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An examination of career progress in a downsizing organization

Laura A. Gniatczyk

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To the Graduate Council:

I am submitting herewith a dissertation written by Laura A. Gniatczyk entitled "An examination of career progress in a downsizing organization." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Industrial and Organizational Psychology.

Robert T. Ladd, Major Professor

We have read this dissertation and recommend its acceptance:

Michael C. Rush, H. Dudley Dewhirst, Bruce K. Behn

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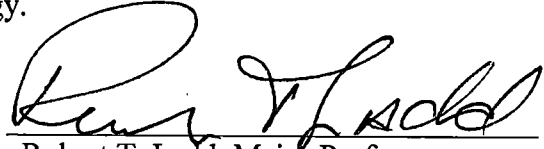
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Vice Provost and Dean of the Graduate School

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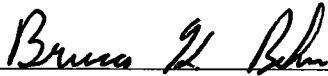
We have read this dissertation
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Associate Vice Chancellor and
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AN EXAMINATION OF CAREER PROGRESS
IN A DOWNSIZING ORGANIZATION

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Laura Ann Gniatczyk

May 2000

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DEDICATION

This dissertation is dedicated to my parents, Lawrence and Janet Gniatczyk. Throughout this lengthy educational endeavor my parents have remained my loyal supporters and my most enthusiastic cheerleaders. I am forever thankful for their immeasurable support and love.

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I would like to express my sincere gratitude to the faculty and staff of the Industrial and Organizational Psychology program for making my graduate school experience such a memorable one. In particular, I would like to thank Ms. June Trbovich for her continual commitment to helping all of the students in the I/O department keep on track. Without June, I most certainly would have forgotten an essential step in the process.

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- Debrah – we started this program together and I honestly think we put the motto of “graduation through cooperation” to the ultimate test. You have been here to support me over every hurdle and I am so grateful for your friendship.

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ABSTRACT

The quest for optimal productivity is fueling organizations' desire to decrease the fixed costs associated with human resources. To achieve this end, downsizing has become a very prevalent trend in industry. As this trend continues, employees are experiencing a constantly changing work environment. The present research was pursued in an effort to identify the individual characteristics that were related to employee success in a changing organizational environment. The primary purpose of this study was two-fold: (1) to examine the relationship between specific individual characteristics and employee success in a changing environment; and (2) to examine the potential loss of human resource talent that is associated with organizational transitions. Based on a synthesis of organizational survivor and organizational change literature, several research hypotheses were forwarded. In order to examine these hypotheses, performance results from a comprehensive managerial assessment center were used as indices of specific individual characteristics (e.g., problem solving skill, leadership ability). All individuals considered in this study participated in this assessment center as a part of the re-organization initiative, but none of the individuals in this study lost their job as a direct result of their performance in the comprehensive assessment. Individual characteristics were compared with career progress data obtained for study participants six years after the assessment center results were gathered. Specifically, the career progress of 219 individuals employed at a large southeastern utility was examined in this study. Results suggest that individuals who are capable problem solvers and demonstrate strong initiative experience the greatest career progress in this organization. Additionally, the

previous assumption that a significant proportion of key employees are lost during a transition was not supported in this study. Supplemental analyses that investigated the predictive validity of assessment center ratings in a downsizing organization replicated previous assessment center validity studies. Findings from this research can help provide organizational decision makers with guidelines for meaningful employee characteristics to consider prior to making downsizing decisions. Suggestions for both future research and applications of the findings in the present study are discussed.

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CHAPTER I

INTRODUCTION

The relationship between employees and their employers continues to undergo significant transition. No longer can an employee expect to work for the same corporation throughout his or her entire career. No longer is it considered taboo to change jobs every couple of years. Rather, certain industries value the varied experiences a person might have obtained by frequently changing positions or "job hopping" (Martin, 1997). Further, an emphasis has been placed on becoming a generalist, or jack-of-all-trades, rather than a specialist in any given area. This dramatic change, which moves away from the concept of career ladders and toward career webs (Reich, 1994), should ultimately lead to changes in career development models and career counseling models. However, in order to inform changes appropriately, research needs to be conducted to gain a greater appreciation for exactly how careers are being impacted by the current workplace trends.

One of the most predominant trends affecting the current workforce is downsizing. The present paper examined career progress over a six-year period when a downsizing initiative was implemented and realized. All individuals considered in this study participated in a comprehensive managerial assessment center to evaluate their skill level before the downsizing initiative was implemented. Information generated from the assessment center was used only to inform a limited number of re-organization related employment appointment decisions during the initial stages of the downsizing initiative. This assessment center information was not subsequently used to determine which

employees would later be affected by the reduction-in-force decisions. Therefore, we have an external evaluation of employee skills/competencies paired with an actual downsizing initiative. This allowed us to not only examine career progression, but also to make some evaluative statements about the individual characteristics of successful employees, as measured by career advancement, during a time of organizational transition.

In addition to downsizing, mergers and acquisitions (M&A) and increased privatization have been cited as reasons for the dynamic relationship between employees and their employer (Burke & Nelson, 1998). Several articles have thoroughly documented the fervor with which M&As (Marks, 1994; Marks & Mirvis 1985a; 1996) and downsizing (Cameron, 1994; Cameron, Freeman & Mishra, 1991; Cascio, 1993; Heckscher, 1995; Meyer, 1995; New York Times, 1996) have occurred. For simplicity, we refer to all of these corporate change activities as organizational transitions. This simplification strategy is not meant to negate the importance of each transition's unique characteristics, but rather to serve as a common nomenclature for ease of expression.

Even with the prolific research base proposing strategies to maximize the successfulness of organizational transitions (for M&A: Blake & Mount, 1984; Marks & Mirvis, 1985b; Schweiger & Denisi, 1991; for downsizing: Appelbaum, 1991; Brockner, 1992; Cameron, 1994; Hitt, Keats, Harback & Nixon, 1994), results continue to surface which show the failing results of such organizational transitions. Notably, Cascio (1993; 1998) clearly delineated that the cost reductions and productivity surges anticipated by corporate transitions have failed to materialize.

While much of the research has concentrated on the process of implementing organizational transitions, providing us with numerous suggestions for how to improve the process, relatively few studies have examined an organization, in a long-term fashion, as they have gone through the transition. Historically, much of the research in this area has focused on lay off victims (c.f., Cobb & Kasl, 1977) and more recently lay off survivors (i.e., those individuals who remain with the company after an organizational transition). While both groups of individuals are important to consider, from the organizations' long-term viability perspective, the survivors and their corporate longevity should warrant the most attention. Brockner and his colleagues have been instrumental in the advancement of this research stream and have forwarded numerous studies designed to determine the impact of corporate transitions on the remaining employees. Specifically, research by Brockner has examined survivors' job satisfaction (Brockner & Kim, 1993), perceptions of lay off fairness (Brockner, Grover, Reed, DeWitt & O'Malley, 1987; Brockner et al., 1997), work effort/perceived job security (Brockner, 1992), self esteem (Brockner, 1988; Brockner, Grover, O'Malley, Reed & Glynn, 1993) and justice issues (Brockner et al., 1994; Brockner & Greenberg, 1990).

More recently, other researchers have also become involved in survivor research. For example, Cameron and his colleagues (1994; Cameron, Freeman & Mishra, 1991; Freeman & Cameron, 1993) have written about some downsizing "best practices" and have also encouraged readers to rethink commonly held assumptions about organizations and management. Tombaugh and White (1990) looked at work-related stress experienced by survivors, while Metcalf and Briody (1995), present an anthropological view of a transitioning organization. Further, research is just beginning to be undertaken

that considers the impact of corporate transitions on careers. London (1987) first discussed the impact of downsizing on careers and career progress. However, not until nearly 10 years later were specific suggestions forwarded for handling career development in a downsizing organization (Feldman, 1996).

Other researchers have proposed individual characteristics that might be important for career success during transition. For example, Burke and Nelson (1998) suggest that “there are several things [an individual] can do, including developing career resilience, self-reliance and hardiness” (p. 44) to better weather the organizational transition. Furthermore, in a laboratory study, Brockner et al. (1993) demonstrated that survivors with low trait self-esteem versus high trait self-esteem react to lay off situations differently. Along these same lines, proponents of the Competing Values Framework (CVF; Belasen, Benke, DiPadova & Fortunato, 1996) have used that framework to examine what managerial roles were the most important in a transforming organization. As reviewed above, several authors suggest various characteristics that they anticipate to be related to success during transition; however, a comprehensive theory that shows what type of individual characteristics will lead to success during an organizational transition has not been published.

Another topic of concern for those interested in the impact of organizational transitions is the notion of human resource talent loss during the transition. While it is often postulated that key employees will be lost during a time of corporate transition, this assumption has never been systematically examined. Many stories and anecdotes, however, have transcended corporate boundaries providing evidence that indeed some

key employees are casualties of organizational transitions. For example, Cameron, Freeman and Mishra (1991) relayed the following story:

One dramatic example occurred in an organization where a 30-year employee in the purchasing department was the primary agent for ordering steel. Over the years, modifications had been made in the types of steel and alloys ordered, but changes in the written specifications had not kept pace. Shortly after this purchasing agent accepted an early retirement option, an order was placed unknowingly for the wrong kind of steel. This produced a \$2 million loss for the organization in downtime, rework and repair. (p. 61)

While stories of this nature are insightful, they also provide anecdotal evidence that many good employees are lost due to retirement incentives; however, to the knowledge of the present author, no published research substantiating this trend exists.

There are potentially numerous reasons why such research has not occurred, one of which being the difficulty of collecting relevant data. The present study is unique in that employees impacted by an organizational transition were evaluated with a managerial assessment center prior to the organizational change. As mentioned above, results from the assessment center were used to inform re-organization decisions, but they *were not* subsequently available for use to make personnel decisions. Therefore, the assessment center results served as an external analysis of employee skills. Additionally, career progression data for all assessed employees was gathered six years later, allowing for an analysis of individual variables as predictors of career success during transition.

Assessment centers are a commonly used method in business to identify the appropriate individuals to be hired or promoted. More recently assessment centers have been used to help individuals identify skills and abilities which need further development to prepare them for advancement opportunities. While the validity coefficients may vary depending on the purpose of the assessment center, many studies have shown that assessment centers are valid predictors of employee promotion. Most notably, in a meta-analysis, Gaugler, Rosenthal, Thornton and Bentson (1987) reported that assessment center ratings predicted career advancement, which was measured by change in salary, absolute salary level, number of promotions, absolute job level and turnover ($r = .30$ uncorrected; $r = .36$ corrected for range restriction and unreliability in the criterion).

The most classic example of assessment center usefulness for predicting career advancement was conducted at AT&T over a 20-year period when both the U.S. economy and AT&T specifically were in a high growth stage (i.e., The first phase of assessment occurred between 1956 and 1960. The last phase of assessment was done from 1977 to 1982; Howard & Bray, 1988). Howard (1983) summarized the work by saying, "the research data demonstrate that the assessment center was able to identify those destined for managerial success" (p. 38). However, it was Byham and Thornton (1986) that most convincingly discussed the value of assessment centers for predicting future job success: "while criticisms have been raised about other aspects of assessment centers, even the critics agree that the process accurately identifies persons who, if promoted, are most likely to experience success as managers" (p. 161). To further previous research, the current study also evaluated the predictive validity of assessment centers in a downsizing organization, rather than in a prosperous, growing organization.

In summary, the present study was pursued for three main purposes. First, this study served as an examination of the career progression of 219 managers and executives at a large southeastern utility during a period of corporate restructuring and beyond. Specifically, certain individual characteristics proposed to be related to career success during an organizational transition were examined.

Secondly, the assumption pertaining to the loss of key talent during a time of transition was systematically examined. After utilizing results from the comprehensive assessment to determine who the best employees were, an evaluation was conducted to determine if a significantly greater number of these high potential employees were lost during the transition. Finally, the predictive validity of assessment center ratings were examined in this unique setting.

Results from this research should aid in our understanding of the impact that organizational transitions have on both individual careers and the organizations' human resource talent pool. It was anticipated that these findings may help organizations identify those employees that will most skillfully navigate the transitioning organizations' minefield. These research results should also demonstrate the usefulness of external skill evaluation (i.e., the assessment center) for organizations undergoing a transition. To ensure economic viability in the future, organizations will have to make more discriminate human resource decisions when going through transitions in order to maintain both efficiency and quality. Results from the present study should help to inform those human resource decisions.

CHAPTER II

REVIEW OF THE LITERATURE

Nearly thirty years ago Dunnette (1971) depicted the current state of affairs at work as “manpower chaos”; he characterized chaos as “great diversity, poor planning, rather haphazard information gathering and decision making systems, and few systematic efforts to evaluate results” (as cited in Huck, 1973, p. 191). Amazingly, three decades later relatively few things have changed. While it would no longer be politically correct to refer to it as “manpower chaos”, the chaos persists nonetheless. Contributing to the chaos, corporations are constantly changing to remain competitive. However, these changes are often driven by economics and tend to have unanticipated implications for employees and organizations.

