? A careful inspection of the variables associated with each of the four categories of predictors suggests that organizational sponsorship and stable individual difference variables may be more highly correlated with subjective career success than objective career success.

The reason is that both stable individual differences (especially personality traits) and organizational sponsorship variables are viewed as proximal determinants of one's affective reactions to work and career. For example, personality traits such as Neuroticism influence individuals'

self-perceptions, suggesting that personality is closely related to perceptual variables such as subjective career success (Bell & Staw, 1989). Similarly, organizational sponsorship variables strongly influence work attitudes such as perceived organizational support (Rhoades & Eisenberger, 2002), fairness perceptions (Greenberg, 1990), and psychological contract perceptions (Rousseau, 1989). Moreover, organizational sponsorship provides important cues to employees that they are valued and possess career potential; these cues are then likely to elicit favorable affective reactions including higher levels of career satisfaction and a stronger sense of career success (cf. Salancik & Pfeffer, 1978). The literature here, then, suggests the following hypothesis:

Hypothesis 6a: Organizational sponsorship and stable individual differences are more strongly related to subjective career success than objective career success.

In contrast, human capital theory suggests that investing in one's skills and education should lead to greater value in the marketplace (Becker, 1964). Because salary and promotions are proximal indicators of how much an individual is valued within a free market economy, we expect human capital factors to be stronger predictors of objective than subjective career success. Further, given the consistent findings that certain socio-demographic groups face wage and promotion discrimination (e.g., Greenhaus et al., 1990; Stroh et al., 1992; Tharenou, 1997), we also expect this category of predictors to be more strongly correlated with objective than subjective career success. This leads us to predict:

Hypothesis 6b: Human capital and socio-demographics are more strongly related to objective career success than subjective career success.

Gender as a Moderator Variable

Both human capital and organizational sponsorship variables may display different relationships with career success for women than for men. The careers literature has a long history of examining gender in relation to career success (for a review, see Powell & Mainiero, 1992). Scholars often argue that women's workplace experiences differ from men's and that these differences may be one reason why women have not yet received equality in the workplace (e.g., Lyness & Thompson, 1997, 2000; Stroh et al., 1992). Differences in work experiences may be a function of dissimilar work and career histories between men and women (e.g., Lyness & Thompson, 1997) as well as sex role attitudes and gender stereotypes (e.g., Powell, Butterfield, & Parent, 2002). In this study, we examine whether gender moderates human capital-career success and organizational sponsorship-career success relationships. Gender is not examined

as a moderator of socio-demographic-career success relationship or the stable individual difference-career success relationship because there is no reason to expect interactive effects here.

Human capital represents the investments that people make in their skills. There are several reasons to believe that the career payoff of such investments may be weaker for women than for men. For example, women may have educational levels that are comparable to men, but because they tend to be overrepresented in lower paying fields such as education and social work (Lancaster & Drasgow, 1994), they may see less payoff in terms of salary and promotion. As another example, research indicates that although men benefit from an external market strategy in terms of career success, women do not (Brett & Stroh, 1997). Thus, investments in job and organizational tenure may have differential effects for men and women.

The relationship between organizational sponsorship and objective career success may also be weaker for women than for men. For instance, women may have less powerful organizational sponsors by virtue of the types of positions they are likely to hold in the organization (e.g., non-revenue generating departments, staff positions; Lancaster & Drasgow, 1994). Women may also have similar access to training and development opportunities but may be less likely to receive the type of training necessary to prepare them for high paying or high status positions because they are less likely to hold jobs that are stepping stones to these positions (Baron, Davis-Blake, & Bielby, 1986). Taken together, these observations lead us to predict:

Hypothesis 7a: Gender moderates the relationship between human capital and objective career success and the relationship between organizational sponsorship and objective career success. The correlations are weaker for women than for men.

Women may have lower expectations regarding career opportunities (e.g., skill development, sponsorship) and attainments (e.g., promotions) than men do (Judge et al., 1995). As such, they may be more easily satisfied with their career opportunities and attainments compared to men, who usually have higher expectations of both opportunities and attainments. Based on this reasoning, we speculate that investing in human capital and receiving sponsorship influences subjective career success more strongly for women than for men.

Hypothesis 7b: Gender moderates the relationship between human capital and subjective career success and the relationship between organizational sponsorship and subjective career success. The correlations are stronger for women than for men.

Time of Study as a Moderator Variable

Although gender may moderate some of the predictor–career success relationships, women have made substantial progress in the workplace in the past few decades (e.g., Ragins, Townsend, & Mattis, 1998). As such, it seems prudent to examine whether the relationship between gender and career success has lessened over time. We examined time since the original study was published as a moderator only for objective career success because there is no reason to think that the gender–career satisfaction relationship would change over time.

Hypothesis 7c: Time since the original study moderates the gender–objective career success relationship such that the correlation becomes weaker over time.

Common Method Bias as a Moderator Variable

There is increasing concern that relationships among variables may be artificially inflated due to the methodological artifact of obtaining data using a single data-collection method (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). This common method bias may lead to erroneous conclusions being drawn from existing research. Of particular concern in the organizational sciences are correlations among two perceptual variables. In this study, we compare the magnitude of meta-analytic correlations involving perceptual-based predictors and subjective career success (e.g., willingness to move and career satisfaction) to those associated with perceptual-based predictors and objective career success (e.g., willingness to move and salary). If common method bias is operating, then we would expect to see higher correlations, on average, between perceptual-based predictors and subjective career success (which is also perceptual-based) than between perceptual-based predictors and objective career success (which is not perceptual-based).

Exploratory Research Question: Are the correlations between perceptual-based predictors and subjective career success stronger than the correlations between perceptual-based predictors and objective career success?

Method

We performed a comprehensive search of articles published in 2003 or earlier that investigated predictors of two objective measures of career success (salary and number of promotions) or career satisfaction (a measure of subjective career success). We also tried to locate those articles that did not directly aim at studying career success yet provided

correlation matrices that contained those variables that we were interested in. We began by locating relevant articles in the *ABI INFORM* and *PsycINFO* databases, using keywords such as “career success,” “salary,” “pay,” “compensation,” “promotion,” “advancement,” “ascendancy,” and “career satisfaction.” Because these keywords might not necessarily be mentioned in the abstracts of or designated as keywords in some potentially relevant articles, we additionally used a wide range of other career-related keywords such as “career attitudes,” “career achievement,” “career motivation,” “upward mobility,” and “career strategies.”

We also manually scanned through the articles published since 1980 in the following journals: *Administrative Science Quarterly*, *Academy of Management Journal*, *Human Relations*, *Journal of Applied Psychology*, *Journal of Management*, *Journal of Occupational and Organizational Psychology*, *Journal of Organizational Behavior*, *Journal of Vocational Behavior*, *Organizational Behavior and Human Decision Processes*, and *Personnel Psychology*. In addition, the reference lists of all the identified articles were examined for other relevant studies. We excluded those studies that were not directly relevant to our meta-analysis, such as studies that measured satisfaction with promotions (instead of actual number of promotions). In addition, some authors published different studies with the same data set, reporting the same correlation in more than one study. In these situations, the correlation in question was recorded only once. Studies that did not operationalize the variables of interest according to our set criteria (see the next section) were also excluded. This process yielded 140 relevant articles; 11 of these articles contained multiple independent samples.

Operationalization of Constructs

An important issue in meta-analysis is the operationalization of variables. This is essential because during the coding process, variables that are conceptually similar are often combined (e.g., Griffeth, Hom, & Garetner, 2000; Viswesvaran, Sanchez, & Fisher, 1999). In terms of our criterion of *salary*, some authors measured total compensation (including salary, bonus, stock, etc.) instead of annual salary. Because these two measures were highly correlated (Judge et al., 1995), they were treated in the same category. In terms of the criterion of *promotion*, most studies measured the number of promotion respondents received in their careers (e.g., Boudreau et al., 2001). However, a few studies measured promotion rate, which was obtained by dividing the number of promotions by organization tenure (e.g., Kirchmeyer, 2002b). For calculating the cumulative effect size of the relationship between promotion and organization tenure, as well as between promotion and age, we excluded studies that measured

promotion rate because the calculation of promotion rate involved the variable of organization tenure, and age was highly correlated with organization tenure. The variable of career satisfaction was used to operationalize subjective career success.

In terms of predictors, we describe those that are perceptual in nature because nonpercept variables were operationalized consistently across studies (i.e., hours worked [per week], job tenure, organization tenure, work experience [total years in the workforce], international work experience [yes, no], education level, age, gender, race, marital status).

In terms of human capital predictors, *work centrality* refers to the psychological investment in work or centrality of work for self-identity or self-image. Studies measuring work centrality used self-report measures of job involvement. An example of an item is "The most important things that happen to me involve my work" (e.g., Ayree & Luk, 1996). Using a somewhat different format, Boudreau et al. (2001) measured job involvement by asking respondents to assign 100 points to five different life domains (work, family, religion, leisure, and community). *Willingness to transfer* consists of individuals' self-reported general receptivity toward mobility opportunities within, as well as outside, their current organization. This, for instance, included willingness to accept job rotation (Campion, Cheraskin, & Stevens, 1994), promotions (Wayne et al., 1999), and geographical moves (Stroh et al., 1992). *Career planning* was a continuous variable which indicated the extent to which employees reported taking the initiative in making personal career plans. Gould's (1979) scale was commonly used. Two examples of items were as follows: "I have a strategy for achieving my career goals" and "I have a plan for my career." *Political knowledge and skills* included the following two measures: political knowledge (e.g., Chao, O'Leary-Kelly, Wolf, Klein, & Gardner, 1994; Seibert, Kraimer, & Crant, 2001) and supervisor-focused political tactics (e.g., Wayne, Liden, Graf, & Ferris, 1997). *Social capital* included one of the following two self-reported measures: the quantity of people an employee knows of in other functions or at higher levels (e.g., Seibert et al., 2001) and the extent to which an employee engages in networking activities (e.g., Igarria, Parasuraman, & Badawy, 1994).