Starting in the late 1970s, one of the more profound trends to impact American business were organizational transitions. These transitions are known by any number of euphemisms including: consolidation, downsizing, leaning-up, reductions in force, re-engineering, re-organization, right sizing and streamlining (Cameron, 1994). No matter what the name, the bottom line is always the same; large numbers of formerly loyal employees are displaced from their present positions as the corporation searches for a leaner, more cost-effective way to do business. To illuminate the magnitude of these organizational transitions, consider the following data (adapted from the New York Times, 1996, p. 4-6):

- Since 1979, more than 43 million jobs have been erased in the U.S.

- Nearly three-quarters of all households have had a close encounter with layoffs since 1980.
- A family member has lost a job in one-third of all households.
- Approximately three million people are affected by layoffs each year. Compare this to the two million people that are victims of violent crime annually.

As a result of the staggering numbers of employees that have been impacted by these organizational changes, researchers interested in human resources began focusing on maximizing the effectiveness of organizational transitions. One primary pursuit was to thoroughly understand the psychological and physiological implications of transition on both the individuals that remained with the company and those that left the company. Great strides have been made in these areas, yet, organizations are still not demonstrating the desired economic and productivity gains predicted to occur as a result of downsizing (Cascio, 1993; 1998). As an example, the Society for Human Resource Management conducted a study focused on restructured organizations and found that of the 1,468 companies surveyed, more than half reported that employee productivity has either remained the same or decreased after the layoffs (Henkoff, 1990). Moreover, a study conducted by the American Management Association showed that in a survey of over 500 firms, 75% reported a collapse in employee morale and “two-thirds of the companies showed no increase in efficiency at all and less than half saw any improvement in profits” (Baumohl, 1993, p. 55).

The lack of desired outcomes has continued to fuel the search for the appropriate “recipe” for a successful organizational transition, but the literature on this topic is

relatively limited. While several articles have contributed to the growing mass of best practices literature (e.g., Applebaum, 1991; Cameron et al., 1991; Weinstein & Leibman, 1991; Womack, 1994), very few studies have examined exactly what happens to employees in a downsizing organization. Furthermore, while there are countless laboratory studies, field research encompassing the entire transition period is limited. Metcalf and Briody (1995) have documented the impact of downsizing on one large manufacturing organization from an anthropological point of view. In short, they specifically examined the impact of downsizing on twenty employees, showing that even in times of reductions, "employees' belief in the necessity of continuous and rapid career advancement as a critical indicator of work-related success persisted" (p. 426). While their paper is interesting and the findings rather straight forward, the limited sample size restricts the generalizability of the results.

Recently, Holden and Hoffman (1999) reported on the decision-making policies used by managers to make re-organization decisions. Their paper recounted the experience of one west coast utility as they attempted to use several assessment tools (i.e., an interview, an in-basket exercise, an analysis exercise, and an aptitude test) and other information (i.e., performance review data and incumbent status) to make decisions about who should comprise the management staff in a re-organized company. A policy capturing analysis revealed that decision-makers relied primarily on information pertaining to incumbent status and secondarily on in-basket results. No attention was attributed to the aptitude test or the analysis exercise results. While these results are not exactly aligned with what we might hope, they are reviewed here to demonstrate at least

one example of an organization attempting to use some form of systematic procedure to inform selection decisions in a transitioning organization.

A review of the literature makes it quite clear that perilously little information exists on how to select employees *out* of an organization. One of the few studies to even address this topic is by Leonard, D'Egidio and Strong (1999). This study examined three methods (i.e., seniority based decisions, performance based decisions, and a combination of seniority and performance based decisions) for making such decisions using the amount of adverse impact as a criteria for successful downsizing. If the trend of transitioning organizations continues, however, determining which employees to actively retain and which to let go of will be an increasingly important pursuit.

As previously stated, organizational transitions have not been financially effective in the long-run for most organizations. A potential reason for these disappointing bottom-line results could be that transitioning organizations are losing, or alternatively, failing to retain the "best" people. In order to determine if that is the case it becomes necessary to first identify who are the best people, or at the very least, to identify individual characteristics leading to success in a transitioning organization.

One method that industrial psychologists have used to identify workplace talent is through an assessment center evaluation. To briefly review, an assessment center provides "a group oriented, standardized series of activities which provide a basis for judgmental predictions of human behavior believed or known to be relevant to work performed in an organizational setting" (Finkle, 1976, p. 861). As such, assessment centers provide assessors with the opportunity to evaluate the knowledge, skills, and abilities of individuals by placing them in job-like situations. Individuals participating in

an assessment center are normally rated on different dimensions or categories of knowledge, skills and abilities that have been identified via a thorough job analysis as important for effective performance. Oral communication, organization and planning, decision making, interpersonal skills and judgment are examples of frequently used behavioral dimensions. Since assessment centers typically use multiple exercises to elicit multiple behaviors, candidates are given ample opportunity to exhibit dimension-relevant behaviors during the course of a comprehensive assessment session. In a recent survey of assessment center practices, Spsychalski, Quinones, Gaugler and Pohley (1997) noted that assessment centers are typically used for "employee selection, early identification of managerial talent, development planning, identification of training needs, promotion, and managerial succession" (p. 71).

Assessment centers have long been used to identify talent or make promotion decisions; however, they have not typically been employed to aid the decision-makers in a transitioning organization. Before downsizing was even a prevalent societal phenomenon, Alon (1977) suggested the effectiveness of using assessment centers to inform decisions pertaining to organizational transition: "The assessment center method can be engaged as a planned strategy for change in that it both generates and utilizes vital data about individual behavior, focusing on how it may be employed, in turn to increase organizational effectiveness." (p. 226-227)

Before examining some of the specific research predictions and questions, a review of assessment centers and existing organizational transition literature was pursued. Specifically, a review of the industry application that led to wide spread acceptance of assessment centers has been presented. Namely, the AT&T Managerial

Progress Study. Research and practice developments subsequent to the AT&T study are also be reviewed. Lastly, information relevant to survivors of organizational transitions and potential indicators of personnel success in a transitioning organization are presented.

Review of AT&T Management Progress Study

Unquestionably, the most thorough and significant study of assessment centers was conducted by AT&T (a.k.a. Bell Telephone Systems). This study implemented an assessment center to assess hundreds of potential managers but did not use the results to make promotion decisions. Several years later, when the ratings from the earlier assessment centers were compared with managerial progress of all the individuals assessed, the results revealed an impressive relationship between assessment results and managerial success. The strong findings of the AT&T study resulted in the adoption of the assessment center method in many other corporations. Without this study, assessment centers may not have ever received the same wide spread acceptance that they enjoy today. The Management Progress Study (MPS), which began in 1956, has in many ways provided the foundation for the present study and therefore deserves a brief review (Bray, Campbell & Grant, 1974).

The MPS was a massive undertaking designed to study adult development as it related to work. As Bray (1964) put it, “[The] purpose is very general – to learn more than is now known about the characteristics and growth of men as they become, or try to become, the middle and upper managers of a large concern” (p. 420). A tangential goal of the study was to determine: “How accurately can progress in management be

predicted? What are the important indicators and how are they best measured?" (Bray, Campbell & Grant, 1974, p. 5).

In order to accomplish these goals, AT&T assessed and then followed the careers of 422 men. Specifically,

two-thirds of these men started with the System as new college graduates employed with the expectations that they would reach at least middle management. The remaining third is made up of men who started as vocational employees, advanced into lower management early in their careers, and who might be expected, like the college recruit, to reach at least middle management (Bray, 1964, p. 420).

Since this study was conducted over a period of eight years the results are multifaceted and complex. Overall, however, the study conclusively demonstrated that change did occur in the lives, motivations and attitudes of men as they progressed through their career. Furthermore, and relevant to the present study, the researchers demonstrated that assessment centers served as good predictors of management success.

One of the defining characteristics of the MPS was that "no contamination of subsequent criterion data by the assessment results has occurred and the judgments of the assessment staff have had no influence on subjects participating in the study" (Huck, 1977, p. 265). Thus, in these relatively pure research conditions, the researchers were able to demonstrate substantial predictive validity for the assessment center. Specifically, they found that assessment center predictions correlated with management level achieved at $r = .44$ for college men and $r = .71$ for non-college men (Huck, 1977). Dunnette's

(1971) summarization of the MPS results more clearly illuminated the significant findings generated at AT&T:

The predictive validities of assessment staff's global predictions are moderately high; for college men, 31 (82%) of the 38 men who have made middle management were correctly identified by the assessment staffs; for the non-college men, 15 (75%) of 20 men who have made middle management were correctly identified. In contrast, of the 72 men (both college and non-college) who have not advanced beyond the first level of management, the assessment staff correctly identified 68 (94%) (p. 92).

An ancillary pursuit of the MPS was to illustrate the characteristics that led to or impeded career advancement. Twenty-five individual characteristics were considered, including: scholastic aptitude, human relations skills, creativity, behavior flexibility, Bell Systems value orientation and energy. Of the twenty-five variables specifically assessed in the MPS, seven were significantly correlated ($p < .01$) with the management level attained eight years later. These characteristics include: human relations skills, organizing and planning, need for advancement, oral communication, resistance to stress, energy, and tolerance of uncertainty (Bray et al., 1974). Furthermore, Bray and Grant (1966) conducted a factor analysis and found the 25 variables could be reduced to 11 factors for the college graduate sample and 8 factors for the non-graduate sample. The first factor "could be described as reflecting the assessment staff's 'model' for managerial potential" (p.7). The total set of results are rather lengthy and somewhat complex, therefore it is suggested that the interested reader refer to the source material (Bray &

Grant, 1966) and comprehensive reviews of the research project (Bray et al., 1974; Howard & Bray, 1988) for a complete examination of the results.

In addition to the consideration of individual characteristics, the AT&T researchers also considered the impact of various job components. Of the job elements considered, one specific job characteristic seemed to have a significant impact on career progression. Job challenge, which was a combination of four other variables (i.e., achievement models of bosses, job stimulation and challenge, supervisory responsibilities, and unstructured assignments) seemed to "have effects on the careers of the more capable and the less capable recruits" (Bray et al., 1974, p. 74). The concepts of job challenge and management success are clearly related. It is reasonable to assume that those who demonstrated more capability on the job would receive increasingly challenging tasks and, in fact, Bray et al. (1974) did show this relationship. But more interestingly, Bray et al. (1974) also showed that "just over three-quarters of the more promising recruits who had had challenging jobs were in middle management eight years after employment, as compared with only one in 20 of the less promising recruits who were little challenged!" (p. 76). In sum, it seems likely that management success is not attributable to either an individual or situational characteristic, but rather a combination of both.

As with any longitudinal study, one of the threats to the viability of the study is the drop-out rate of participants, and in this regard, the MPS was no different. For example, of the 271 college recruits in the sample 104 (38%) had either been forced to or voluntarily left their positions during the eight-year period of interest. However, unlike many other longitudinal analyses, AT&T was able to retain the cooperation of study

participants even after they left the corporation. As such, they were able to conduct further analyses to determine what differentiated those who voluntarily or involuntarily left the company. The original results showed that the leavers were not significantly different as a group than those who stayed: "For the most part, however, after all the data are reviewed, it seems that the total group that left are different from the total group that stayed only in the fact that they left" (Bray et al., 1974, p. 176). However, later analysis of the data, showed that individuals who were terminated were less resilient and "lacked the resources that would help them cope with a difficult situation" (e.g., Howard & Bray, 1988, p. 57).

In summary, the MPS has immeasurably influenced both the way we define and how we use assessment centers today. Furthermore, it has been very instrumental in allowing psychologists to begin understanding some of the variables related to management success. In later years, AT&T continued their pursuit for knowledge by designing and implementing additional studies. These later studies included the assessment of women, minorities, and managers who entered the management ranks nearly 20 years after the participants in the MPS (c.f., Howard & Bray, 1988). Results from these continuing endeavors were similarly supportive of assessment centers, but much too extensive to review here. The interested reader is encouraged to read *Managerial Lives in Transition* (Howard & Bray, 1988) which chronicles the continuing research pursuits and results attained at AT&T.

Other Assessment Center Research Developments

As the findings of the AT&T studies started to emerge, the use of assessment centers in the United States began to increase dramatically. As more companies began to implement assessment centers, the purposes for which assessment centers were used also became more varied. In addition to being used to assess management success, assessment centers have also been used to select employees, to pinpoint training needs, to aid in making promotion decisions, and to help with succession planning (Spsychalski et al., 1997). Assessment centers have also been utilized for making selection decisions outside of the typical business management ranks. For example, assessments for police officers have been most common (Feltham, 1988; More & Unsinger, 1987; McGinnis, 1987; Pelfrey, 1986), but centers have also been used to select school administrators (Schmitt, Noe, Meritt & Fitzgerald, 1984), military officers (Borman, 1982) and fire department officials (Yeager, 1986). As a result of this expanded use, the research base for assessment centers has increased.