For organizational sponsorship predictors, *career sponsorship* was a self-reported variable indicating the extent to which employees received sponsorship from individuals within the organization, including senior managers and mentors. This included the self-reported career-enhancing functions of being assigned challenging tasks, obtaining exposure and visibility, receiving protection, sponsorship, and coaching (Kram, 1985). We did not differentiate the sources of sponsorship (e.g., mentors, supervisors) because the construct represented the overall receipt of sponsorship. *Supervisor support* refers to the extent to which supervisors provide

emotional and work-related social support. Measures of supervisor support included in this meta-analysis were self-report multi-item measures of general supervisor support, such as whether supervisors give helpful feedback about job performance (Kirchmeyer, 1995). The variable of *training and skill development opportunities* included employees' self-reported perceptions of the extent to which their company provided opportunities for training and skill acquisition (e.g., Wayne et al., 1999). Finally, the variable of *organizational resources* was measured by organization size, operationalized by the number of employees in an organization.

The final group of predictors consisted of stable individual differences. The measures of the Big Five personality traits (*Neuroticism, Extroversion, Openness to Experience, Agreeableness, and Conscientiousness*) were operationalized in terms of normal personality. They were measured by typical scales such as the NEO-FFI (Costa & McCrae, 1992), Goldberg's marker scale (Goldberg, 1992) or its modified versions, Cattell 16PF5 (Cattell, Cattell, & Cattell, 1993), and Personal Characteristics Inventory (Mount & Barrick, 1995). Proactivity was measured by common scales such as Bateman and Crant's (1993) 17-item measure and less common ones such as Schmitz and Schwarzer's (2000) 15-item Proactive Attitude Scale. Locus of control was operationalized by several different scales including Rotter's (1966) 23-item scale, Levenson's (1973) 4-item scale, and Spector's (1988) 16-item Work Locus-Of-Control scale. Higher scores on these scales indicated an internal locus. Finally, cognitive ability was operationalized by various mental ability measures such as scores on standardized intelligence tests (e.g., Judge et al., 1999), aptitude tests that measured verbal and quantitative skills (e.g., Dickter, Roznowski, & Harrison, 1996) or critical thinking (e.g., Melamed, 1996), and Graduate Management Admission Tests (e.g., O'Reilly & Chatman, 1994).

Meta-Analysis Procedure

The first author was responsible for coding variables. Consistent with the approach taken by Finkelstein, Burke, and Raju (1995), a random sample of 30 studies (i.e., 21%) were independently coded by another author. Agreement among coders was high at 90% (i.e., 27 of those 30 studies were coded consistently between the two authors). In situations where there was disagreement, discussion was used to reach a consensus. Hunter and Schmidt's (1990) meta-analysis technique was used. The effect size in the current analysis was the product-moment correlation coefficient (r) provided in each study.

We first corrected each correlation for unreliability in the measurement of career satisfaction and other perceptual variables by adopting the alpha values (α) reported in each study. The rationale for such disattenuation

was that many of these variables were perceptual self-report measures (e.g., career satisfaction, dispositional traits, career planning) and, as such, responses might contain measurement error. Correlations corrected for unreliability would therefore reflect “purer” effect sizes. When no alpha value was reported for a particular scale in a study, an average alpha value was calculated from the remaining studies using the same scale (e.g., Judge et al., 2002). There were a number of nonpsychological measures that did not require disattenuation, such as salary, number of promotions, socio-demographic variables, job and organization tenure, work experience, and education level. The reliability for each of these variables was assumed to be unity. Finally, for studies that contained multiple measurements such as longitudinal studies, we averaged the correlations associated with the same measures.

Next, in order to correct for sampling error, we calculated the sample size weighted average correlation. A corrected correlation was judged to be significant at $\alpha = .05$ when the 95% confidence interval did not include zero. In addition, we calculated a mean meta-analytic correlation for each group of predictors for each aspect of career success. This value was calculated by first weighting the absolute value of each correlation by its associated k (i.e., the number of studies cumulated), then summing these values and dividing the total by the aggregated k (i.e., $\sum k_i |r_i| / \sum k_i$, where i is the i th predictor in each category). This served as a rough indicator of the extent to which each group of predictors, on average, was related to each aspect of career success.

Moderator analyses. Hypotheses 7a, 7b, and 7c involve examining gender and time of study as moderators. Some researchers (e.g., Rhodes & Eisenberger, 2002) have arbitrarily used a minimum of 20 studies with the necessary information as the criterion to decide which relationships to test for moderators. In order to investigate more potential relationships, we used 15 studies as the cutoff. We used the Q statistic (Hedges & Olkin, 1985) to detect the existence of moderators. A significant value of Q statistic would suggest that there was a significant level of variability in the effect size to warrant a search for moderators.

Consistent with previous meta-analyses examining the moderating role of gender (e.g., Altshuler et al., 2001), we took the percentage of female respondents in each study as the proxy for gender. Not all studies reported the gender composition of the sample, which reduced our ability to test some moderated relationships. We then used this percentage of female respondents as an independent variable to predict the Fisher's z -transformed correlation coefficients for the predictor-career success relationship, using weighted least-squares multiple regression. This technique of testing for moderators in meta-analyses was found to be the most reliable and robust compared to other alternative methods (Steel & Kammeyer-Mueller, 2002). If the independent variable of percentage of females in studies'

samples was a significant predictor of the correlation coefficients for the predictor–career success relationship, it would suggest that gender moderated that relationship.

We used the same process for examining time of study as a moderator, substituting date of study as the independent variable and testing relationship between gender and objective career success. If the independent variable of date of study was a significant predictor of the correlation coefficients for the gender–objective career success relationship, it would suggest that the relationship changed as time progressed.

To test whether common method bias might be a moderating variable, we adopted an approach similar to the one used by Crampton and Wagner (1994). First, the predictor–career success correlations examined in the present study were grouped into three categories. The first group included those relationships that involved only perceptual predictors and career satisfaction (e.g., work centrality–career satisfaction, supervisor support–career satisfaction; 119 correlations in total). The second group included those relationships that involved perceptual predictors and objective career success measures (e.g., work centrality–salary, supervisor support–promotion; 327 correlations in total). The third group included those relationships that involved only nonperceptual predictors and objective career success measures (e.g., race–salary, education–promotion; 495 correlations in total). To examine the exploratory research question, we then compared the uncorrected average correlations for the first two groups (i.e., percept–percept vs. percept–nonpercept variables) by using approximate *t*-tests (Kirk, 1968). A significantly higher mean value for correlations involving percept–percept variables may suggest that common method bias was operating.

Results

Tables 1–3 show the results of the meta-analysis of predictors of salary, promotions, and career satisfaction, respectively. For each relationship, we report the total sample size cumulated across those studies (*N*), number of studies included in the analysis of that relationship (*k*), sample size weighted corrected correlation (r_c), standard deviation of the r_c (SD_c), and *Q* statistic. With respect to the interpretation of effect sizes, an absolute value of .10 to .23 was regarded as small, .24 to .36 as medium, and .37 or higher as large (Cohen, 1988).

Human Capital Predictors

Hypothesis 1 predicts that number of hours worked (H1a), work centrality (H1b), job tenure (H1c), organization tenure (H1d), work experience (H1e), willingness to transfer (H1f), international work experience

TABLE 1
Meta-Analytic Results of the Predictors of Salary

Predictors	<i>N</i>	<i>k</i>	<i>r_c</i>	<i>SD_c</i>	<i>Q</i>
Human capital					
Hours worked	15,428	22	.24*	.10	209.61*
Work centrality	9,101	17	.12*	.12	75.74
Job tenure	17,094	20	.07*	.14	361.66*
Organization tenure	39,562	39	.20*	.13	792.75*
Work experience	10,841	27	.27*	.13	260.05*
Willingness to transfer	3,156	6	.11*	.09	21.58*
International experience	4,869	4	.11*	.02	6.97
Education level	45,293	45	.29*	.14	1,126.93*
Career planning	522	2	.11*	.10	4.24
Political knowledge & skills	1,261	5	.29*	.05	4.60
Social capital	3,481	9	.17*	.14	67.56*
<i>Average correlation</i>			.21		
Organizational sponsorship					
Career sponsorship	3,406	10	.22*	.21	29.46*
Supervisor support	2,322	5	.05*	.13	24.14*
Training & skill development opportunities	9,670	7	.24*	.15	278.01*
Organizational resources	8,204	18	.07*	.13	159.66*
<i>Average correlation</i>			.13		
Socio-demographics					
Gender (<i>male</i> = 1, <i>female</i> = 0)	33,211	51	.18*	.11	519.21*
Race (<i>White</i> = 1, <i>non-White</i> = 0)	6,443	13	.11*	.12	115.10*
Marital status (<i>married</i> = 1, <i>unmarried</i> = 0)	23,303	29	.16*	.09	252.86*
Age	40,197	52	.26*	.16	1,249.90*
<i>Average correlation</i>			.20		
Stable individual differences					
Neuroticism	6,433	7	-.12*	.03	12.38
Conscientiousness	6,286	6	.07*	.10	55.95*
Extroversion	6,610	7	.10*	.05	27.00*
Agreeableness	6,286	6	-.10*	.01	2.23
Openness to experience	6,800	7	.04*	.04	9.94*
Proactivity	1,006	4	.11*	.13	11.69*
Locus of control	2,495	7	.06*	.11	21.91*
Cognitive ability	9,560	8	.27*	.07	69.49*
<i>Average correlation</i>			.11		

Notes. Average correlation is represented by the absolute value. *N* = cumulative sample size; *k* = number of studies cumulated; *r_c* = sample size weighted corrected correlation; and *Q* = *Q* statistics.

**p* < .05.

(H1g), education level (H1h), career planning (H1i), political knowledge and skills (H1j), and social capital (H1k) are each positively related to career success.

For salary, human capital variables demonstrated weak to moderate effect sizes. All predicted relationships were significant and in the expected

TABLE 2
Meta-Analytic Results of the Predictors of Promotion

Predictors	<i>N</i>	<i>k</i>	<i>r_c</i>	<i>SD_c</i>	<i>Q</i>
Human capital					
Hours worked	12,077	10	.13*	.05	36.22*
Work centrality	5,258	5	.04*	.04	11.84*
Job tenure	11,393	10	-.02*	.07	62.96*
Organization tenure	17,725	17	.03*	.22	993.14*
Work experience	5,400	10	.06*	.26	402.62*
Willingness to transfer	3,982	5	.03*	.14	56.51*
International experience	4,768	3	.12*	.00	1.11
Education level	9,571	26	.05*	.08	95.72*
Political knowledge & skills	432	2	.07	.00	.04
Social capital	2,605	7	.15*	.06	10.67
<i>Average correlation</i>			.06		
Organizational sponsorship					
Career sponsorship	4,828	10	.12*	.08	33.53*
Supervisor support	1,235	6	.02	.00	2.68
Training & skill development opportunities	6,503	6	.23*	.21	391.39*
Organizational resources	18,780	14	.06*	.02	23.07*
<i>Average correlation</i>			.10		
Socio-demographics					
Gender (<i>male</i> = 1, <i>female</i> = 0)	19,545	29	.08*	.07	127.65*
Race (<i>White</i> = 1, <i>non-White</i> = 0)	11,148	11	.01	.03	24.84*
Marital status (<i>married</i> = 1, <i>unmarried</i> = 0)	26,708	16	.09*	.09	227.18*
Age	28,498	28	.02*	.21	1,334.28*
<i>Average correlation</i>			.05		
Stable individual differences					
Neuroticism	4,575	5	-.11*	.05	12.60*
Conscientiousness	4,428	4	.06*	.01	2.61
Extroversion	4,428	4	.18*	.06	8.82*
Agreeableness	4,428	4	-.05*	.00	.60
Openness to experience	4,942	5	.01	.02	7.23
Proactivity	676	2	.16*	.03	1.93
Locus of control	5,911	4	-.03	.03	6.44
<i>Average correlation</i>			.08		

Notes. Average correlation is represented by the absolute value. *N* = cumulative sample size; *k* = number of studies cumulated; *r_c* = sample size weighted corrected correlation; and *Q* = *Q* statistics.

**p* < .05.

direction. For promotions, all the meta-analytic correlations except one (associated with political knowledge and skills) were significant. However, the magnitude of the effect sizes was in general weaker than those found for salary (note that we did not include career planning due to the lack of available studies). Further, job tenure was negatively, rather than positively, related to promotion.

TABLE 3
Meta-Analytic Results of the Predictors of Career Satisfaction

Predictors	<i>N</i>	<i>k</i>	<i>r_c</i>	<i>SD_c</i>	<i>Q</i>
Human capital					
Hours worked	9,236	17	.13*	.08	66.46*
Work centrality	14,944	19	.22*	.20	335.92*
Job tenure	6,491	9	-.02	.05	18.02*
Organization tenure	9,246	17	.02	.04	21.72
Work experience	7,318	16	.00	.10	68.93*
Willingness to transfer	1,060	4	-.06	.41	102.02*
International experience	5,068	4	.03	.03	13.62*
Education level	11,890	24	.03*	.07	65.38*
Career planning	2,367	7	.33*	.23	41.24*
Political knowledge & skills	6,112	2	.05*	.04	7.21
Social capital	3,051	8	.28*	.13	36.26*
<i>Average correlation</i>			.10		
Organizational sponsorship					
Career sponsorship	6,255	18	.44*	.21	166.75*
Supervisor support	1,653	6	.46*	.26	57.02*
Training & skill development opportunities	5,048	18	.38*	.16	82.84*
Organizational resources	7,096	15	-.02	.12	106.00*
<i>Average correlation</i>			.31		
Socio-demographics					
Gender (<i>male</i> = 1, <i>female</i> = 0)	10,246	22	.01	.08	65.58*
Race (<i>White</i> = 1, <i>non-White</i> = 0)	2,561	5	.03*	.11	27.92*
Marital status (<i>married</i> = 1, <i>unmarried</i> = 0)	6,468	14	.06*	.01	9.67
Age	11,913	26	.00	.09	114.62*
<i>Average correlation</i>			.02		
Stable individual differences					
Neuroticism	10,566	6	-.36*	.05	67.71*
Conscientiousness	10,566	6	.14*	.06	16.04*
Extroversion	10,566	6	.27*	.07	6.68
Agreeableness	4,634	5	.11*	.05	4.65
Openness to experience	10,962	7	.12*	.03	26.74*
Proactivity	1,072	3	.38*	.02	0.50
Locus of control	668	3	.47*	.29	22.57*
<i>Average correlation</i>			.24		

Notes. Average correlation is represented by the absolute value. *N* = cumulative sample size; *k* = number of studies cumulated; *r_c* = sample size weighted corrected correlation; and *Q* = *Q* statistics.

**p* < .05.

In terms of career satisfaction, most predictors demonstrated the expected positive relationships. The five that did not were job tenure, organization tenure, work experience, willingness to transfer, and international experience. Thus, based on these patterns of findings across the three measures of career success, five hypotheses (H1a, H1b, H1h, H1i, and H1k) received full support and the rest received partial support.

Organizational Sponsorship Predictors

Hypothesis 2 predicts that career sponsorship (H2a), supervisor support (H2b), training and skill development opportunities (H2c), and organizational resources (H2d) are each positively related to career success. All these predictors demonstrated the expected relationships with salary. Similarly, career sponsorship and training and skill development opportunities demonstrated expected but weak relationships with promotions. Organizational resources also yielded a significant positive relationship, albeit a very small effect size with promotions. In terms of career satisfaction, all organizational sponsorship predictors except organizational resources were significant and positive, and the effect sizes were generally strong. Taken together, H2a and H2c received full support whereas H2b and H2d received partial support.

Socio-Demographic Predictors

Hypothesis 3 predicts that being married (H3a) and age (H3b) are each positively related to career success, whereas being female (H3c) and non-White (H3d) are each negatively related to career success. For predicting salary, all socio-demographic variables were significant and demonstrated the expected effects. Employees reported higher salary attainment if they were male, White, married, and older. Results for promotions were similar to salary. However, these effect sizes were weaker and race was not a significant predictor. In contrast, for predicting career satisfaction, only race and marital status were statistically significant and the corrected correlations were weak. Given this pattern of findings, H3a (on marital status) received full support whereas H3b, H3c, and H3d (on age, gender, and race) received partial support.

Stable Individual Difference Predictors

Hypothesis 4 predicts that Conscientiousness (H4a), Extroversion (H4b), proactivity (H4c), internal locus of control (H4d), and cognitive ability (H4e) are each positively related to career success, whereas Neuroticism (H4f) is negatively related to career success. As expected, Neuroticism was negatively correlated with salary, promotions, and career satisfaction. In addition, as expected, both Conscientiousness and Extroversion were positively correlated with these three measures of career success.

Though no formal hypotheses were proposed, it was found that Agreeableness was negatively correlated with salary as well as with promotions, and Openness to Experience was weakly and positively related to salary

TABLE 4

Meta-Analytic Relationships Between Objective and Subjective Career Success

Relationships	<i>N</i>	<i>k</i>	r_c	Lower 95% CI	Upper 95% CI	<i>SDc</i>	<i>Q</i>
Salary-career satisfaction	10,903	23	.30*	.28	.32	.09	154.06*
Promotion-career satisfaction	8,701	12	.22*	.20	.24	.07	84.28*
Salary-promotion	22,080	26	.18*	.16	.19	.18	816.77*

* $p < .05$

Note. *N* = cumulative sample size; *k* = number of studies cumulated; r_c = sample size weighted corrected correlation; Lower 95% CI = lower-bound of the 95% confidence interval; Upper 95% CI = upper-bound of the 95% confidence interval; *SDc* = standard deviation of r_c ; and *Q* = *Q* statistics.

but not to promotions. Both Agreeableness and Openness to Experience were modestly and positively related to career satisfaction.

In terms of the other stable individual difference variables, proactivity was weakly and positively related to salary and promotions and strongly related to career satisfaction. Locus of control was weakly related to salary, not related to promotion, and strongly related to career satisfaction. Finally, cognitive ability was moderately and positively related to salary. We did not meta-analyze the relationships between cognitive ability and other career success measures because of the lack of available studies. Given this pattern of results, H4a, H4b, H4c, and H4f (on Conscientiousness, Extroversion, proactivity, and Neuroticism) received full support whereas H4d and H4e (on internal locus of control and cognitive ability) received partial support.

Objective Versus Subjective Career Success

Table 4 illustrates support for Hypothesis 5, which predicts that objective and subjective career success are positively related yet empirically distinct. Objective and subjective career success were moderately correlated but appeared conceptually distinct ($r_c = .18$ to $.30$, shared variance ranges from 3% to 9%). In fact, the 95% confidence intervals for the three relationships, which represented the range of values expected to (95% of times) contain the true correlations, did not overlap with one another.

Hypothesis 6a predicts that organizational sponsorship and stable individual difference variables are more strongly related to subjective career success than to objective career success. Table 5 shows *t*-test comparisons of effect sizes across criteria. The first three columns show corrected meta-analytic correlations for predictors and salary, predictors and promotions, and predictors and career satisfaction (which were adopted from Tables 1–3). Career planning and cognitive ability were not included in

TABLE 5
Comparisons of Effect Sizes of Predictors of Salary, Promotion, and Career Satisfaction

Predictors	r_c with salary	r_c with promotion	r_c with career satisfaction	Absolute t -value for salary versus career satisfaction	Absolute t -value for promotion versus career satisfaction	Absolute t -value for salary versus promotion
Human capital						
Hours worked	.24*	.13*	.13*	3.82*	0.00	4.14*
Work centrality	.12*	.04*	.22*	1.84	3.66*	2.34*
Job tenure	.07*	-.02*	-.02	1.41	0.00	1.30
Organization tenure	.20*	.03*	.02	7.84*	0.18	2.97*
Work experience	.27*	.06*	.00	7.63*	0.70	2.45*
Willingness to transfer	.11*	.03*	-.06	0.24	0.14	1.10
International experience	.11*	.12*	.03	4.44*	6.00*	1.00
Education level	.29*	.05*	.03*	10.28*	0.94	9.19*
Political knowledge & skills	.29*	.07	.05*	6.66*	0.71	9.84*
Social capital	.17*	.15*	.28*	1.68	2.54*	0.39
Organizational sponsorship						
Career sponsorship	.22*	.12*	.44*	2.66*	5.76*	1.41
Supervisor support	.05*	.02	.46*	3.39*	4.15*	0.52
Training & skill development opportunities	.24*	.23*	.38*	2.26*	1.60	0.10
Organizational resources	.07*	.06*	-.02	1.15	1.27	0.32

TABLE 5 (continued)

Predictors	r_c with salary	r_c with promotion	r_c with career satisfaction	Absolute t -value for salary versus career satisfaction	Absolute t -value for promotion versus career satisfaction	Absolute t -value for salary versus promotion
Socio-demographics						
Gender (<i>male</i> = 1)	.18*	.08*	.01	7.30*	3.22*	4.96*
Race (<i>White</i> = 1, <i>non-White</i> = 0)	.11*	.01	.03*	1.35	0.40	2.90*
Marital status (<i>married</i> = 1, <i>unmarried</i> = 0)	.16*	.09*	.06*	5.91*	1.32	2.50*
Age	.26*	.02*	.00	9.17*	0.47	5.35*
Stable individual differences						
Neuroticism	-.12*	-.11*	-.36*	10.28*	8.26*	0.40
Conscientiousness	.07*	.06*	.14*	1.47	3.20*	0.24
Extroversion	.10*	.18*	.27*	4.96*	2.17*	2.26*
Agreeableness	-.10*	-.05*	.11	0.44	2.68*	12.25*
Openness to experience	.04*	.01	.12*	4.23*	7.62*	1.71
Proactivity	.11*	.16*	.38*	4.09*	9.11*	0.73
Locus of control	.06*	-.03	.47*	2.38*	2.62*	0.68

* $p < .05$.