This heightened interest in assessment centers has also led to a substantial increase in the number of articles published for practitioners. Numerous articles have flooded the journals in an attempt to explain how to best implement assessment centers (Byham, 1970; Ferdinand, 1986; Howard, 1974; 1983), for what purposes (Applebaum, Kay & Shapiro, 1989; Campbell & Bray, 1993; Goodge & Griffiths, 1985; Ritchie, 1994), and how to improve the process in place (Jones, Herriot, Long & Drakeley, 1991; Warmke, 1985). In summary, it is clear that the interest in and application of assessment centers has been on the rise.

Several research themes have emerged in the assessment center literature. For example, studies have been conducted to examine alternative predictors and their

incremental validity (Borman, 1982; Goffin, Rothstein & Johnston, 1996; Lowry, 1994; Slivinski, McCloskey, Bourgeois & Mcinnis, 1980; Turnage & Muchinsky, 1984). Hoffman and Thornton (1997) considered both the utility of the selection method and the adverse impact created. Their results revealed that while cognitive ability tests had greater validity and cost less, "the assessment center produced so much less adverse impact [that] its operational utility would be higher given cut scores likely to be chosen..." (p. 455). Other studies looked at data combination techniques (Feltham, 1988; McEvoy, Beatty & Bernardin, 1987; Pynes & Bernardin, 1989), procedural changes (Jones et al., 1991; Wingrove, Jones & Herriot, 1985), and information reduction methods (Fritzsche, Brannick & Hazucha-Fisher, 1994; Maurer, Palmer & Ashe, 1993; Reilly, Henry & Smither, 1990) to improve the assessment process. Along the same lines, some researchers have looked at the decision-making processes employed by individual assessors (Ackerman, 1993; Gniatczyk, 1995; Russell, 1985; Sackett, 1977; Sackett & Hakel, 1979; Zedeck, 1986).

A preponderance of the assessment center literature, however, has concentrated on validity (c.f., Gaugler et al., 1987; Klimoski & Brickner, 1987; Schmitt, Gooding, Noe, & Kirsch, 1984). Studies focusing on criterion-related validity have routinely yielded positive results. Most recently, Gaugler et al. (1987) used meta-analysis to show the overall validity of assessment centers to be quite strong ($r = .29$ uncorrected; $r = .37$ corrected for range restriction and unreliability in the criterion).

However, attempts to show the construct validity of assessment centers consistently reveals mixed results. While researchers hope that assessment centers would generate dimension-related factors, countless studies have demonstrated that exercise

factors are in fact the result (e.g., Russell & Domm, 1995; Sackett & Dreher, 1982; Sackett & Harris, 1988). The more recent literature, however, has given way to some new and innovative techniques for demonstrating construct validity (c.f., Arthur, Woehr & Maldegen, in press; Joyce, Thayer & Pond, 1994; Kudish, Ladd & Dobbins, 1997; Maldegen, Woehr & Arthur, 1996). This issue, while being one of the most critical debates surrounding assessment centers, is not of primary concern in the present paper. As such, the rather voluminous literature addressing this topic will not be reviewed (c.f., Klimoski & Brickner, 1987; Neidig & Neidig, 1984; Sackett & Dreher, 1982; 1984).

Predicting Career Advancement

While the methods used for measuring career progress have varied somewhat, the core criteria of career advancement have been measures of salary changes and position changes across time. Several researchers have operationalized career progress as the number of promotions received (typically either 1 or 2 promotions) during a specified period of time (Chan, 1996; Moses, 1972). Most often this has been coded as a dichotomous variable (e.g., either 2 promotions were or were not realized). While number of promotions is the most frequently used method for showing career progress, other researchers who have not had a constant time period since data collection have adjusted for time differences. For example, Slivinski et al. (1980) divided the difference in management level between assessment and data collection by the time since the initial assessment. Jones and Whitmore (1995) used time since assessment as a covariate in their analyses. Moreover, in some studies where management level was a constant at time of assessment, the level attained after a certain time period served as a measure of career progress (e.g., Hinrichs, 1978).

Salary data has also been used as an indicator of career progress (Hilton & Dill, 1962; Thornton & Byham, 1982). Both the percent change in salary and salary level at time of follow-up data collection have been used as criteria (Dodd, 1971 as cited in Thornton & Byham, 1982). Mitchel (1975), on the other hand, considered the salary level one, three and five years after the initial assessment, while also correcting for tenure and initial salary level. When meta-analyzing assessment center results, Gaugler et al. (1987) considered the following five types of data to be indicative of career advancement: change in salary over time, absolute level of salary obtained, number of promotions, absolute job level obtained, and turnover.

Using some form of the aforementioned criterion variables, assessment centers have a long history of being able to predict career progress. This information has been thoroughly documented by Thornton and Byham (1982). Statistical evidence is also presented in the meta-analysis mentioned above (Gaugler et al., 1987). This study demonstrated that assessment centers validly predicted career advancement ($r = .30$ uncorrected; $r = .36$ corrected for range restriction and unreliability in the criterion).

While the evidence clearly suggests that assessment centers are capable of predicting career progression, these findings have also generated critique. For example, Klimoski and Strickland (1977) criticize the assessment center literature for focusing too heavily on the prediction of advancement indices (e.g., promotions; salary growth; level of management achieved) to the exclusion of other forms of criteria (e.g., performance). Additionally, they urge researchers to draw comparisons between the results generated from alternative predictors (e.g., bio-data, interviews, paper-and-pencil tests) and assessment centers. Several researchers have taken up this task and the results have been

mixed. For example, Turnage and Muchinsky (1984) compared assessment centers with personal history data and two aptitude tests (i.e., an arithmetic test and a non-verbal measure of general ability). Their results revealed that “neither assessment center evaluations nor traditional external predictor variables are strongly related to actual job performance” (p. 600).

Goffin et al. (1996) compared personality testing with assessment centers, revealing that:

Personality testing resulted in significant incremental validity over that of the assessment center in the prediction of performance, but the converse was also true. This suggests that personality and the assessment centers assess different domains, with each uniquely and significantly predicting performance.

Promotability was not significantly predicted. (p. 746)

Chan (1996), on the other hand, showed strong criterion validity for promotion ($r = .56$) and also that assessment center ratings had incremental validity in predicting promotion above supervisor job performance ratings. Hoffman and Thornton (1997) compared assessment centers and cognitive ability tests, showing that “assessment centers [produce] higher utility than the aptitude test when cut scores on each are set so as to eliminate adverse impact, even though the assessment center has slightly lower validity and costs considerably more” (p. 464). Introducing the concept of adverse impact and utility obviously muddy the waters, but they are also critical considerations when adopting a selection procedure. Suffice it to say that even with all the research previously done on assessment centers, questions still remain. Comparing multiple selection techniques remains an important pursuit.

Thornton and Byham (1982) summarize the situation this way, "while criticisms have been raised about other aspects of assessment centers, even the critics agree that the process accurately identifies persons who, if promoted, are most likely to experience success as a manager" (p. 306). The one caveat to this statement is whether or not assessment centers predict career progression in all types of economic environments, a question that has yet to be considered. In other words, the studies reviewed by Thornton and Byham (1982) were predominantly conducted in the 1960s and 1970s, a period of great business growth. What remains to be demonstrated is whether or not assessment centers reveal the same positive results in organizations reducing their workforce and experiencing turbulent change.

To summarize, assessment centers are a useful method for evaluating employees' skills and have been demonstrated as a valid predictor of career advancement. In the present paper, assessment center evaluations were utilized as indices of individual characteristics. These characteristics were then compared with indices of career progress to determine which individual qualities were related to career success in a transitioning organization. A tangential purpose of this study was an attempt to demonstrate assessment center validity in a transitioning organization. It is the author's contention that demonstrating the viability of assessment center evaluations in this unique environment is a valuable contribution to the literature and provides practitioners with an alternative method of selecting employees out of a transitioning organization.

Previous Research About Organization Transitions

Organizational transitions, or more specifically downsizings, have been occurring at a breakneck pace. Simultaneously, researchers have begun examining the impact of these events on the individuals laid off, those that remained with the company, and the company itself. Through all of the research, a few salient themes have been reoccurring. One of the most prevalent themes, as previously mentioned, has been the failure of organizational transitions to realize the substantial economic gains that are expected (Cascio, 1993). Shocking as this finding may be, it is not without good reason. Unfortunately, organizational transitions are usually adopted haphazardly and with little forethought as to the proper sequence of events for implementation of such actions. One potential reason for the lack of financial success of organizational transitions may have to do with the indiscriminate nature of the downsizing decisions. That is, perhaps companies lay off the wrong types of people or don't help employees develop the types of skills needed for survival during a major organizational transition. While there are literally hundreds of resource books (c.f., Caplan & Teese, 1997; Noer, 1995; Tylczak & Shotwell, 1991) and several frequently cited articles (Cameron, 1994; Cameron et al., 1991; Weinstein & Leibman, 1991) on how to "correctly" conduct an organizational transition, there is really little known about how individuals are impacted by these types of transitions.

Organizational transitions result in two distinct populations of workers: those that are eliminated and those that remain with the company. The present study is interested in the individuals that remain with the company, the organizational survivors, and the individual characteristics leading to the successful adaptation and progress in a

transitioning organization. While some researchers have begun proposing viable characteristics to consider, the literature to date is not very comprehensive.

Conceptual Model of Survivors Reactions

Having published more than 20 articles on organizational survivors, J. Brockner has made a significant contribution to understanding the impact of transitions on survivors. In 1988, he introduced a conceptual model of how survivors react to the layoff of coworkers (see Figure 1). He and his colleagues have conducted numerous studies aimed at testing this conceptual model. In sum, they have demonstrated that layoffs do affect the psychological states of survivors (e.g., Brockner, Davy & Carter, 1985), which in turn, influence the work behavior and attitude of those employees (e.g., Brockner, Grover, O'Malley, Reed & Glynn, 1993).

Moreover, Brockner's research has shown that some moderator variables (e.g., self-esteem of the survivor) also affect the employment relationship (Brockner, Grover, Blonder, 1988; Brockner et al., 1993). For example, Brockner et al. (1993) showed that in times of perceived threat of further layoffs, survivors with lower self-esteem were more likely to be worried, which manifests itself in increased work motivation. The authors do warn against using this finding as a justification for retaining low self-esteem employees in hopes of maximizing performance, suggesting that individuals with low self-esteem may "become extremely focused only on those activities that will enable them to keep their jobs, and neglect other tasks that will help the organization achieve its short and long-term goal" (p. 164). Additional research is needed to further examine these relationships.

Other work by Brockner has examined survivors' perceptions of lay off fairness (Brockner et al., 1987). Results show that perceived unfairness of the lay off and the survivors' prior identification with the laid-off employees influenced the reactions of the survivors. In a lab study, survivors reacted by decreasing their work performance while in the field they reported a lower commitment to the organization. Brockner, Grover, Reed and DeWitt (1992) provided evidence of the inverted-U relationships between perceived job security and

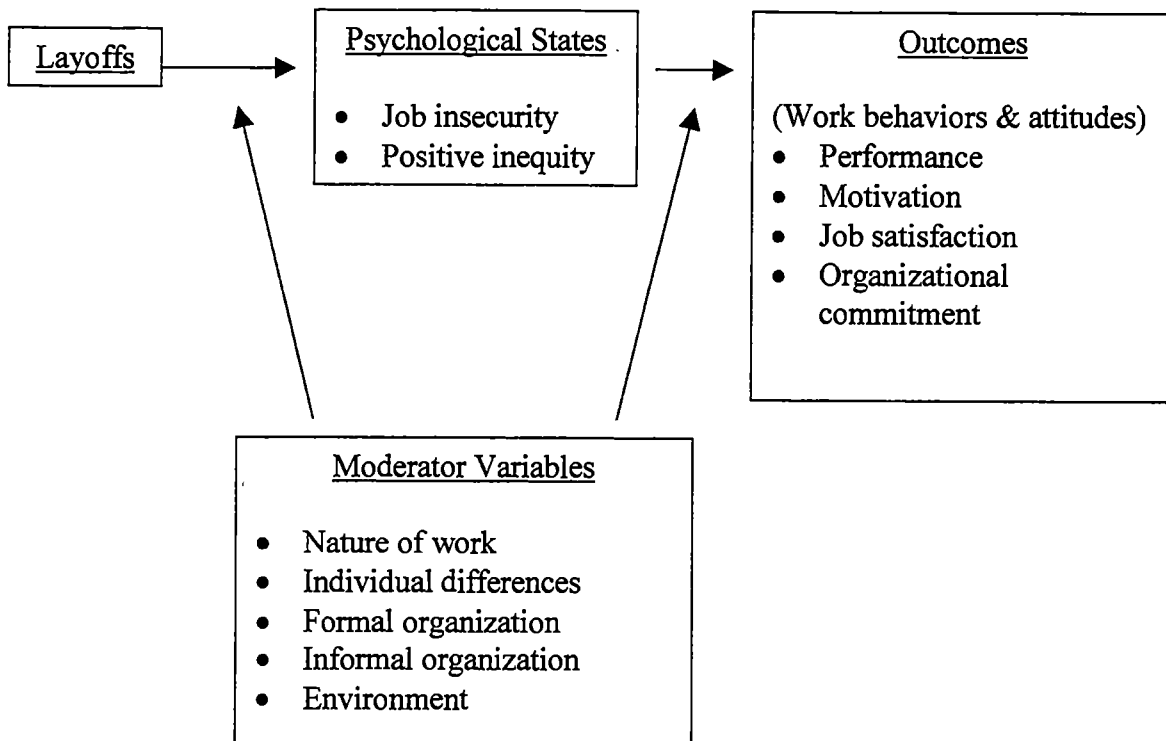


Figure 1. Brockner's (1988) Conceptual Model of Survivors Reactions

work effort. In other words, they demonstrated that survivors with either high or low perceptions of job insecurity exhibited less work effort; while those that experienced moderate job insecurity showed the greatest level of work effort. Most recently, Brockner et al. (1997) considered the impact of lay off survivors' attitudes on other lay-off survivors. Using both lab and field studies, it was demonstrated that "survivors' reactions are significantly influenced by their fellow survivors' reactions to the layoffs" (p. 859). While the contributions made by Brockner and his colleagues have greatly enhanced our understanding of survivors, what is of more interest in the present paper is not how survivors "react" but rather, what long-term or lasting individual characteristics of survivors contribute to their subsequent survival.