TABLE 6
Meta-Analytic Results of the Moderating Role of Gender in Predictor-Career Success Relationships

Relationships	<i>k</i>	β	Regression <i>F</i> -value
Education level-salary	35	.49	*10.41
Hours worked-salary	16	.60	*7.81
Organization tenure-salary	30	-.36	*4.18
Work experience-salary	21	.03	.02
Education level-promotion	21	.02	.01
Education level-career satisfaction	16	.51	**5.16
Career sponsorship-career satisfaction	16	-.14	.29

* $p < .05$, ** $p < .01$ one-tailed.

Note. k = number of studies cumulated; β = standardized beta weight for gender, coded as the percent of women in each study.

these comparisons because there were not sufficient studies for comparisons across criteria. The last three columns indicate where significant differences were found in the magnitude of predictor-criterion relationships.

Where significant differences were found for organizational sponsorship and stable individual difference predictors, the pattern was consistent with our expectation: They had stronger relationships with career satisfaction than with salary or promotion. This provides general support for Hypothesis 6a.

Hypothesis 6b predicts that human capital and socio-demographic variables are more strongly related to objective career success than to subjective career success. Where significant differences were found, human capital and socio-demographic predictors had stronger effects on salary than on career satisfaction as expected. Fewer significant differences were found when comparing the corrected correlations for predictor-promotion and predictor-career satisfaction relationships. Moreover, counter to our prediction, two human capital variables (i.e., work centrality and social capital) had stronger relationships with career satisfaction than with promotions. Thus, only partial support for Hypothesis 6b was found.

Moderator Variables

Hypothesis 7a predicts that gender moderates the relationship between human capital and objective career success and the relationship between organizational sponsorship and objective career success, such that the correlations are weaker for women. Table 6 shows that, among those relationships that were associated with significant Q statistics and involved enough studies for a moderator search, the percentage of

female respondents in the study moderated the following relationships: education–salary, hours worked–salary, and organization tenure–salary. It was a positive moderator in two of these relationships. Counter to our predictions, the education–salary and hours worked–salary relationships were *stronger* for women than for men. As predicted, the organizational tenure–salary relationship was weaker for women than for men. Unfortunately, there were not sufficient studies to test the moderating role of gender in any of the organizational sponsorship–objective career success relationships. Overall, then, Hypothesis 7a received only partial and weak support.

Hypothesis 7b predicts that gender moderates the relationship between human capital and subjective career success and the relationship between organizational sponsorship and subjective career success, such that the correlations are stronger for women. As seen in Table 6, among those relationships that were associated with significant Q statistics *and* involved enough studies for a moderator search, the percentage of female respondents in the study positively predicted the correlation coefficients for the education–career satisfaction relationship. Thus, Hypothesis 7b received some support.

Hypothesis 7c predicts that time since the original study moderates the gender–objective career success relationship such that the correlations become weaker over time. As expected, the gender–salary relationship became weaker over time ($k = 46$, $\beta = -.28$, $F = 3.68$, $p < .05$). However, time of study did not moderate the gender–promotion relationship ($k = 24$, $\beta = -.19$, $F = .82$, n.s.). Thus, Hypothesis 7c was partially supported.

With respect to our exploratory question, we found that the average correlation for those relationships that involved perceptual predictors and career satisfaction ($r = .22$) was significantly stronger than the average correlation for those relationships that involved perceptual predictors and objective career success ($r = .10$). The absolute t -value was 8.93 ($p < .001$).

Discussion

Several broad conclusions can be reached from this meta-analysis. First, both the contest-mobility perspective and the sponsored-mobility perspective appear useful for predicting employees' career success. Second, the three aspects of career success (i.e., salary, promotion, and career satisfaction) emerged as conceptually distinct constructs. Third, some evidence was found for the moderating role of gender and time of study. Finally, the average correlation for the relationships that involved perceptual predictors and subjective career success was stronger than the average correlation for the relationships that involved perceptual predictors

and objective career success. The sections that follow elaborate on these findings.

Contest- and Sponsored-Mobility Models of Career Success

We found preliminary support for the assertion that both the contest-mobility model and the sponsored-mobility model are useful in understanding career success; we found that human capital, organizational sponsorship, socio-demographic status, and stable individual differences were related to various measures of career success. These two models together suggest that career success is largely a function of two important career experiences: working hard and receiving sponsorship. Working hard represents a merit-based explanation for career success because enhancing one's competency through job-related knowledge, skills, and abilities should be rewarded in the career contest (e.g., Cable & Murray, 1999). In contrast, attracting and obtaining sponsorship reflects a more political explanation for career success and has been recognized as such in previous research (e.g., Judge & Bretz, 1994; Wayne et al., 1997). For instance, in discussing careers as tournaments, Cooper, Graham, and Dyke (1993) propose that individuals have to be similar to the gatekeepers (managers), display a positive outlook, differentiate themselves from others, and engage in self-promotion in order to win. It should be noted that the magnitudes of the effect sizes observed generally ranged from small to moderate.

Conceptualizing Career Success

We found some support for our assumption that salary, promotion, and career satisfaction are unique constructs. Several specific findings led us to this conclusion. First, the three aspects of career success were only moderately correlated. The weak relationship between salary and promotion (.18) warrants particular attention because researchers often conceptualize these two aspects of objective career success as closely related (i.e., those who are promoted earn higher levels of salary and vice versa). For instance, in investigating objective career success, researchers often develop the same predictions for both constructs and include both as indicators of a more general construct of objective career success (e.g., Judge et al., 1995; Seibert & Kraimer, 2001).

Another indication that the three aspects of career success are conceptually distinct is the differential pattern of correlations obtained with the predictors. Specifically, we found some support for the hypothesis that organizational sponsorship and stable individual differences are more strongly related to subjective career success, whereas human capital and socio-demographics are more strongly related to objective career success.

For instance, although Neuroticism was only modestly related to both salary and promotion, it related quite strongly to career satisfaction, perhaps as a result of its strong resemblance of negative affectivity (Watson & Clark, 1992) that predisposes a person to perceive his or her work and career in a negative light (Watson & Clark, 1984). As reasoned previously, this pattern of differences might be due to the fact that organizational sponsorship and stable individual differences are more proximal determinants of one's sense of psychological well being and, therefore, more relevant to one's personal assessment of subjective career success. On the other hand, human capital may directly, and socio-demographics perhaps indirectly (e.g., men may be regarded as a more valuable human resource than women are because of stereotypes), indicate one's worth to the organization itself and therefore be more frequently associated with salary growth and promotional opportunities.

Moreover, in examining the overall patterns of meta-analytic correlations across the three measures of career success, we observed that effect sizes for predictors of salary were often larger than those associated with promotion (see Table 5). Of particular interest is the finding that the gender-promotion and race-promotion relationships were weaker ($r_c = .08$, $p < .05$, and $r_c = .01$, n.s.) than the gender-salary and race-salary relationships, respectively ($r_c = .18$, $p < .05$, and $r_c = .11$, $p < .05$). This indicates that although organizations promote women and racial minorities almost as often as they promote men and Whites, women and racial minorities earn lower salaries. A possible explanation is the pacification hypothesis (e.g., Flanders & Anderson, 1973), which suggests that some organizations promote women and ethnic minorities to convey the image that they are concerned about equal opportunity. However, in reality, such promotions are often not accompanied by greater salary. Taken together, these results provide some support for the assertion that the three aspects of career success are conceptually distinct.

Gender and Time of Study as Moderators

Contrary to our hypotheses, we found that the relationships between education and salary, as well as between hours worked and salary, were *stronger* for women compared to men. The stronger relationship between education and salary for women perhaps illustrates that in order for women to succeed in the career contest, they may have to do more than what men do in terms of proving their credentials (Melamed, 1996). Specifically, women may have to seek out greater educational experiences to compensate for stifled internal opportunities to move into higher-paid jobs. The stronger hours worked-salary relationship for women might be explained by the differential workplace experiences of men and women.

For example, some research has demonstrated that women generally work fewer hours per week than men (Wallace, 1999). In addition, managers and decision makers are likely to expect women to work less than men due to gender role expectations (Brief, Van Sell, & Aldag, 1979). Because of this, women who work longer hours may be more easily recognized by managers and rewarded for demonstrating commitment to the company. The weaker relationship between organizational tenure and promotion for women was consistent with our hypothesis. As expected, women benefit less by being stable contributors to the organization. This may reflect stifled internal career opportunities, dead-ended career paths, or lack of access to the types of training and development opportunities that would prepare them for high-level positions (Russell, 1994; Russell & Eby, 1993). It should be noted that, as mentioned, we did not have sufficient studies to examine whether there might be gender differences in the strength of the organizational sponsorship-objective career success relationship.

In terms of subjective career success, as predicted, we found that education had a stronger influence on career satisfaction for women than for men. This may indicate that women have lower career expectations than men do (Judge et al., 1995), and therefore, the opportunity to invest in themselves to benefit careers (e.g., education, skill development) may be more readily satisfying.

In terms of whether gender differences in promotion and salary have decreased over the years, our study offers both good news and bad news. The good news is that the gender-salary relationship appears to have lessened. The bad news is that the gender-promotion relationship has not. However, because the overall effect size for gender and salary ($r_c = .18$) is stronger than that associated with gender and promotions ($r_c = .08$), we view the lessening of the gender-salary relationship as encouraging.

There are several explanations as to why the gender-promotion relationship may be more resistant to change over time. First, firms might pay greater attention to salary equity because such information is a more visible and perhaps tangible indicator of gender discrimination. Second, some women may self-select out of promotional opportunities. One of the reasons may be that they want more time to take care of their families (Powell & Mainiero, 1992). Another reason may be that they have become disillusioned with corporate life and the political behavior that is often associated with higher level corporate positions (Rosin & Korabik, 1989). Finally, promotion decisions may be more influenced by political concerns (e.g., managers might like to promote those who are similar to themselves). As such, factors such as sex role stereotypes and subjective bias on the part of managers may more readily influence promotion decisions in favor of men.

Common Method Bias as a Moderator

The average magnitude of perceptual predictor–career satisfaction relationships was stronger than that of perceptual predictor–salary and promotion relationships. At this point, we cannot definitely assert that there is common method bias because there may be some other substantive reasons for these results as well. However, this finding highlights the importance for researchers to pay attention to the possibility of common method bias in career research, especially when examining predictors of subjective career success, which is itself self-reported.

Implications for Future Research

The observation that salary, promotion, and career satisfaction represent conceptually distinct aspects of career success has important implications for theory development because it cautions researchers not to assume that objective and subjective career success will be predicted by the same variables. Other researchers have raised this concern (Jaskolka, Beyer, & Trice, 1985; Judge et al., 1995; Poole, Langan-Fox, & Omodei, 1993), but research to date has typically not identified and developed theory around the unique predictors of objective and subjective career success. Therefore, we recommend that scholars move toward developing different approaches for predicting salary, promotion, and career satisfaction. Doing so would require isolating key variables that predict a particular aspect of career success (e.g., James, 2000) as well as developing unique theory-based predictions to guide the selection of predictors.

For instance, based on our findings, a theoretical model that omits dispositional variables in predicting subjective career success may lead to an incomplete understanding of this aspect of career success. On the contrary, in predicting salary, those factors that indicate one's competency and worth to the company, such as human capital, appear essential. Similarly, an investigation of predictors of promotion should consider those variables that reflect the political reality of promotion decision making, such as internal and external network ties and individual characteristics that help increase one's visibility within the company like proactivity and extroversion. These variables, as observed, were relatively strong predictors of promotions. Indeed, identifying unique predictors of promotions appears especially important because of the generally weak effect sizes observed in the current meta-analysis.

In our review, we observe that there is only a limited range of variables being examined as predictors of career success. Thus, a larger and more heterogeneous set of predictors should be identified in future research. Given the preliminary support for the contest- and sponsored-mobility

perspectives as useful theoretical guides for examining career success, the identification of additional predictors based on these models seems warranted. For example, as reasoned, a sponsored-mobility model of career success requires the organization to identify *whom* to sponsor and also decide *how* to sponsor them, whereas a contest-mobility model focuses on *what* the individuals have to do to compete with others.

Additional predictors representing *whom to sponsor* may include the perceived fit between the individual and the organization as well as actual or perceived similarity with the established elites. Research on person–organization fit (Kristof, 1996) and relational demography (Riordan, 1999) may lend useful insight into the development of such theory-based predictions. Other *how* predictors may include specific developmental activities such as coaching, individualized feedback, developmental assessment centers, job rotation, formal mentoring programs, and international assignments.

In contrast, other *what* predictors may include the specific type of experience gained in one's career (e.g., line vs. staff experience) or the breadth and quality of external social networks. Research on the boundaryless career has found that the presence of strong external networks are indeed related to career success (Eby, Butts, & Lockwood, 2003), suggesting that boundaryless career theory (Arthur & Rousseau, 1996) may be a useful theoretical perspective for identifying more of these predictors.

Further, we encourage additional work on the unique career experiences of women as a way to understand their differential career status in the marketplace. The moderator analyses with gender here indicated that the predictor–objective career success relationship is more complex than expected. In some cases, women's investments in their own human capital (e.g., education) paid off more than men's, whereas in other cases no effects were found (e.g., work experience) or men's investments (e.g., organizational tenure) reaped greater rewards relative to women. These results suggest that it will be necessary to think more critically about the specific conditions under that men and women may have advantages over one another rather than adopt an approach which assumes discrimination against women across the board. Along similar lines, gender inequity in promotion opportunities has not improved much over time. As such, future research may focus more on how to further diminish this particular gender inequity at work. For instance, Ragins et al. (1998) surveyed a large number of female executives and identified a wide range of factors that had helped these executives break the glass ceiling. Incorporating these variables into future research on gender and promotional opportunities may provide greater insight into the dynamics of this process for women.

Finally, although we only examined gender and time of study as moderators of the strength of some relationships in this study, it should be

noted that there are other possible moderators that we could not directly test because of the constraints of extant studies. For instance, these include macro-demographic trends (e.g., Baby Boomers vs. Baby Busters), time outs from the workforce (e.g., Schneer & Reitman, 1997), rigidity of occupational career path (flexibility as to the timing and specificity of chains of jobs; Feldman, 2002), organizational contexts in which career rewards are granted (e.g., Sonnenfeld & Peiperl, 1988), and so forth. Thus, more future research is still needed to examine the stability of the effect sizes observed in this study by identifying more moderators that reflect the changing nature of people's careers (Arthur & Rousseau, 1996).

Limitations

Like all research, there are limitations with the current meta-analysis. First, because it was impossible to classify samples into whether they represented contest- or sponsored-mobility norm, we could not directly compare the predictive power of these two perspectives. Second, although we included a wide range of variables, there are predictors of career success that have been examined in previous research but were not included because of the lack of available studies, such as ambition (e.g., Judge et al., 1995). As the number of studies increases in future, additional meta-analytic work may be needed. Third, because of the lack of sufficient information, we were not able to search for moderators for some relationships. Although this limitation is common in meta-analytic research (e.g., Rhoades & Eisenberger, 2002), the variability in obtained effect sizes suggests that moderating factors are present. A fourth limitation is the small number of aggregated studies for some of the relationships investigated. Even though meta-analysis can be executed with as few as two studies (Hunter & Schmidt, 1990), the cumulated effect sizes are more stable when the number of cumulative studies increases. Fifth, we did not include a comprehensive examination of mentoring as a form of organizational sponsorship because a meta-analysis recently appeared that examines various aspects of mentoring in relation to objective and subjective career success (Allen, Eby, Poteet, Lentz, & Lima, 2004). Finally, due to the data contained in individual studies, we had to use percentage of female respondents as a proxy for gender in our moderator search.

Conclusion

Notwithstanding the above limitations, the present meta-analysis provides a comprehensive analysis of the predictors of objective and subjective career success. Our findings not only highlight the importance of human capital, organizational sponsorship, socio-demographic, and stable

individual difference variables in understanding career success, but also suggest that researchers may need to examine other predictors and moderators to more fully understand the complex phenomenon of career success. The results also illustrate the importance of developing different theoretical models for predicting different aspects of career success and further examining gender differences in predictor–career success relationships. We hope this study serves as a platform for future theoretical and empirical work on the topic.

REFERENCES

References marked with an asterisk indicate that the studies were included in the meta-analysis.

- *Adams GA. (1999). Career-related variables and planned retirement age: An extension of Beehr's model. *Journal of Vocational Behavior*, 55, 221–235.
- Allen TD, Eby LT, Poteet ML, Lentz E, Lima L. (2004). Career benefits associated with mentoring for protégés: A meta-analysis. *Journal of Applied Psychology*, 89, 127–136.
- Altshuler LL, Bauer M, Frye MA, Gitlin MJ, Mintz J, Szuba MP, Leight KL, Whybrow PC. (2001). Does thyroid supplementation accelerate tricyclic antidepressant response? A review and meta-analysis of literature. *The American Journal of Psychiatry*, 158, 1617–1622.
- Arthur MB, Rousseau DM. (1996). *The boundaryless career as a new employment principle*. In Arthur MB, Rousseau DMC (Eds.), *The boundaryless career* (pp. 3–20). New York: Oxford University Press.
- *Aryee S. (1993). A path-analytic investigation of the determinants of career withdrawal intentions of engineers: Some HRM issues arising in a professional labor market in Singapore. *The International Journal of Human Resource Management*, 4, 213–230.
- *Aryee S, Chay YW, Chew J. (1994). An investigation of the predictors and outcomes of career commitment in three career stages. *Journal of Vocational Behavior*, 44, 1–16.
- *Aryee S, Chay YW, Tan HH. (1994). An examination of the antecedents of subjective career success among a managerial sample in Singapore. *Human Relations*, 47, 487–509.
- *Aryee S, Debrah YA. (1993). A cross-cultural application of a career planning model. *Journal of Organizational Behavior*, 14, 119–127.
- *Aryee S, Luk V. (1996). Work and nonwork influences on the career satisfaction of dual-earner couples. *Journal of Vocational Behavior*, 49, 38–52.
- *Aryee S, Tan K. (1992). Antecedents and outcomes of career commitment. *Journal of Vocational Behavior*, 40, 288–305.
- Baron JN, Davis-Blake A, Bielby WT. (1986). The structure of opportunity: How promotion ladders vary within and among organizations. *Administrative Science Quarterly*, 31, 248–273.
- *Baroudi JJ, Igbaria M. (1994). An examination of gender effects on career success of information systems employees. *Journal of Management Information Systems*, 11, 181–201.
- Barrick MR, Mount MK. (1991). The Big Five personality dimensions and job performance: A meta-analysis. *PERSONNEL PSYCHOLOGY*, 44, 1–26.
- Bateman TS, Crant JM. (1993). The proactive component of organizational behavior. *Journal of Organizational Behavior*, 14, 103–118.