Competing Values Framework

An alternative framework for considering essential characteristics in a transforming organization is the Competing Values Framework (CVF; see Figure 2). This framework unifies four models or subdomains of organizational effectiveness (Quinn & Rohrbaugh, 1981, 1983 as cited in DiPadova & Faerman, 1993) and managerial effectiveness (Quinn, 1988). Specifically, the four organizational effectiveness models that are included in this framework are the: (1) human relations model; (2) open systems model; (3) rational goal model; and (4) internal process model (O'Neill & Quinn, 1993). Within these models of organization effectiveness, eight managerial roles are also defined. Two roles per quadrant are identified, including producer, director, coordinator, monitor, mentor, facilitator, innovator and broker (see Appendix E for a brief summary of each of the roles). The basic premise of the

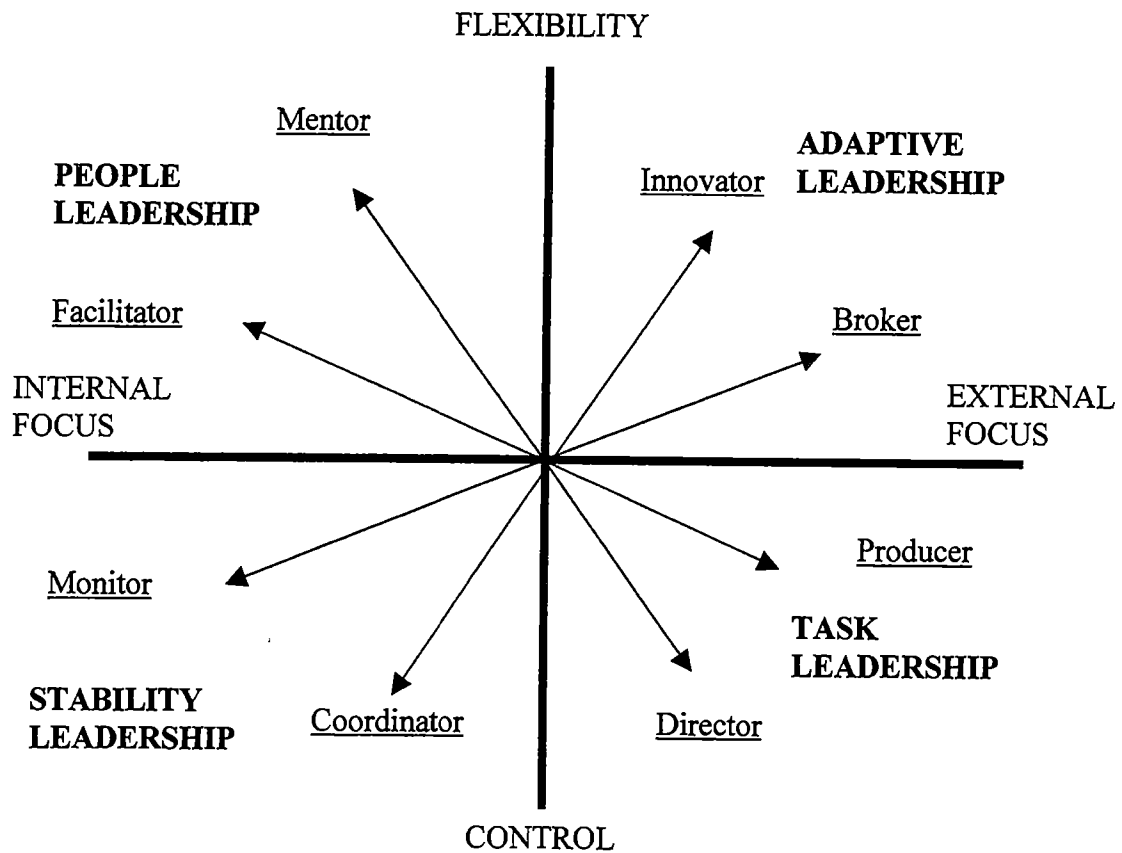


Figure 2. Competing Values Framework (DiPadova & Faerman, 1993)

framework is to show the competing nature of the different organizational models or managerial roles.

The CVF has been researched from a variety of vantage points. For example, DiPadova and Faerman (1993) identified and discussed the similarities and difference of the roles across levels of organizational hierarchy. They revealed that “while there are differences in the way the levels experience their roles, it is clear that all three levels

perform in all four quadrants of the Competing Values Framework” (DiPadova & Faerman, 1993, p. 147). This finding was somewhat surprising, in that it was anticipated that differing levels of the organizational hierarchy would focus primarily on different managerial roles.

Recently, Belasen et al. (1996) used the CVF to determine the importance of specific managerial roles in a transitioning organization. They hypothesized that the more transformational roles (e.g., mentor, facilitator, innovator, and broker) would be more essential after an organizational transition. For example, they cite that “managers must adjust their styles to suit the transformation; they must learn to empower and involve others and encourage innovative thinking and risk taking” (p. 93). Using a survey where managers were asked to indicate the importance of the roles before and after the organizational transformation, Belasen et al. (1996) showed that seven of the eight roles were significantly more important after the transition. With the exception of the monitor role, all four transformational roles and the remaining three transactional roles were reported as becoming more important during downsizing. To the knowledge of the present author, Belasen et al. (1996) represents the first attempt to identify important managerial roles in a transitioning organization. As such, their study has provide a platform upon which future research can expand.

The present study intends to build on Belasen et al. (1996) by attempting to identify individuals characteristics which are related to career progress in a transitioning organization. Using some of the managerial roles identified as important in the aforementioned study, the present study will pair skill level on specific managerial characteristics (i.e., assessment center dimensions) with career progress. In doing so, the

present study extends the work of Belasen et al. (1996) by looking at *effectiveness* with which an individual performs the managerial role, rather than just importance of the managerial role itself in a transitioning organization.

Other Perspectives on Essential Characteristics

In addition to these two overarching theories/frameworks, other authors have proposed alternative individual characteristics that might be related to success in a time of organizational transition. For example, Burke and Nelson (1998) suggest that “there are several things [an individual] can do, including developing career resilience, self-reliance and hardiness” (p. 44) to better weather the organizational transition. These authors suggest that resilient workers are more likely to see change as the central focus of their work rather than a disruption of their work. Burke and Nelson (1998) provide similar explanations for the importance of self-reliance and hardiness in an individual. They suggest that self-reliant individuals know when to ask for help and when to rely on their own skills. Hardy individuals, on the other hand, tend to “actively change an event into something subjectively less stressful by viewing it from a broader perspective, by taking action, or by achieving greater understanding of the process” (p. 45).

Furthermore, support for hardiness as an important characteristic in a time of change was demonstrated in a sample of public sector employees. Rush, Schoel and Barnard (1995) showed that the harder the individual, the less stress and higher satisfaction experienced.

Noting that “there is considerable room for improving the effectiveness of change efforts” (p. 118), Judge, Thoresen, Pucik and Welbourne (1999) attempted to identify key dispositional variables that result in a greater ability to cope with change. They considered seven such dispositional variables (i.e., locus of control, self efficacy, self-

esteem, positive affectivity, openness to experience, tolerance for ambiguity, and risk aversion) and found that all the constructs were related to successful coping with organizational change. Positive affectivity ($r = .52$) and tolerance for ambiguity ($r = .50$) were the most predictive. Furthermore, noting the intercorrelation amongst the dispositional constructs, the authors conducted a factor analysis and reduced the data to two factors. Positive self-concept (consisting of locus of control, self efficacy, self-esteem, positive affectivity) and risk tolerance (consisting of openness to experience, tolerance for ambiguity and risk aversion) were the resulting factors. Both factors were significantly correlated with both a self-report measure of coping and an independent assessment of coping provided by a co-worker.

It has not been until recently that researchers have begun to consider the impact of different individual characteristics on success in a transitioning organization. As such, the literature review of relevant constructs is fairly limited. What has been suggested in both the academic and the popular press is that organizations often encounter unexpected consequences when they endure an organizational transition. For example, Burke and Nelson (1998) suggest organizations are often faced with the reality of needing “retraining, more use of temporary workers, more overtime, increased retiree health costs, the need for contracting out work, loss of the wrong people, loss of too many people and severance costs greater than anticipated” (p. 38). Similarly, Hitt et al. (1994) suggest that employers implementing downsizing may, in fact, lose the very employees they desire to retain, noting that “the highest quality employees often have little difficulty finding other employment opportunities, even in bad economic times” (p. 24). These statements lead to the final section of this literature review.

Current publications about organizational transitions would lead the reader to believe that it is a virtual certainty that the “best” employees are lost in times of transitions. However, to the knowledge of the present author, this assumption has not been systematically documented. Many an author has alluded to the likelihood of this outcome, but with the exception of some anecdotal accounts of important employee losses, this fact has not been empirically shown. To demonstrate the loss of essential employees it becomes necessary to evaluate the employees’ skills before the transition.

A downsizing heightens the necessity of knowing the ‘surviving’ availability of talents since losses in employee expertise result from employee departures.

Knowing the experience base means knowing what valuable information left the organization and what remains, signaling potential areas on which to focus organizational attentions (Metcalf & Briody, 1995, p. 426).

Since assessment centers provide us with such a rich research base and comprehensive data about the participants, this study will attempt to identify the unique individual characteristics which result in career success/progress in a specific transitioning organization. Having evaluated all participants in this study prior to an organizational transition, it was possible to examine: (1) whether or not the “best” employees left the company and (2) which individual characteristics, as evaluated in the assessment center, contributed to the greatest career progression.

A unique data collection opportunity made it possible to examine the career progression of individuals in a transitioning organization. All individuals considered in this study were thoroughly evaluated before the organizational transition was fully realized. Complete skill and ability analyses were conducted on all study participants

through their participation in a comprehensive managerial assessment center.

Information generated from the assessment center was only used to inform a limited number of promotion decisions during the initial stages of the organizational transition.

This information *was not* subsequently available for or used to determine which employees would later be affected by the reduction-in-force decisions.

Career progression data, including position and salary information, was obtained from the organization for all study participants six years after the individual assessments were conducted. Since all the study participants were not employed with the organization for the entire six-year period, the duration of the career progress data was not fixed at six years. In other words, while some study participants remained employed for the entire six-year period, others may have only maintained their active employment status for two or three years after the comprehensive assessment. Identifying relationships between indices of career progress and individual differences expands and enhances our current understanding of what types of individuals fare best in a large-scale organizational transition. The subsequent hypotheses were pursued as a means of systematically furthering this line of research.