- Becker G. (1964). *Human capital: A theoretical and empirical analysis with special reference to education*. New York: Columbia University Press.
- * Beehr TA, Drexler JA, Faulkner S. (1997). Working in small family businesses: Empirical comparisons to non-family businesses. *Journal of Organizational Behavior, 18*, 297–312.
- Bell NE, Staw BM. (1989). People as sculptors versus sculpture: The role of personality and personal control in organizations. In Arthur MB, Hall DT, Lawrence BS (Eds.), *The handbook of career theory* (pp. 232–251). Cambridge, UK: Cambridge University Press.
- * Blake-Beard SD. (1999). The costs of living as an outsider within: An analysis of the mentoring relationships and career success of Black and White women in the corporate sector. *Journal of Career Development, 26*, 21–36.
- * Boudreau JW, Boswell WR, Judge TA. (2001). Effects of personality on executive career success in the United States and Europe. *Journal of Vocational Behavior, 58*, 53–81.
- * Boudreau JW, Boswell WR, Judge TA, Bretz RD. (2001). Personality and cognitive ability as predictors of job search among employed managers. *PERSONNEL PSYCHOLOGY, 54*, 25–50.
- * Bozionelos N. (1996). Organizational promotion and career satisfaction. *Psychological Reports, 79*, 371–375.
- * Bozionelos N. (2004). Mentoring provided: Relation to mentor's career success, personality and mentoring received. *Journal of Vocational Behavior, 64*, 24–46.
- Brett JM, Stroh LK. (1997). Jumping ships: Who benefits from an external labor market strategy? *Journal of Applied Psychology, 82*, 331–341.
- * Brett JM, Stroh LK, Reilly AH. (1993). Pulling up roots in the 1990s: Who's willing to relocate? *Journal of Organizational Behavior, 14*, 49–60.
- * Bretz RD, Boudreau JW, Judge TA. (1994). Job search behavior of employed managers. *PERSONNEL PSYCHOLOGY, 47*, 275–301.
- Brief AP, Van Sell M, Aldag RJ. (1979). Vocational decision making among women: Implications for organizational behavior. *Academy of Management Review, 4*, 521–530.
- * Burke RJ. (1999). Workaholism among women managers: Work and life satisfactions and psychological well-being. *Equal Opportunities International, 18*, 25–35.
- * Burke RJ. (2001). Managerial women's career experiences, satisfaction and well-being: A five country study. *Cross Cultural Management, 8*, 117–133.
- * Burke RJ, McKeen CA. (1994). Training and development activities and career success of managerial and professional women. *The Journal of Management Development, 13*, 53–63.
- * Burke RJ, McKeen CA. (1995). Work experiences, career development, and career success of managerial and professional women. *Journal of Social Behavior and Personality, 10*, 81–96.
- * Burke RJ, McKeen CA. (1997). Benefits of mentoring relationships among managerial and professional women: A cautionary tale. *Journal of Vocational Behavior, 51*, 43–57.
- * Cable DM, DeRue DS. (2002). The convergent and discriminant validity of subjective fit perceptions. *Journal of Applied Psychology, 87*, 875–884.
- Cable DM, Murray B. (1999). Tournaments versus sponsored mobility as determinants of job search success. *Academy of Management Journal, 42*, 439–449.
- * Callanan GA, Greenhaus JH. (1990). The career indecision of managers and professionals: Development of a scale and test of a model. *Journal of Vocational Behavior, 37*, 79–103.
- * Campion MA, Cheraskin L, Stevens MJ. (1994). Career-related antecedents and outcomes of job rotation. *Academy of Management Journal, 37*, 1518–1542.

- * Cannella AA, Shen W. (2001). So close and yet so far: Promotion versus exit for CEO heirs apparent. *Academy of Management Journal*, 44, 252–270.
- * Carson KD, Carson PP. (2002). Differential relationships associated with two distinct dimensions of continuance commitment. *International Journal of Organizational Theory and Behavior*, 5, 359–381.
- * Carson KD, Carson PP, Lanford H, Roe CW. (1997). The effects of organization-based self-esteem on workplace outcomes: An examination of emergency medical technicians. *Public Personnel Management*, 26, 139–155.
- Cattell RB, Cattell AK, Cattell HE. (1993). *Sixteen personality factor questionnaire* (5th ed.). Champaign, IL: Institute for Personality and Ability Testing.
- * Chao GT, O’Leary-Kelly AM, Wolf S, Klein HJ, Gardner PD. (1994). Organizational socialization: Its content and consequences. *Journal of Applied Psychology*, 79, 730–743.
- * Chao GT, Walz PM, Gardner PD. (1992). Formal and informal mentorships: A comparison on mentoring functions and contrast with nonmentored counterparts. *PERSONNEL PSYCHOLOGY*, 45, 619–636.
- * Cherniss C. (1991). Career commitment in human service professionals: A biographical study. *Human Relations*, 44, 419–437.
- Cohen J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- * Colarelli SM, Bishop RC. (1990). Career commitment: Functions, correlates, and management. *Group and Organization Studies*, 15, 158–176.
- Cooper WH, Graham WJ, Dyke LS. (1993). Tournament players. *Research in Personnel and Human Resources Management*, 11, 83–132.
- Costa PT, McCrae RR. (1992). *Revised NEO personality inventory and NEO five-factor inventory professional manual*. Odessa, FL: Psychological Assessment Resources.
- * Cox TH, Nkomo SM. (1991). A race and gender-group analysis of the early career experience of MBAs. *Work and Occupations*, 18, 431–446.
- Crampton SM, Wagner JA III (1994). Percept–percept inflation in microorganizational research: An investigation of prevalence and effect. *Journal of Applied Psychology*, 79, 67–76.
- * Czajka J. (1990). The relation of positive and negative affectivity to workplace attitudes. *Academy of Management Paper Best Proceedings*, Boston.
- * Dansky KH. (1996). The effect of group mentoring on career outcomes. *Group and Organizational Management*, 21, 5–21.
- * Day R, Allen TD. (2004). The relationship between career motivation and self-efficacy with protégé career success. *Journal of Vocational Behavior*, 64, 72–91.
- * Dickter DN, Roznowski M, Harrison DA. (1996). Temporal tempering: An event history analysis of the process of voluntary turnover. *Journal of Applied Psychology*, 81, 705–716.
- * Dobos J, Bahniuk MH, Hill SEK. (1991). Power-gaining communication strategies and career success. *The Southern Communication Journal*, 57, 35–49.
- * Doering M, Rhodes SR. (1996). Intraorganizational and interorganizational job analysis: A discriminant analysis. *Journal of Business and Psychology*, 11, 151–170.
- * Dreher GF, Ash AA. (1990). A comparative study of mentoring among men and women in managerial, professional, and technical positions. *Journal of Applied Psychology*, 75, 539–546.
- Dreher GF, Bretz RD. (1991). Cognitive ability and career attainment: The moderating effects of early career success. *Journal of Applied Psychology*, 76, 392–397.

- * Dreher GF, Chargois JA. (1998). Gender, mentoring experiences, and salary attainment among graduates of an historically Black university. *Journal of Vocational Behavior*, 53, 401–416.
- * Dreher GF, Cox TH. (1996). Race, gender, and opportunity: A study of compensation attainment and the establishment of mentoring relationships. *Journal of Applied Psychology*, 81, 297–308.
- * Dulebohn JH. (2002). An investigation of the determinants of investment risk behavior in employer-sponsored retirement plans. *Journal of Management*, 28, 3–26.
- * Eby LT, Allen TD, Douthitt SS. (1999). The role of nonperformance factors on job-related relocation opportunities: A field study and laboratory experiment. *Organizational Behavior and Human Decision Processes*, 79, 29–55.
- * Eby LT, Butts M, Lockwood A. (2003). Predictors of success in the era of the boundaryless career. *Journal of Organizational Behavior*, 24, 698–708.
- * Elvira MM, Cohen LE. (2001). Location matters: A cross-level analysis of the effects of organizational sex composition on turnover. *Academy of Management Journal*, 44, 591–605.
- * Ensher EA, Thomas C, Murphy SE. (2001). Comparison of traditional, step-ahead, and peer mentoring on protégés' support, satisfaction, and perceptions of career success: A social exchange perspective. *Journal of Business and Psychology*, 15, 419–438.
- * Fagenson EA. (1994). Perceptions of protégés' vs nonprotégés' relationships with their peers, superiors, and departments. *Journal of Vocational Behavior*, 45, 55–78.
- Feldman DC. (2002). Stability in the midst of change: A developmental perspective on the study of careers. In Feldman DC (Ed.), *Work careers: A developmental perspective* (pp. 3–26). San Francisco: Jossey-Bass.
- * Ferris GR, Witt LA, Hochwarter WA. (2001). Interaction of social skill and general mental ability on job performance and salary. *Journal of Applied Psychology*, 86, 1075–1082.
- Festinger L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117–140.
- * Fields D, Pang M, Chiu C. (2000). Distributive and procedural justice as predictors of employee outcomes in Hong Kong. *Journal of Organizational Behavior*, 21, 547–562.
- Finkelstein LM, Burke MJ, Raju NS. (1995). Age discrimination in simulated employment contexts: An integrative analysis. *Journal of Applied Psychology*, 80, 652–663.
- Flanders DP, Anderson PE. (1973). Sex discrimination in employment: Theory and practice. *Industrial and Labor Relations Review*, 26, 938–955.
- * Gaertner KN, Nollen SD. (1989). Career experiences, perceptions of employment practices, and psychological commitment to the organization. *Human Relations*, 42, 975–991.
- * Gilbert JA, Ivancevich JM. (1999). A re-examination of organizational commitment. *Journal of Social Behavior and Personality*, 14, 385–396.
- * Gilbert JA, Ones DS. (1998). Role of information integration in career advancement: Investigations in plural and multicultural organizations and implications for diversity valuation. *Sex Roles*, 39, 685–704.
- Goldberg LR. (1992). The development of markers for the Big Five factor structure. *Psychological Assessment*, 4, 26–42.
- * Goldberg CB, Waldman DA. (2000). Modeling employee absenteeism: Testing alternative measures and mediated effects based on job satisfaction. *Journal of Organizational Behavior*, 21, 665–676.
- * Gould S. (1979). Characteristics of career planners in upwardly mobile occupations. *Academy of Management Journal*, 22, 539–550.

- Greenberg J. (1990). Organizational justice: Yesterday, today and tomorrow. *Journal of Management*, 16, 399–432.
- *Greenhaus JH, Parasuraman SJ, Wormley WM. (1990). Effects of race on organizational experiences, job performance evaluations, and career outcomes. *Academy of Management Journal*, 33, 64–86.
- Griffeth RW, Hom PW, Gaertner S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of Management*, 26, 463–488.
- *Gutteridge TG. (1973). Predicting career success of graduate business school alumni. *Academy of Management Journal*, 16, 129–137.
- *Hanisch KA, Hulin CL. (1991). General attitudes and organizational withdrawal: An evaluation of a causal model. *Journal of Vocational Behavior*, 39, 110–128.
- Hedges LV, Olkin I. (1985). *Statistical methods for meta-analysis*. Orlando, FL: Academic Press.
- *Honeycutt TL, Rosen B. (1997). Family friendly human resource policies, salary levels, and salient identity as predictors of organization attraction. *Journal of Vocational Behavior*, 50, 271–290.
- *Hui C, Lam SSK, Law KKS. (2000). Instrumental values of organizational citizenship behavior for promotion: A field quasi-experiment. *Journal of Applied Psychology*, 85, 822–828.
- Hunter JE, Schmidt HL. (1990). *Methods of meta-analysis: Correcting for sources of error and bias in research findings*. Newbury Park, CA: Sage.
- *Huselid MA, Day NE. (1991). Organizational commitment, job involvement, and turnover: A substantive and methodological analysis. *Journal of Applied Psychology*, 76, 380–391.
- *Igbaria M, Parasuraman S, Badawy MK. (1994). Work experiences, job involvement, and quality of work life among systems personnel. *MIS Quarterly*, 18, 175–201.
- *Igbaria M, Wormley WM. (1992). Organizational experiences and career success of MIS professionals and managers: An examination of race differences. *MIS Quarterly*, 16, 507–529.
- *Iverson RD, Kuruvilla S. (1995). Antecedents of union loyalty: The influence of individual dispositions and organizational context. *Journal of Organizational Behavior*, 16, 557–582.
- *Iverson RD, Maguire C. (2000). The relationship between job and life satisfaction: Evidence from a remote mining community. *Human Relations*, 53, 807–839.
- *Iverson RD, Pullman JA. (2000). Determinants of voluntary turnover and layoffs in an environment of repeated downsizing following a merger: An event history analysis. *Journal of Management*, 26, 977–1003.
- *James EH. (2000). Race-related differences in promotions and support: Underlying effects of human and social capital. *Organization Science*, 11, 493–508.
- *Jaskolka G, Beyer JM, Trice HM. (1985). Measuring and predicting managerial success. *Journal of Vocational Behavior*, 26, 189–205.
- *Jenkins JM. (1993). Self-monitoring and turnover: The impact of personality on intent to leave. *Journal of Organizational Behavior*, 14, 83–91.
- *Jiang JJ, Klein G. (2000). Supervisor support and career anchor impact on the career satisfaction of the entry-level information systems professional. *Journal of Management Information Systems*, 16, 219–240.
- Johns G. (1999). A multi-level theory of self-serving behavior in and by organizations. *Research in Organizational Behavior*, 21, 1–38.
- *Judge TA. (1993). Does affective disposition moderate the relationship between job satisfaction and voluntary turnover? *Journal of Applied Psychology*, 78, 395–401.

- Judge TA, Bono JE, Illies R, Gerhardt MW. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology, 87*, 765–780.
- * Judge TA, Boudreau JW, Bretz RD, Jr. (1994). Job and life attitudes of male executives. *Journal of Applied Psychology, 79*, 767–782.
- Judge TA, Bretz RD. (1994). Political influence behavior and career success. *Journal of Management, 20*, 43–65.
- * Judge TA, Cable DM, Boudreau JW, Bretz RD. (1995). An empirical investigation of the predictors of executive career success. *PERSONNEL PSYCHOLOGY, 48*, 485–519.
- * Judge TA, Higgins CA, Thoresen CJ, Barrick MR. (1999). The Big Five personality traits, general mental ability, and career success across the life span. *PERSONNEL PSYCHOLOGY, 52*, 621–651.
- Judge TA, Locke EA, Durham CC, Kluger A. (1998). Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal of Applied Psychology, 83*, 17–34.
- * Judge TA, Thoresen CJ, Pucik V, Welbourne TM. (1999). Managerial coping with organizational change: A dispositional perspective. *Journal of Applied Psychology, 84*, 107–122.
- * Judge TA, Watanabe S. (1993). Another look at the job satisfaction–life satisfaction relationship. *Journal of Applied Psychology, 78*, 939–948.
- * Judiesch MK, Lyness KS. (1999). Left behind? The impact of leave of absence on manager's career success. *Academy of Management Journal, 42*, 641–651.
- Kanter RM. (1977). *Men and women of the corporation*. New York: Basic Books.
- * Kilduff M, Day DV. (1994). Do chameleons get ahead? The effects of self-monitoring on managerial careers. *Academy of Management Journal, 37*, 1047–1060.
- * Kirchmeyer C. (1995). Demographic similarity to the work group: A longitudinal study of managers at the early career stage. *Journal of Organizational Behavior, 16*, 67–83.
- * Kirchmeyer C. (1998). Determinants of managerial career success: Evidence and explanation of male/female differences. *Journal of Management, 24*, 673–692.
- * Kirchmeyer C. (2002a). Change and stability in managers' gender roles. *Journal of Applied Psychology, 87*, 929–939.
- * Kirchmeyer C. (2002b). Gender differences in managerial careers: Yesterday, today, and tomorrow. *Journal of Business Ethics, 37*, 5–24.
- Kirk RE. (1968). *Experimental design: Procedures for the behavioral sciences*. Monterey, CA: Brooks/Cole.
- Kram KE. (1985). *Mentoring at work: Developmental relationships in organizational life*. Glenview, IL: Scott, Foresman.
- Kristof AL. (1996). Person–organization fit: An integrative review of its conceptualizations, measurement, and implications. *PERSONNEL PSYCHOLOGY, 49*, 1–49.
- Lancaster AR, Drasgow F. (1994). Choosing a norm group for counseling: Legislation, regulation, and nontraditional careers. *Psychological Assessment, 6*, 313–320.
- * Landau J. (1995). The relationship of race and gender to managers' ratings of promotion potential. *Journal of Organizational Behavior, 16*, 391–400.
- * Lau A, Pang M. (2000). Career strategies to strengthen graduate employees' employment position in the Hong Kong labor market. *Education and Training, 42*, 135–149.
- * Lee PCB. (2002). Career goals and career management strategy among information technology professionals. *Career Development International, 7*, 6–13.
- * Lee TW, Johnson DR. (1991). The effects of work schedule and employment status on organizational commitment and job satisfaction of full versus part time employees. *Journal of Vocational Behaviors, 38*, 208–224.
- * Lefkowitz J. (1994). Sex-related differences in job attitudes and dispositional variables: Now you see them, . . . *Academy of Management Journal, 37*, 323–349.

- Levenson H. (1973). Multidimensional locus of control in psychiatric patients. *Journal of Consulting and Clinical Psychology, 43*, 397–404.
- * Lounsbury JW, Loveland JM, Sundstorm ED, Gibson LW, Drost AW, Hamrick FL. (2003). An investigation of personality traits in relation to career satisfaction. *Journal of Career Assessment, 3*, 287–307.
- * Lyness KS, Judiesch MK. (1999). Are women more likely to be hired or promoted into management positions? *Journal of Vocational Behavior, 54*, 158–173.
- * Lyness KS, Judiesch MK. (2001). Are female managers quitters? The relationships of gender, promotions, and family leaves of absence to voluntary turnover. *Journal of Applied Psychology, 86*, 1167–1178.
- * Lyness KS, Thompson DE. (1997). Above the glass ceiling? A comparison of matched samples of female and male executives. *Journal of Applied Psychology, 82*, 359–375.
- Lyness KS, Thompson DE. (2000). Climbing the corporate ladder: Do female and male executives follow the same route? *Journal of Applied Psychology, 85*, 86–101.
- * Martins LL, Eddleston KA, Veiga JF. (2002). Moderators of the relationship between work-family conflict and career satisfaction. *Academy of Management Journal, 45*, 399–409.
- * McKeen CA, Burke RJ. (1992). Supporting the career aspirations of managerial woman: Desired development opportunities. *Equal Opportunities International, 11*, 1–8.
- * Melamed T. (1996). Career success: An assessment of a gender-specific model. *Journal of Occupational and Organizational Psychology, 69*, 217–242.
- * Miller JG, Wheeler KG. (1992). Unraveling the mysteries of gender differences in intentions to leave the organization. *Journal of Organizational Behavior, 13*, 465–478.
- * Morrison EW. (1994). Role definitions and organizational citizenship behavior: The importance of employee's perspective. *Academy of Management Journal, 37*, 1543–1567.
- Mount MK, Barrick MR. (1995). *Manual for the Personal Characteristics Inventory*. Libertyville, IL: Wonderlic Personnel Test.
- * Murrell AJ, Frieze IH, Olson JE. (1996). Mobility strategies and career outcomes: A longitudinal study of MBAs. *Journal of Vocational Behaviors, 49*, 324–335.
- * Nabi GR. (2000). The relationship between HRM, social support and subjective career success among men and women. *International Journal of Manpower, 22*, 457–474.
- * Noe RA, Barber AE. (1993). Willingness to accept mobility opportunities: Destination makes a difference. *Journal of Organizational Behavior, 14*, 159–175.
- * O'Connell CE, Korabik K. (2000). Sexual harassment: The relationship of personal vulnerability, work context, perpetrator status, type of harassment, to outcomes. *Journal of Vocational Behavior, 56*, 299–329.
- * O'Reilly III CA, Chatman JA. (1994). Working smarter and harder: A longitudinal study of managerial success. *Administrative Science Quarterly, 39*, 603–627.
- * Parasuraman S, Purohit YS, Godshalk VM, Beutell NJ. (1996). Work and family variables, entrepreneurial career success, and psychological well-being. *Journal of Vocational Behavior, 48*, 275–300.
- * Parasuraman S, Simmers C. (2001). Type of employment, work-family conflict and well-being: A comparative study. *Journal of Organizational Behavior, 22*, 551–568.
- * Peiperl M, Jones B. (2001). Workaholics and overworkers. *Group and Organization Management, 26*, 369–393.
- Pfeffer J, Ross J. (1982). The effects of marriage and a working wife on occupational and wage attainment. *Administrative Science Quarterly, 27*, 66–80.
- * Pierce JL, Gardner DG, Dunham RB, Cummings LL. (1993). Moderation by organization-based self-esteem of role condition-employee response relationships. *Academy of Management Journal, 36*, 271–288.