Summary of Research Questions

Both Cameron (1994) and Hitt et al. (1994) have alluded to the fact that the “best” employees are in fact lost during times of organizational transition; however, neither author provided substantial evidence to support this assertion. Accordingly, the present research project sought to demonstrate a loss in talent during an organizational transition. In this study, the “best” employees were identified by two summary evaluations

generated as a result of the comprehensive assessment. These indications of employee potential were produced on two occasions: (1) after the second assessment phase (the evaluation score) and (2) after the third and final assessment phase (the overall assessment rating, OAR). Both the evaluation score and OAR were multi-level evaluations (i.e., the evaluation score had 3 levels and OAR had 11 levels), therefore both of these variables were dichotomized into the most and the least likely to be successful. This dichotomized evaluation score and OAR was used to test Cameron and Hitt et al.'s assertion. Following their arguments, it was anticipated that more individuals who were evaluated successfully would no longer be employed by the organization. Hence, results showing a larger proportion of more successful individuals leaving the company supports the aforementioned assertion. The following hypotheses were forwarded as a means of testing this relationship

H1a: A larger percentage of candidates who were judged to be extremely successful after the second phase of testing are no longer with the company, as compared to those individuals who were not evaluated as highly.

H1b: More candidates that were evaluated as extremely successful during the final phase of testing (i.e., during the assessment center) will no longer be employed compared to those individuals who were judged to be less successful.

Several researches have demonstrated that certain individual characteristics are related to success in a change environment (Belasen et al., 1996; Brockner and his colleagues; Burke & Nelson, 1998; Judge et al., 1999). Subsequently, the remaining

hypotheses focus on identifying the individual characteristics that are related to career advancement.

Belasen et al. (1996) suggested that transformational managerial roles are essential in a transitioning organization. As such, it was anticipated that behaviors indicative of the mentor, facilitator, innovator and broker roles would be positively related to career progression. Building on the roles identified by Belasen et al. (1996), the following list summarizes some of the characteristics that a transformational manager should encompass:

- The ability to become problem solvers and independent decisions makers, and when necessary inspire others to do so.
- The ability to focus on building interpersonal relationships by being a coach and counselor.
- The ability to be an innovative thinker and risk taker.
- The ability to be flexible to adapt to the changing needs of the organization.

The characteristics denoted by each bullet point have a striking similarity to some of the assessment center dimensions that were evaluated during the comprehensive assessment (see Appendix B for a full definition of each assessment center dimension). As such, the relationship between transformational managerial roles and career progress was examined by drawing comparisons between assessment center performance and indices of career progress.

For example, problem solving skills and decision making fluency were measured in the assessment center by the dimensions of judgment and decisiveness. In the

assessment center context, judgment measures the extent to which an individual makes appropriate decisions, provides rationale for those decisions and demonstrates the ability to anticipate the potential future ramifications of their decisions. Decisiveness, on the other hand, is not an evaluation of decision quality, but rather an examination of the extent to which specific decisions are rendered. Additionally, the decisiveness dimension examines the specificity of the accompanying plan for implementation of decisions. Accordingly, it is the combination of these two dimensions that accurately shows problem solving skill and decision making fluency.

To examine fully the interrelationship of judgment and decisiveness, four a priori groups were identified to represent four combinations of the various levels of judgment and decisiveness. These groups encompass all possible combinations of the high, medium and low levels of the two dimensions. While individuals who score high on both judgment and decisiveness were anticipated to have the greatest career progress, a purely linear relationship was not hypothesized. The specific characteristics of individuals comprising these four groups are delineated below, as well as in Table 1 (see Appendix A for additional information about the four groups used to test this hypothesis).

The combination of high judgment and decisiveness, which represents group 1, is typically indicative of individuals that are willing to render decisions, while also showing the ability to consider the ramifications of their actions/decisions. These individuals are proficient at avoiding premature decisions and demonstrate forethought when suggesting action(s). It was anticipated that individuals categorized in this group would experience the greatest career progress.

Table 1. Hypothesis 2 a priori groups – the interrelationship of judgment and decisiveness

| | | <u>Decisiveness</u> | | |
|-----------------|---------------|---|--|---|
| | | <u>High</u> | <u>Medium</u> | <u>Low</u> |
| <u>Judgment</u> | <u>High</u> | <ul style="list-style-type: none"> • <i>Predicted to be the most successful on the job</i> • Makes decisions based upon logic assumptions and factual information <p>Ordinal group = 1</p> | <ul style="list-style-type: none"> • Avoids premature action • Uses rationale, forethought, alternatives and/or priorities • May not provide specific action plans <p>Ordinal group = 2</p> | <ul style="list-style-type: none"> • Judgment demonstrated in an avoidance of premature actions • Few decisions made with limited action plans <p>Ordinal group = 3</p> |
| | <u>Medium</u> | <ul style="list-style-type: none"> • Some of the components of good judgment exists and very willing to make decisions • May jump to quick/inaccurate decisions <p>Ordinal group = 2</p> | <ul style="list-style-type: none"> • Makes some decisions although they likely lack specificity and displays some key judgment behaviors <p>Ordinal group = 2</p> | <ul style="list-style-type: none"> • Displays some good judgment behavior, but reluctant to commit to any decisions • Delays action <p>Ordinal group = 3</p> |
| | <u>Low</u> | <ul style="list-style-type: none"> • <i>Predicted to be the least successful on the job</i> • Willing to commit to action but prematurely and w/out considering consequences <p>Ordinal group = 4</p> | <ul style="list-style-type: none"> • <i>Predicted to be the least successful on the job</i> • Willing to make decisions, but does not do so wisely <p>Ordinal group = 4</p> | <ul style="list-style-type: none"> • Unlikely to be successful on the job • Does not correctly use information; • Makes no (or few) decisions • Inactive <p>Ordinal group = 3</p> |

Group 2 was comprised of individuals who have moderate judgment and decisiveness or a combination of a high rating on either of the dimensions with a moderate rating on the other. While these individuals may be willing to make decisions and provide rationale for their decisions, they typically fail to provide clear action plans or may prematurely commit to decisions.

All individuals scoring low in decisiveness, without regard to their judgment level, were included in group 3. No matter what level of judgment these individuals exhibit, their lack of decisiveness tempers their effectiveness, as they are generally unwilling to commit to a specific course of action. Thus, the consequences of their suggested actions are relatively mild.

Lastly, the individuals that comprise group 4 demonstrated low judgment in combination with a willingness to commit to a course of action. This group of individuals was anticipated to be the most dangerous, as they do not demonstrate the level of judgment necessary to avoid unfortunate consequences. It was anticipated that each of the four groups would achieve appreciably greater career progress than the previous group (i.e., group 1 would have greater career progress than group 2, etc.) and this was the question that was formally tested.

H2: Strength of problem solving skills will be directly related to career progress in a transitioning organization. Individuals with more advanced problem solving skills will experience greater career progress in a transitioning organization.

In addition to judgment and decisiveness, three other assessment center dimensions were proposed to be related to career progress in a transitioning organization.

Referring back to the transformational roles identified by Belasen et al. (1996), the ability to build interpersonal relationships by being a coach and counselor was posited as an important transformational managerial role. This role is similar to the coaching/team building dimension assessed during the assessment center, which encompasses the ability to provide encouragement and guidance to peers and subordinates while also developing cohesive and effective work groups. Since this represents only a single dimension, rather than a combination of two dimensions, no a priori groups were identified. Support for this hypothesis was gauged by the degree of the relationship between the dimension ratings and the career progress criterion. Stated formally, the following hypothesis was pursued:

H3: Individuals scoring higher on the coaching and team building dimension will have greater career progression in a transitioning organization.

Belasen et al. (1996) also identified the ability to use the appropriate interpersonal style to inspire others to become problem solvers and decisions makers as an important characteristic in a transformational manager. In the assessment center context, such persuasion and influence over others was measured by the leadership dimension. As such, a positive relationship between the leadership dimension rating and career progress should exist in a transforming organization. Similar to the previous hypothesis, the degree of this relationship was measured.

H4: Using the appropriate interpersonal style to achieve task accomplishment, as measured by the leadership dimension, will result in greater career progression in a transitioning organization.

Burke and Nelson (1998) suggest that self reliance is an important characteristic for individuals to exhibit during a time of transition. They define self reliance as the ability to differentiate between occasions when it is essential to ask for help from others versus occasions when handling the task/problem independently would be more appropriate. Along those same lines, Belasen et al. (1996), propose the importance of being a innovative thinker and risk taker during transition. In the assessment center context, the extent to which an individual attempts to influence events, takes independent actions and/or proposes unique solutions to problems was measured by the initiative dimension. Therefore, in the current study a self-reliant, independent individual displayed high levels of initiative during the assessment center and was expected to have greater career progress. Formally stated,

H5: The extent to which an individual demonstrates initiative will be related to career progression in a transitioning organization.

Information about individual characteristics was also available from a personality inventory that was completed during the final assessment phase. Thus, information obtained from the California Psychological Inventory (CPI) was used to further illuminate the characteristics typical of individuals who realize career advancement in a transitioning organization. For example, the Managerial Potential special purpose scale on the CPI was designed to identify individuals who seek out and excel in managerial positions (Gough, 1996). Jacobs (1992, as cited in Gough, 1996) demonstrated the proficiency of using the Managerial Potential scale to differentiate between managers

who did and did not advance in a company during a seven-year period. To further this line of research, while also examining the relationship between Managerial Potential and career progress in a changing organization, the following hypothesis was pursued:

H6: Individuals scoring higher on the Managerial Potential scale of the CPI will appreciate greater career advancement than those scoring lower on the scale.

The role that self-esteem plays in an individual's ability to deal with change was proposed by multiple researchers. Brockner et al. (1993) showed that individuals with lower self-esteem were more likely to worry about further layoffs, but tended to work harder in spite of their concern. Judge et al. (1999) hypothesized and demonstrated that there is a positive relationship between self-esteem and ability to cope with change. Therefore, additional research on the role of self-esteem can help to clarify these somewhat mixed findings. The self-acceptance scale of the CPI was developed to measure "feelings of personal worth, accomplishment, and self-esteem" (Gough, 1996, p. 90) and was used to test the following hypothesis.

H7: Higher scores on the self-acceptance scale will be related to greater career progress.

In addition to using scores generated by individual scales of the CPI (e.g., H7) or special purpose scales of the instrument (e.g., H6), configurations of the individual scales has proven to be a very useful method for interpreting the results (McAllister, 1996).

Accordingly, the following hypotheses were based on patterns of scale results, rather than on individual scale scores.

Several authors have suggested the importance of resilience (Burke & Nelson, 1998; Howard & Bray, 1988; Rush, Schoel & Barnard, 1995). It is important that individuals encountering a transition “see the change not as an interruption to their work, but as the central focus of their work” (Burke & Nelson, 1998, p. 44). A representation of resilience can be generated by examining the combination of an individual’s orientation toward people and societal values. These orientations can be determined by combining several individual scales of the CPI. For example, individuals who have a combination of high dominance, capacity for status, social presence, self acceptance (i.e., a positive orientation toward people) coupled with moderate responsibility, socialization and self control (i.e., a moderate values orientation) are described as being “adaptive to the demands of reality” (Webb, McNamara & Rodgers, 1986, as cited in McAllister, 1996, p. 40). Furthermore, individuals with this type of configuration have often been associated with managerial positions.

Similar to hypothesis 2, four a priori groups were identified and encompass the four possible combinations of high and moderate value and people orientations (see Table 2 and/or Appendix A for additional information about the groups created to test hypothesis 8). It was anticipated that individuals with a moderate value orientation and a high people orientation would experience the greatest career success and comprised group 1. Previous research has demonstrated that individuals with this profile experience executive success (Webb, McNamara & Rodgers, 1986). Additionally, this profile reflects individuals that are conscientious and adaptive to the demands of a given situation, while also being interpersonally savvy. Individuals that comprise group 2 also

Table 2. Hypothesis 8 a priori groups – the interrelationship of people/value orientations

| | | <u>Value Orientation</u> | |
|---------------------------|-------------|---|--|
| | | <u>High</u> | <u>Medium</u> |
| <u>People Orientation</u> | <u>High</u> | <ul style="list-style-type: none"> • Has the interpersonal skills to influence others; however very conventional and lives by strict civic values. • Always wants to remain in control and tends to live according to cultural norms • Rarely impulsive • <i>Note:</i> individuals in this cell are typically good employees in a traditional organization <p>Ordinal group = 2</p> | <ul style="list-style-type: none"> • <i>Predicted to be the most successful.</i> • Positive change agents • Associated with executive effectiveness and executive success • Individuals who like the responsibilities and duties that come with being a manager • Adaptive to the demands of reality but also effective at getting their own way • Flexible and reasonably responsible • Stable, conscientious <p>Ordinal group = 1</p> |
| | <u>Low</u> | <ul style="list-style-type: none"> • Lacks the interpersonal skills to effect change and influence others • May not have the desire to advance to a position of power • Rigid belief system <p>Ordinal group = 4</p> | <ul style="list-style-type: none"> • Has minimal influence on others, but they will be able to evaluate situations and circumstances on their own merit • Should not be resistant to change <p>Ordinal group = 3</p> |

Note. People orientation is made up of the score on the following four California Psychological Inventory scales: dominance, capacity for status, social presence and self-acceptance. Values orientation includes three scale scores: responsibility, socialization and self control. No individuals in the present data set had a low values orientation.

exhibit interpersonal savvy, but their higher values orientation leads them to be very conventional and non-impulsive. While this type of individual is typically a very successful employee, in a transitioning organization their strict adherence to norms is likely to limit their successfulness.

Both groups 3 and 4 are comprised of individuals that are less adept at interpersonal interactions, limiting their ability to influence others or effect change. The ability of individuals in group 3 to evaluate situations on their own merit, rather than being subservient to the beliefs of others should result in their enhanced career progress over members of group 4. As with hypothesis 2, the career progress of individuals categorized into these four groups was examined with the expectation that the groups are ordered from most likely (i.e., group 1) to experience career progress to least likely (i.e., group 4) to experience career progress. Therefore,

H8: Resilience will be directly related to career progress in a transitioning organization. More resilient individuals, as measured by their people orientation and values orientation, should experience greater career progress

Recently, Judge et al. (1999) suggested that seven specific dispositional constructs were related to successful coping during a time of change. It would have been ideal to replicate the findings of that study in the present paper; however, the exact same constructs were not evaluated. Instead, an additional CPI configuration presumed to be related to the ability to cope with change was examined. Specifically, individuals scoring high on the good impression scale and low on the flexibility scale were believed to be incapable of dealing effectively with the unknown (McAllister, 1996). These individuals

are characterized as being unable to adapt and lacking in creativity; additionally, their overwhelming desire to please others may interfere with their ability to deal adequately with change. Therefore, it is not likely that these individuals will thrive on the ambiguity associated with an organizational transition.

This hypothesis was tested via 3 groupings of flexibility and good impression (see Table 3 and /or Appendix A). Specifically, individuals who are moderately concerned about what others think about them, while also being adaptable and willing to consider or implement new ideas should experience the greatest career success. These individuals represented group 1.

Group 2 included individuals who are similarly flexible to those in group 1, but are either overly concerned or completely unconcerned with what others think of them. Their behavior is likely to be at the extremes. In other words, they behave only in ways that are generally accepted by others or they are mavericks, with little concern for how others perceive them. In any case, the over- or under-concern of these individuals is likely to temper their effectiveness.

Finally, group 3 comprised all individuals who scored below the mean on flexibility, these individuals are typically slow to adjust to change and possibly incapable of flexing to the demands of new situations. It was not anticipated that individuals in group 3 would thrive in a transitioning organization. Again, these three groups are ordered from most likely (i.e., group 1) to least likely (i.e., group 3) to experience career progress in a transitioning organization.

Table 3. Hypothesis 9 a priori groups – the interrelationship of flexibility and good impression

| | | <u>Flexibility</u> | |
|------------------------|---------------|---|--|
| | | <u>Medium to High</u> | <u>Low</u> |
| <u>Good Impression</u> | <u>High</u> | <ul style="list-style-type: none"> • Even though they are willing to adapt and be flexible, these individuals may be too concerned about pleasing others, which will not work in a change environment <p>Ordinal group = 2</p> | <ul style="list-style-type: none"> • <i>Predicted to be the least successful in a time of change</i> • Not adaptable/creative • Too concerned about pleasing others • Will not deal well with the unknown <p>Ordinal group = 3</p> |
| | <u>Medium</u> | <ul style="list-style-type: none"> • <i>Predicted to be the most successful in a time of change</i> • These individuals will have the right mix of concern for others, while also being able to adapt and change as needed in a transitioning organization <p>Ordinal group = 1</p> | <ul style="list-style-type: none"> • <i>Predicted to be the least successful in a time of change</i> • The lack of adaptability which is exhibited by these individuals will inhibit their ability to thrive in a change organization <p>Ordinal group = 3</p> |
| | <u>Low</u> | <ul style="list-style-type: none"> • Very willing to be flexible; however, may act in ways that are fairly independent and without concern for what others think • Not too concerned with the impression that their behavior makes; may not take criticism and critique freely <p>Ordinal group = 2</p> | <ul style="list-style-type: none"> • <i>Predicted to be the least successful in a time of change</i> • These individuals are neither flexible to the demands of change nor concerned about others opinions of their behavior <p>Ordinal group = 3</p> |

H9: Ability to cope with change will be related to career progress. Individuals scoring moderately on the good impression scale and above the mean on the flexibility scale will experience the greatest career advancement in a transitioning organization.

For all predictors that had significant relationships with the career progress criteria, follow-up analyses were conducted to determine which independent variables contributed the greatest to the prediction of the various criterion variables. This capstone analysis was conducted with a dominance analysis, as this analytic technique indicates the degree to which each of the independent variables is predictive of the criteria without the exaggeration of ordinary least squares regression (Budescu, 1993). This analysis was exploratory in nature and did not result in the generation of a formal hypothesis.

Research question 1: Using dominance analysis, which individual characteristics are most essential for success in a transitioning organization?

While examining the characteristics likely to lead to career progress remained the primary focus of this paper, the present research environment offered a unique opportunity to also examine the effectiveness of assessment centers in a transitioning organization. Gaugler et al. (1987) present the most recent demonstration of assessment center validity in their meta-analysis. As such, assessment centers demonstrated reasonable correlations with indices of career progression ($r = .36$ corrected for range restriction and unreliability in the criterion). This study has extended those findings in a

transitioning organization setting by examining the relationship between the overall assessment center rating (OAR) and the eight criterion variables of interest.

Research question 2: Are assessment center evaluations predictive of career progression in a transitioning organization, where career progress is measured by both changes in position and salary level?

In an effort to address the criticism of Klimoski and Strickland (1977) that urges assessment center researchers to draw comparisons between other predictors, the criterion-related validity of alternative predictors was also examined. Specifically, participants' performance was measured by five additional assessment instruments. This included a critical thinking skills test, a bio-data type instrument, a low-fidelity video simulation, a strategic in-basket and a reasoning test. The inconsistency of previous research made it very difficult to articulate specific predictions about the magnitude of correlations expected for each of the alternative predictors; therefore, this line of research was pursued from an exploratory vantagepoint.

Research question 3: When comparing alternative predictors with the assessment center results, which predictors reveal the greatest criterion-related validity for predicting career progression?

In summary, "downsizing has taken on a logic of its own – has lost its connection to takeovers or to financial problems or even to genuine business need" (Meyer, 1995, p. 241). Nevertheless, it persists, and therefore the pursuit to improve the process should also persist. Similar to the New York Times book, *Downsizing of America* (1996), this

paper intends to “view the transformations underway not through unsentimental economic barometers like productivity indicators but through the prism of the lives of the millions caught up in it” (p. X). This paper was not intended to be a fully comprehensive review of downsizing in America; it was intended to provide a look into the impact of one organizational transition on a specific group of individuals who all participated in a comprehensive skill evaluation prior to the transition. It was anticipated that the individual characteristics that contribute to career success in a transitioning organization will be further clarified. Additionally, the author hopes to provide some clear suggestions for increasing the success of organizational transitions from a personnel perspective, rather than an economic vantage point.

CHAPTER III

METHODOLOGY

Overview of the study

The present study examined career progression over a six-year period for individuals who participated in all phases of an assessment process. This assessment process included a managerial assessment center. The assessment process was administered by an external consulting group hired by the client organization to aid the corporate decision-makers with a limited number of re-organization related appointment decisions in early 1993. All assessment results, including dimensions ratings and written test results, were archival and were maintained by the consulting group. Data pertaining to career action was obtained from a human resources database maintained by the client organization.

Sample

Participants

A total of 219 individuals served as the sample for this research project. These individuals participated in all phases of a three-phase assessment process and were still employed with the client organization on September 1, 1993, which served as the start date for data collection. Of the 219 individuals who completed all phases of the assessment process, 46 individuals received appointments. All of these appointments occurred before the data collection start date. While it can be assumed that the assessment center results helped to inform the appointment decisions, all appointment decisions were made solely by the client organization. Nonetheless, since the career

paths of 46 individuals were directly impacted immediately after the completion of the skill assessments, the career progress of these 46 individuals represents a potential confound when examining career progress.

In order to examine the magnitude of that potential confound, two different configurations of the participant sample were created. The “full sample” represented data available on all 219 individuals who completed the assessment process. The “refined sample” included only those individuals whose careers were not directly affected by the results of the assessment process ($219 - 46 = 173$). While relying exclusively on the refined sample for data analysis may seem desirable this could significantly limit the power of the study by eliminating a number of highly qualified individuals.

Characteristics of each sample are further delineated below.

Full Sample. Two hundred and nineteen individuals served as the entire sample. Specifically, the participants were white (93%), male (85%), and on average 46 years old. Thirty-six percent of the participants had obtained a Bachelors degree and 58% held some graduate degree. Their mean tenure was 17 years. While career progression data was available for all 219 individuals in the sample, only 134 individuals (61%) were still employed by the client organization in 1999.

Refined Sample. After removing the 46 individuals who received promotions that were at least in part due to their performance in the assessment center, 173 individuals remain. The demographic characteristics of this reduced sample were similar to the full sample (i.e., 92% white; 85% male; average age = 46; average tenure = 17). Additionally, 37% had received a Bachelors degree and 57% held some graduate-level degree. Since none of the individuals in this refined sample were the direct beneficiaries

of a promotion, their career progression data can be considered “uncontaminated.” Six years after the assessment, 60% of these individuals (n = 103) were still employed by the client organization.

Procedure

Description of the Assessment Process.

The purpose of the assessment was to help decision-makers at the client organization determine how to staff positions in a re-organized division. A multi-phase assessment process was utilized to allow for the maximum number of participants reviewed, while also containing the overall cost of the total assessment program (i.e., the actual assessment center was conducted during the final stage of the assessment process to minimize the total number of fully assessed candidates).

In total, the assessment occurred in a three-phase process, with only successful candidates progressing on to each successive phase. The first phase was an initial screening process used to ensure that all individuals applying for positions met minimum technical and managerial qualifications. All applicant qualifications at this phase were reviewed only by the client organization and results from this phase were not considered in the current study.

During the second phase of testing, all individuals completed five assessment instruments that were used to assess cognitive ability and general managerial skills. Specifically, the participants completed the Watson-Glaser Critical Thinking Appraisal (CTA) instrument, a managerial video simulation, a reasoning by inference test (RBI), the Manager Profile Record (MPR), and a strategic in-basket. In an effort to address the criticism that “little published research exists comparing alternative predictors with

assessment center predictions” (Klimoski & Strickland, 1977, p. 357), all of the aforementioned predictors were considered in the present study. That notwithstanding, primary consideration throughout this study was given to the assessment center results, however comparisons have been drawn between alternative predictors when feasible. Again, the information generated during this phase of the assessment was used to determine who should advance to the final assessment phase. After all assessments at this phase were completed, an evaluation score of managerial potential was computed for research purposes. Scores ranged from 1 to 3 with higher scores being indicative of greater potential. Table 4 provides a summary of the evaluation score distribution for all individuals who participated in the second phase of assessment and also for the two groups of individuals that are examined in the present study (i.e., the full and refined samples).

As can be seen in Table 4, a significant number of individuals did not advance on to the third phase of testing (i.e., 404 individuals completed the second phase, but only 219 completed both the second and third phase of testing). Such a reduction in sample

Table 4. Frequency distribution of the evaluation score

| | <u>All phase 2 participants</u> | | <u>Full Sample</u> | | <u>Refined Sample</u> | |
|-------------------|---------------------------------|----------------|--------------------|----------------|-----------------------|----------------|
| | <u>Count</u> | <u>Percent</u> | <u>Count</u> | <u>Percent</u> | <u>Count</u> | <u>Percent</u> |
| <u>Evaluation</u> | | | | | | |
| Low Potential | 109 | 27.0 | 8 | 3.8 | 5 | 3.0 |
| Good Potential | 169 | 41.8 | 91 | 43.1 | 79 | 47.9 |
| High Potential | 126 | 31.2 | 112 | 53.1 | 81 | 49.1 |
| TOTAL | 404 | 100.0 | 211 | 100.0 | 165 | 100.0 |

Note. Evaluation scores were not generated for seventy-five individuals who completed only the second phase. Evaluation scores were not generated for eight individuals in the full and refined samples.

size resulted in a restriction of the range on the predictor variables. This range restriction can best be demonstrated by examining the change in mean score on a predictor and the corresponding standard deviation. Examinations of the means and standard deviations for the two groups revealed that the mean was always higher and the standard deviation was always lower for the individuals that completed all three phases of the assessment, rather than the individuals who only participated in the first two phases. Stated differently, in the sample of individuals used in the present study, the average mean on the predictors is routinely higher, indicating better performance, while the standard deviation is lower, suggesting a tighter dispersion of scores around the mean. This trend in the data demonstrates that range restriction exists in the current data set.