- *Podolny JM, Baron JN. (1997). Resources and relationships: Social networks and mobility in the workplace. *American Sociological Review*, 62, 673–693.
- Podsakoff PM, MacKenzie SB, Lee J, Podsakoff NP. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903.
- Poole ME, Langan-Fox J, Omodei M. (1993). Contrasting subjective and objective criteria as determinants of perceived career success: A longitudinal study. *Journal of Occupational and Organizational Psychology*, 66, 39–54.
- Powell GN, Butterfield A, Parent JD. (2002). Gender and managerial stereotypes: Have the times changed? *Journal of Management*, 28, 177–193.
- Powell GN, Mainiero LA. (1992). Cross-currents in the river of time: Conceptualizing the complexities of women's careers. *Journal of Management*, 18, 215–237.
- *Ragins BR, Cornwell JM. (2001). Pink triangles: Antecedents and consequences of perceived workplace discrimination against gay and lesbian employees. *Journal of Applied Psychology*, 86, 1244–1261.
- *Ragins BR, Cotton JL. (1999). Mentor functions and outcomes: A comparison of men and women in formal and informal mentoring relationships. *Journal of Applied Psychology*, 84, 529–550.
- Ragins BR, Townsend B, Mattis M. (1998). Gender gap in the executive suite: CEOs and female executives report on breaking the glass ceiling. *Academy of Management Executive*, 12, 28–42.
- Reichers AE, Schneider B. (1990). Climate and culture: An evolution of constructs. In Schneider B (Ed.), *Organizational climate and culture* (pp. 5–39). San Francisco: Jossey-Bass.
- Rhoades L, Eisenberger R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, 87, 698–714.
- Riordan CM. (1999). Relational demography within groups: Past developments, contradictions, and new directions. *Research in Personnel and Human Resources Management*, 19, 131–173.
- *Romzek BS. (1989). Personal consequences of employee commitment. *Academy of Management Journal*, 32, 649–661.
- Rosenbaum JE. (1984). *Career mobility in a corporate hierarchy*. Orlando, FL: Academic Press.
- Rosin H, Korabik K. (1989). Marital and family correlates of women managers' attrition from organizations. *Journal of Vocational Behavior*, 37, 104–120.
- *Rosin H, Korabik K. (1995). Organization experiences and propensity to leave: A multivariate investigation of men and women managers. *Journal of Vocational Behavior*, 46, 1–16.
- *Rothausen TJ. (1999). "Family" in organizational research: A review and comparison of definitions and measures. *Journal of Organizational Behavior*, 20, 817–836.
- Rotter JB. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80(1, whole No. 609).
- Rousseau D. (1989). Psychological and implied contracts in organizations. *Employee Responsibilities and Rights Journal*, 2, 121–139.
- Russell JE A. (1994). Career counseling for women in management. In Walsh WB, Osipow SH (Eds.), *Career counseling for women* (pp. 263–326). Hillsdale, NJ: Erlbaum.
- Russell JEA, Eby LT. (1993). Career assessment strategies for women in management. *Journal of Career Assessment*, 1, 267–293.
- Salancik GR, Pfeffer J. (1978). A social information processing approach to job attitudes and task design. *Administrative Science Quarterly*, 23, 224–253.

- * Scandura TA, Schriesheim CA. (1994). Leader–member exchange and supervisor career mentoring as complementary constructs in leadership research. *Academy of Management Journal*, 37, 1588–1602.
- Schmitz G, Schwarzer R. (2000). Perceived self-efficacy of teachers: Longitudinal findings with a new instrument. *Zeitschrift-fuer-Paedagogische-Psychologie*, 14, 12–25.
- * Schneer JA, Reitman F. (1990). Effects of employment gaps on the careers of M.B.A.'s: More damaging for men than for women? *Academy of Management Journal*, 33, 391–406.
- * Schneer JA, Reitman F. (1993). Effects of alternate family structures on managerial career paths. *Academy of Management Journal*, 36, 830–843.
- * Schneer JA, Reitman F. (1994). The importance of gender in mid-career: A longitudinal study of MBAs. *Journal of Organizational Behavior*, 15, 199–207.
- * Schneer JA, Reitman F. (1997). The interrupted managerial career path: A longitudinal study of MBAs. *Journal of Vocational Behavior*, 51, 411–434.
- * Seibert SE, Crant JM, Kraimer ML. (1999). Proactive personality and career success. *Journal of Applied Psychology*, 84, 416–427.
- * Seibert SE, Kraimer ML. (2001). The five-factor model of personality and career success. *Journal of Vocational Behavior*, 58, 1–21.
- * Seibert SE, Kraimer ML, Crant JM. (2001). What do proactive people do? A longitudinal model linking proactive personality and career success. *PERSONNEL PSYCHOLOGY*, 54, 845–874.
- * Seibert SE, Kraimer ML, Liden RC. (2001). A social capital theory of career success. *Academy of Management Journal*, 44, 219–237.
- Sonnenfeld JA, Peiperl MA. (1988). Staffing policy as a strategic response: A typology of career systems. *Academy of Management Review*, 13, 588–600.
- Spector PE. (1982). Behavior in organizations as a function of employees' locus of control. *Psychological Bulletin*, 91, 482–497.
- Spector PE. (1988). Development of the work locus of control scale. *Journal of Occupational Psychology*, 61, 335–340.
- Spilerman S. (1977). Careers, labor market structure, and socioeconomic achievement. *American Journal of Sociology*, 83, 551–593.
- Steel PD, Kammeyer-Mueller JD. (2002). Comparing meta-analytic moderator estimation techniques under realistic conditions. *Journal of Applied Psychology*, 87, 96–111.
- * Stewart-Belle S, Lust JA. (1999). Career movement of female employees holding lower-level positions: An analysis of the impact of the type A behavior pattern. *Journal of Business and Psychology*, 14, 187–197.
- * Stroh LK, Brett JM, Reilly AH. (1992). All the right stuff: A comparison of female and male managers' career progression. *Journal of Applied Psychology*, 77, 251–260.
- * Stumpf SA, Dawley PK. (1981). Predicting voluntary and involuntary turnover using absenteeism and performance indices. *Academy of Management Journal*, 24, 148–163.
- * Sturges J, Guest D, Conway N, Davey KM. (2002). A longitudinal study of the relationship between career management and organizational commitment among graduates in the first ten years at work. *Journal of Organizational Behavior*, 23, 731–748.
- * Tang CS, Au W, Schwarzer R, Schmitz G. (2001). Mental health outcomes of job stress among Chinese teachers: Role of stress resource factors and burnout. *Journal of Organizational Behavior*, 22, 887–901.
- Tharenou P. (1997). Managerial career advancement. *International Review of Industrial and Organizational Psychology*, 12, 39–93.
- * Tharenou P. (2001). Going up? Do traits and informal social processes predict advancing in management? *Academy of Management Journal*, 44, 1005–1017.

- * Tremblay M, St-Onge S, Toulouse J. (1997). Determinants of salary referents relevance: A field study of managers. *Journal of Business and Psychology, 11*, 463–484.
- * Trevor CO. (2001). Interactions among actual ease-of-movement determinants and job satisfaction in the prediction of voluntary turnover. *Academy of Management Journal, 44*, 621–638.
- * Trevor CO, Gerhart B, Boudreau JW. (1997). Voluntary turnover and job performance: Curvilinearity and the moderating influences of salary growth and promotions. *Journal of Applied Psychology, 82*, 44–61.
- * Turban DB, Dougherty TW. (1994). Role of protégé personality in receipt of mentoring and career success. *Academy of Management Journal, 37*, 688–702.
- Turner RJ. (1960). Sponsored and contest mobility and the school system. *American Sociological Review, 25*, 855–867.
- * Turnley WH, Feldman DC. (2000). Re-examining the effects of psychological contract violations: Unmet expectations and job dissatisfaction as mediators. *Journal of Organizational Behavior, 21*, 25–42.
- * Van de Velre MEG, Bossink CJH, Jansen PGW. (2005). Gender differences in the determinants of the willingness to accept an international assignment. *Journal of Vocational Behavior, 66*, 81–103.
- Viswesvaran C, Sanchez JI, Fisher J. (1999). The role of social support in the process of work stress: A meta-analysis. *Journal of Vocational Behavior, 54*, 314–334.
- Wallace JE. (1999). Work-to-nonwork conflict among married male and female lawyers. *Journal of Organizational Behavior, 20*, 797–816.
- * Wallace JE. (2001). The benefits of mentoring for female lawyers. *Journal of Vocational Behavior, 58*, 366–391.
- Watson D, Clark LA. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin, 96*, 465–490.
- Watson D, Clark LA. (1992). On traits and temperament: General and specific factors of emotional experience and their relation to the five-factor model. *Journal of Personality, 60*, 441–476.
- * Wayne SJ, Liden RC, Graf IK, Ferris GR. (1997). The role of upward influence tactics in human resource decisions. *PERSONNEL PSYCHOLOGY, 50*, 979–1006.
- * Wayne SJ, Liden RC, Kraimer ML, Graf IK. (1999). The role of human capital, motivation and supervisor sponsorship in predicting career success. *Journal of Organizational Behavior, 20*, 577–595.
- * Wayne SJ, Shore LM, Liden RC. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. *Academy of Management Journal, 40*, 82–111.
- * Whitley WT, Coetsier P. (1993). The relationship of career mentoring to early career outcomes. *Organization Studies, 14*, 419–441.
- * Whitley W, Dougherty TW, Dreher GF. (1991). Relationship of career mentoring and socioeconomic origin to managers' and professionals' early career progress. *Academy of Management Journal, 34*, 331–351.
- * Wiese BS, Freund AM, Baltes PB. (2000). Selection, optimization, and compensation: An action-related approach to work and partnership. *Journal of Vocational Behavior, 57*, 273–300.
- * Witt LA, Kacmar KM, Andrews MC. (2001). The interactive effects of procedural justice and exchange ideology on supervisor-rated commitment. *Journal of Organizational Behavior, 22*, 505–515.
- * Zatzick CD, Elvira MM, Cohen LE. (2003). When is more better? The effects of racial composition on voluntary turnover. *Organization Science, 14*, 483–496.