The third phase of the assessment process consisted of a daylong managerial assessment center. Specific exercises included a simulation exercise, an in-basket exercise, a case analysis and a leaderless group discussion. These exercises resulted in ratings being generated on fourteen performance dimensions. See Appendix C for a full description of the assessment exercises. In addition to the assessment center exercises, all participants completed the California Psychological Inventory (CPI). The consulting group then compiled each participant's results in summary reports and provided that information to the client organization. The final appointment decisions resided with the client organization.

Measures

Predictors

Assessment Center Dimension Ratings. Participants received dimension ratings on fourteen performance dimensions. These dimensions are listed in Appendix B. Each

of the five exercises were rated on a sub-set of the fourteen dimensions (see Appendix D for an exercise by dimensions matrix). Two trained assessors made all exercise dimension ratings on an 11-point scale. This information was used during a consensus meeting to derive overall dimension ratings. The overall dimension rating, rather than the exercise dimension ratings, was the focus of the present study.

Furthermore, separate from the consensus meeting, two psychologist involved in the assessment process generated an overall assessment ratings (OARs) for all applicants. The OAR scoring system was similar to the 11-point scale used for dimension ratings with possible scores ranging from 1 to 5, and higher scores being indicative of better performance. These possible eleven scores represented ordinal data but tend to distribute in a reasonably normal fashion. Therefore the OAR will be treated as a continuous normal variable for statistical purposes. This OAR was not provided to the client organization and was only used for internal purposes. Table 5 presents a summary of the score distribution. For some of the hypothesis tests, the 11-point scale used for the dimension ratings and the OAR was tricotimized into high potential, good potential and low potential for ease of data analysis.

Watson-Glaser Critical Thinking Appraisal. The CTA is an 80-item paper and pencil instrument designed to assess critical thinking skills. The CTA is comprised of five subtests: 1) inference - discriminating among degrees of truth and falsity of inferences drawn from given data; 2) recognition of assumptions - recognizing unstated assumptions or presumptions in given statements or assertions; 3) deduction - determining whether certain conclusions necessarily follow information in given statements or premises; 4) interpretation - weighing evidence and deciding if

Table 5. Frequency distribution of the OAR

| | <u>OAR</u> | <u>Full Sample</u> | | <u>Refined Sample</u> | |
|--------------|------------|--------------------|---------|-----------------------|---------|
| | | Count | Percent | Count | Percent |
| | 1.0 | 8 | 3.8 | 8 | 1.8 |
| Low | 1.7 | 1 | .5 | 1 | .6 |
| Potential | 2.0 | 61 | 28.6 | 60 | 35.9 |
| | 2.5 | 19 | 8.9 | 18 | 10.8 |
| | 2.7 | 14 | 6.6 | 12 | 7.2 |
| Good | 3.0 | 42 | 19.7 | 34 | 20.4 |
| Potential | 3.5 | 22 | 10.3 | 15 | 9.0 |
| | 3.7 | 9 | 4.2 | 7 | 4.2 |
| High | 4.0 | 25 | 11.7 | 7 | 4.2 |
| Potential | 4.5 | 5 | 2.3 | 2 | 1.2 |
| | 5.0 | 7 | 3.3 | 3 | 1.8 |
| TOTAL | | 213 | 100.0 | 167 | 100.0 |

Note. Final ratings were not generated for six individuals.

generalizations or conclusions based on the given data are warranted; and 5) evaluations of arguments - distinguishing between arguments that are strong and relevant and those that are weak or irrelevant to a particular question at issue. Scores on this instrument can range from 0 to 80, with higher scores being indicative of greater critical thinking skills.

Managerial Video Simulation. This exercise served as a low-fidelity simulation (Motowidlo, Dunnette & Carter, 1990) designed to assess the manner in which individuals exert influence, show initiative, and otherwise manage subordinates. This exercise is composed of fourteen, 2-part video vignettes depicting situations in which supervisory/managerial personnel are shown interacting with others in an office environment. At critical points in each vignette, the participant has to choose one of four behavior options to reflect how s/he would react in a similar situation. Potential scores on this exercise range from 0 to 100 and indicate overall performance on the task. Sub-scores on the following three competencies are also available: customer relations,

judgment, and attracting new business. For the purposes of the present study, only the overall performance score was considered.

Reasoning by Inference Test. The RBI is a 25-item paper and pencil measure designed to assess the relative motive strength of achievement motivation in relation to fear of failure. This testing format is based on the principle of conditional reasoning, which suggests that people seek to justify their behavior as either rational or logical (James, 1998). In doing so, they rely on reasoning processes that support their behaviors. The RBI taps this reasoning and provides insight into the individuals relative motive strength. Written instructions indicate that the test is designed to measure reasoning ability, and respondents are asked to select the most reasonable alternative for each item. Three performance scores were generated for this instrument: a score on achievement motivation, a score on fear of failure and the difference between the two scores.

Manager Profile Record. The MPR is a traditional biographic questionnaire (Owens & Schoenfeldt, 1979; Stokes, Mumford & Owens, 1994) comprised of two distinct parts, which were designed to identify high potential managerial candidates. Part 1 contains 196 multiple choice questions pertaining to personal, educational and employment histories. Part 2 contains 46 multiple choice items that assess management philosophies or styles. This section of the instrument functions as a low-fidelity simulation, as participants are provided with management scenarios and asked to select the best and the second best response to the situation. Results from the MPR are reported in an overall performance score (ranging from 8 to 32), which is further broken down into a background total and a judgment total.

Strategic In-Basket. This exercise replicates the tasks associated with managerial and supervisory positions (Thornton & Byham, 1982). The exercise presents the participants with a considerable stack of memos and written documents which require rapid review and disposal of a number of items typically found in a manager's in-basket. Five dimension ratings (e.g., analysis, judgment, initiative, team building, and planning and organizing), as well as an overall rating, provide the basis for evaluation.

California Psychological Inventory. All participants completed the California Psychological Inventory (CPI; Gough, 1996; Megargee, 1972). The CPI is a self-report personality measure designed to provide an overall summary of what the respondent is like. An explicit goal of this inventory is to describe individuals in every day, common language which is easy to understand and useful for predicting future behavior. The inventory consists of 480 questions divided into 20 folk scales. These 20 folk scales factor into three vector scales. For the purposes of the present study, configurations of the individual folk scales were examined. Specifically, the following nine scales were included in analyses: dominance, capacity for status, social presence, self acceptance, responsibility, socialization, self-control, flexibility, and good impression (see Appendix F for a more detailed description of these scales). Additionally, scores generated by a special purposes scale designed to identify individuals with a propensity for managerial positions (McAllister, 1996) were used.

Criterion Data

Career Progression Data. Career progression data was gathered for all individuals participating in the assessment process. This information provided the organizational outcomes that formed the basis of the criteria and provided a "picture" of the career

actions for all study participants. Variables included both salary data and promotion rate (job grade) data. Multiple criterion variables were used in this study, as there is no single index of career progress. As such, seven indices of career progress were used and one composite variable was generated in an attempt to reflect the concept of overall career progress. The most straightforward variables used were the final salary and the final job grade attained.

Percent change in salary has previously been used as a measure of career progress and was also used in this study. This criteria, however, was adjusted for time with the company as all study participants did not remain with the company for the entire duration of the data collection period. Therefore, an average annual percent increase in salary was computed for all study participants (e.g., if an individual received \$5000 over 6.33 years, or 76 months, realized a 34% increase in salary, the average annual percent increase of 5.37%; however if that same individual only realized a 12% increase in salary, the average annual percent change would only be 1.89%).

To reflect promotion rate, the change in job level over the data collection period was used. Similar to the annual percent increase in salary, this variable was also corrected for the time with the organization. As an example, if an individual increased 2 job grades over six years, the average annual job grade increase would be .333. This number, .333, would indicate that this particular individual received less than 1 job grade increase per year. This variable will be referred to as average annual job grade change. All individuals in this data set had a numerical indicator for job grade. The job coding system for this organization ranged from job level 1 to job level 13. The current data set

contains positions from the entire range, with the majority of the jobs being from level 7, 8, 9 and 10 (57.4%).

To further the understanding of career progress we created an indicator of overall career progress. This variable was a combination of both of the aforementioned variables (e.g., average annual grade increase and average annual percent increase in salary). Specifically, this variable, OCP, is the mean of the sum of the standardized versions of the other variables.

In addition to the salary and job level data, the actual number of important human resource actions was also computed. The data provided by the client organization comprised a complete listing of all relevant HR-type actions that occurred for all individuals in the sample over the six-year period. This included information about transfers, pay increases, bonuses, terminations, and changes in benefit plans. In total, the corporation used a system of 99 action codes, of which 55 were present in the current data set. In order to determine themes amongst these action codes, five-raters were asked to sort the action codes into one of six categories: promotion, demotion, pay actions that affect base salary, pay actions that do not affect base salary, voluntary turnover, and involuntary turnover. Percent agreement between raters ranged from 89% to 96%. Disagreement between the raters could be traced back to six specific action codes. In order to categorize those actions accurately, a subject matter expert from the client organization was consulted. This information was then used to create summary counts of the six categories of interest for each participant in the study. In other words, for each study participant a numeric count depicting the number of promotions, pay actions,

demotions, incidents of turnover, was generated. From this data, the number of promotions and demotions received served as criteria.

Lastly, as an accuracy check, the data file for each individual was examined for all changes in salary. A tally of pay increases and pay decreases was compiled for each participant. For the full sample the number of pay increases ranged from no increases to nine increases over the six-year period of interest, while only 12.8% of the participants received either one or two pay decreases. The distributions of pay increases (ranged from 0 to 9) and pay decreases (13.3% of the sample received a pay decrease) was similar in the refined group. This tally of pay increases was combined with a tally of pay actions not affecting the base salary, referred to as a bonus, to create the final criterion variable. This variable was referred to as reward. In other words, the reward variable represents the number of times that a monetary reward was provided to the study participants. Admittedly, it would be more desirable to report the total dollar amount of these rewards but the amount of bonuses received was not available. Therefore, this variable will serve as a surrogate for that data.

In summary, seven individual and one composite variable served as criteria in the present study. The individual criterion variables are: the final salary attained, the final job grade attained, average annual percent increase in salary, average annual job grade increase, and the number of promotions, demotions, and rewards. The composite variable, Overall Career Progress, was the sum of the average annual percent increase in salary and the average annual job grade increase. These eight criteria were included in this study because they are indicative of either salary progress or position changes, all believed to be related to career progress.

Statistical Analysis

With the exception of the variables examined with the first hypotheses, the independent variables (i.e., scores on the predictors) were treated as continuous, normally distributed variables. Both kurtosis and skewness data were examined confirming the normality of the variables. Descriptive statistics for these variables are reported in the next chapter. In addition, power analyses were computed to determine the likelihood of finding significant results and are reported in Appendix G.

In that hypothesis 1 dealt with the relationship between two sets of ordinal data, it was tested using a Chi-square test of independence. All other hypotheses tested the relationships of continuous variables and were therefore examined with some combination of general linear modeling, multivariate regression, and correlational analyses. For example, hypotheses 3 through 7 were tested by seeking a significant zero-order correlation between the articulated predictor and the eight criterion variables. To minimize system-wise error, multivariate examination, using Wilks' lambda, of each predictor with the eight criterion variables was computed to test for overall multivariate significance. Although interpretation of univariate correlations, when the multivariate test is not significant would be inappropriate, all correlational analyses are reported to help direct future research. Throughout the study, an alpha level of .05 was adopted.

For analyses where multiple predictors are considered (i.e., H2, H8, and H9), the hypotheses were tested with a couple of analytic techniques, as necessary. Primarily, hypotheses 2, 8 and 9 were examined using general linear modeling (GLM) to test the multivariate significance of the predetermined ordered groups. Again, in cases where multivariate tests were significant, follow-up group comparisons were conducted. Since

the a priori groups were predetermined to be contiguously ordered, typical post hoc tests which compare all possible pairings (e.g., Scheffe's test) were not appropriate.

Therefore, Duncan's new multiple range test was employed as it assumes ordered groups.

When necessary, these hypotheses were further examined using multivariate regression, testing for overall multivariate significance of the individual predictors used in assigning membership to the a priori groups. Significant overall multivariate findings were then followed-up using the appropriate univariate/post hoc analyses.

For any hypothesis tests that resulted in a significant relationship between the IV and either final salary and/or final job grade, sequential regression was then employed to control for the effects of the initial salary and/or the initial job grade. These analyses were not computed as a direct test of the hypothesis, but rather as supplemental analyses to explore further the relationship. In other words, the finding of a r-square change that was non-significant after controlling for initial salary/job grade would not obviate previous statistically significant findings.

CHAPTER IV

RESULTS

Before testing any of the specific hypotheses, descriptive statistics for all independent and dependent variables on both the full and refined samples were examined. Table 6a/b¹, provides the descriptive statistics for the independent variables and also indicates the sample size for each IV. The sample size varies from 219 to 36 in the full sample and 173 to 31 in the refined sample depending upon the variable of interest. This variance in sample size was primarily attributable to the nature of assessment center dimensions ratings. While all study participants completed the full assessment center and were evaluated on the same 14 dimensions, the sample sizes vary greatly. This is due in part to the fact that it was not always possible to agree upon a single consensed rating for each dimension – therefore the sample size varies as a result of this inconsistency.

The descriptive statistics for the dependent variables were also computed (see Table 7a/b). This data shows the average occurrence and variability for each of the eight career progress criterion variables and two control variables in both samples. For example, the average annual salary percent change of 3.43 suggests that on average individuals in the full sample received an annual percent increase in salary of 3.43%. In the refined sample, the average annual percent increase in salary was slightly less at 3.10%. The means, standard deviations, and intercorrelations for all eight criterion

¹ Where tables are noted with an “a/b” this refers to the fact that the “a” table will report the full sample results and the “b” table will report the refined sample results

Table 6. Descriptive statistics for independent variables – full and refined samples

| <u>Predictors</u> | <u>N</u> | <u>Mean</u> | <u>SD</u> | <u>Min</u> | <u>Max</u> | <u>Skew.</u> | <u>Kurt.</u> |
|--------------------------------|----------|-------------|-----------|------------|------------|--------------|--------------|
| a. Full Sample | | | | | | | |
| Overall Assessment Rating -OAR | 213 | 2.87 | .90 | 1.0 | 5.0 | .277 | -.337 |
| Assessment center dimensions | | | | | | | |
| 1. Oral communication | 216 | 3.23 | .41 | 2.0 | 5.0 | .172 | .556 |
| 2. Written communication | 218 | 3.21 | .44 | 1.7 | 4.5 | -.386 | .164 |
| 3. Analysis | 190 | 3.33 | .51 | 1.7 | 5.0 | -.566 | .935 |
| 4. Judgment | 177 | 3.23 | .46 | 1.0 | 4.0 | -.846 | 2.023 |
| 5. Planning & Organizing | 208 | 3.26 | .50 | 1.0 | 4.5 | -.229 | 1.749 |
| 6. Decisiveness | 179 | 3.32 | .55 | 2.0 | 5.0 | -.283 | -.260 |
| 7. Delegation | 201 | 3.09 | .60 | 1.0 | 4.7 | -.194 | -.082 |
| 8. Initiative | 195 | 3.38 | .64 | 1.0 | 5.0 | -.981 | 2.249 |
| 9. Confrontation | 199 | 3.41 | .64 | 1.0 | 5.0 | -.682 | 1.760 |
| 10. Sensitivity | 209 | 3.37 | .46 | 2.0 | 5.0 | -.495 | .931 |
| 11. Leadership | 169 | 2.97 | .61 | 1.0 | 4.5 | -.323 | .229 |
| 12. Coaching & TB | 164 | 2.95 | .76 | 1.0 | 5.0 | -.120 | .791 |
| 13. Stress Tolerance | 219 | 3.09 | .39 | 1.0 | 4.0 | -.534 | 3.930 |
| 14. Flexibility | 36 | 2.92 | .86 | 1.0 | 5.0 | .134 | -.370 |
| Critical Thinking Appraisal | 217 | 67.72 | 6.30 | 41 | 77 | -1.267 | 2.031 |
| Mgr. Video Simulation | 194 | 68.03 | 19.47 | 30 | 99 | -.396 | -1.032 |
| Reasoning by Inference | | | | | | | |
| AM | 193 | 26.05 | 3.11 | 18 | 33 | -.319 | -.147 |
| FF | 193 | 7.50 | 1.65 | 3 | 15 | .520 | 2.159 |
| Difference score (am-ff) | 193 | 18.54 | 3.81 | 7 | 27 | -.363 | -.097 |
| Managerial Profile Record | | | | | | | |
| MPR – overall score | 218 | 25.65 | 3.03 | 16 | 32 | -.395 | -.003 |
| MPR – background | 218 | 25.71 | 3.26 | 15 | 32 | -.427 | .015 |
| MPR – judgment | 218 | 23.52 | 2.82 | 17 | 32 | -.020 | -.102 |
| Strategic In-Basket dimensions | | | | | | | |
| 1. Analysis | 188 | 3.15 | .62 | 1.3 | 4.5 | -.389 | -.029 |
| 2. Judgment | 188 | 3.09 | .49 | 1.7 | 4.5 | -.189 | .035 |
| 3. Initiative | 188 | 3.19 | .55 | 1.6 | 4.5 | -.372 | -.203 |
| 4. Team Building | 136 | 3.43 | .36 | 2.6 | 4.8 | .317 | 1.068 |
| 5. Planning & Organizing | 189 | 3.20 | .48 | 1.5 | 4.8 | -.296 | 1.208 |
| Summary score | 181 | 3.29 | .53 | 2.0 | 4.0 | .119 | -.565 |
| CPI | | | | | | | |
| 1. Dominance | 172 | 68.20 | 7.69 | 40 | 82 | -1.023 | 1.347 |
| 2. Capacity for status | 172 | 59.77 | 6.31 | 44 | 74 | -.339 | -.261 |
| 3. Social Presence | 172 | 56.18 | 8.99 | 31 | 80 | -.106 | -.114 |
| 4. Self-acceptance | 172 | 57.92 | 6.37 | 37 | 74 | -.508 | .591 |
| 5. Responsibility | 172 | 60.47 | 5.68 | 41 | 72 | -.792 | .820 |
| 6. Socialization | 172 | 57.38 | 5.83 | 42 | 70 | -.230 | -.381 |
| 7. Self control | 172 | 58.70 | 6.9 | 42 | 72 | -.286 | -.460 |
| 8. Good impression | 172 | 59.25 | 7.96 | 39 | 74 | -.498 | -.098 |
| 9. Flexibility | 172 | 49.96 | 7.89 | 31 | 72 | .027 | -.177 |
| Managerial Potential | 172 | 64.70 | 5.36 | 47 | 74 | -.864 | .736 |
| People orientation | 172 | 58.02 | 5.77 | 38.75 | 69.25 | -.620 | .517 |
| Values orientation | 172 | 58.88 | 4.70 | 46.40 | 67.60 | -.634 | .019 |

Table 6. Descriptive statistics for independent variables – full and refined samples (continued)

| <u>Predictors</u> | <u>N</u> | <u>Mean</u> | <u>SD</u> | <u>Min</u> | <u>Max</u> | <u>Skew.</u> | <u>Kurt.</u> |
|--------------------------------|----------|-------------|-----------|------------|------------|--------------|--------------|
| b. Refined Sample | | | | | | | |
| Overall Assessment Rating –OAR | 167 | 2.63 | .80 | 1.0 | 5.0 | .471 | .362 |
| Assessment center dimensions | | | | | | | |
| 1. Oral communication | 170 | 3.18 | .40 | 2.0 | 4.0 | -.070 | -.749 |
| 2. Written communication | 172 | 3.17 | .44 | 1.7 | 4.0 | -.463 | -.035 |
| 3. Analysis | 150 | 3.26 | .52 | 1.7 | 5.0 | -.454 | .879 |
| 4. Judgment | 136 | 3.13 | .45 | 1.0 | 4.0 | -.842 | 2.383 |
| 5. Planning & Organizing | 163 | 3.20 | .51 | 1.0 | 4.5 | -.188 | 1.966 |
| 6. Decisiveness | 141 | 3.23 | .55 | 2.0 | 5.0 | -.185 | -.359 |
| 7. Delegation | 159 | 3.04 | .62 | 1.0 | 4.7 | -.082 | -.043 |
| 8. Initiative | 151 | 3.28 | .66 | 1.0 | 5.0 | -.867 | 1.990 |
| 9. Confrontation | 156 | 3.34 | .66 | 1.0 | 5.0 | -.472 | 1.636 |
| 10. Sensitivity | 167 | 3.32 | .46 | 2.0 | 5.0 | -.307 | .926 |
| 11. Leadership | 134 | 2.85 | .59 | 1.0 | 4.0 | -.336 | .292 |
| 12. Coaching & TB | 122 | 2.84 | .72 | 1.0 | 5.0 | -.321 | .683 |
| 13. Stress Tolerance | 173 | 3.05 | .38 | 1.0 | 4.0 | -.893 | 4.867 |
| 14. Flexibility | 31 | 2.81 | .79 | 1.0 | 4.0 | -.067 | -.742 |
| Critical Thinking Appraisal | 171 | 67.32 | 6.53 | 41 | 77 | -1.241 | 1.959 |
| Mgr. Video Simulation | 157 | 67.25 | 19.71 | 30 | 99 | -.342 | -1.061 |
| Reasoning by Inference | | | | | | | |
| AM | 156 | 25.88 | 3.05 | 18 | 33 | -.268 | .015 |
| FF | 156 | 7.51 | 1.63 | 3 | 15 | .576 | 2.689 |
| Difference score (am-ff) | 156 | 18.37 | 3.69 | 8 | 27 | -.254 | -.168 |
| Managerial Profile Record | | | | | | | |
| MPR – overall score | 172 | 25.38 | 2.96 | 16 | 32 | -.378 | -.117 |
| MPR – background | 172 | 25.43 | 3.81 | 15 | 32 | -.462 | .047 |
| MPR – judgment | 172 | 23.35 | 2.91 | 17 | 32 | .104 | -.119 |
| Strategic In-Basket dimensions | | | | | | | |
| 1. Analysis | 151 | 3.13 | .61 | 1.3 | 4.3 | -.426 | .066 |
| 2. Judgment | 151 | 3.08 | .47 | 1.7 | 4.5 | -.214 | .267 |
| 3. Initiative | 151 | 3.16 | .54 | 1.6 | 4.3 | -.478 | -.214 |
| 4. Team Building | 109 | 3.43 | .37 | 2.6 | 4.8 | .243 | 1.135 |
| 5. Planning & Organizing | 152 | 3.47 | .47 | 1.5 | 4.3 | -.467 | 1.085 |
| Summary score | 144 | 3.26 | .53 | 2.0 | 4.0 | .201 | -.339 |
| CPI | | | | | | | |
| 1. Dominance | 135 | 67.38 | 8.03 | 40 | 82 | -.968 | 1.003 |
| 2. Capacity for status | 135 | 59.78 | 6.32 | 44 | 72 | -.444 | -.175 |
| 3. Social Presence | 135 | 56.33 | 9.14 | 31 | 80 | -.158 | -.026 |
| 4. Self-acceptance | 135 | 57.58 | 6.43 | 37 | 74 | -.520 | .588 |
| 5. Responsibility | 135 | 59.79 | 5.68 | 41 | 72 | -.668 | .607 |
| 6. Socialization | 135 | 56.95 | 5.95 | 42 | 70 | -.180 | -.359 |
| 7. Self control | 135 | 58.34 | 7.17 | 42 | 72 | -.244 | -.558 |
| 8. Good impression | 135 | 58.89 | 7.74 | 39 | 74 | -.609 | .028 |
| 9. Flexibility | 135 | 50.29 | 7.68 | 31 | 72 | -.071 | .114 |
| Managerial Potential | 135 | 64.24 | 5.54 | 47 | 74 | -.703 | .370 |
| People orientation | 135 | 57.76 | 5.91 | 38.75 | 69.25 | -.706 | .525 |
| Values orientation | 135 | 58.36 | 4.81 | 46.40 | 66.80 | -.510 | -.313 |

Table 7. Descriptive statistics for the dependent and control variables – full and refined samples

| | Mean | SD | Intercorrelations | | | | | | | | | |
|---|----------|----------|-------------------|---------|--------|---------|---------|---------|---------|---------|---------|----|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| a. Full Sample | | | | | | | | | | | | |
| <u>Dependent Variables</u> | | | | | | | | | | | | |
| 1. Overall Career Progress ^a | .001 | .874 | .874** | .880** | .414** | -.206** | .231** | .093 | .251** | -.254** | -.229** | |
| 2. Ave. annual salary percent change | 3.437 | 2.656 | .548** | .353** | -.148* | .190** | .119 | .192** | -.265** | -.145* | | |
| 3. Ave. annual job grade change | .051 | .386 | .422** | -.222** | .254** | .066 | .284** | -.188** | -.271** | | | |
| 4. Promotions | .753 | .890 | .179** | .589** | .102 | .159* | -.210** | -.174** | | | | |
| 5. Demotions | .196 | .421 | .199** | -.129 | .026 | -.169* | -.100 | -.032 | | | | |
| 6. Rewards | 5.123 | 2.510 | | | | -.058 | -.332** | -.279** | | | | |
| 7. Final salary | 77192.96 | 15416.57 | | | | .860** | .848** | .794** | | | | |
| 8. Final job grade ^a | 8.420 | 2.536 | | | | .734** | .795** | | | | | |
| <u>Control Variables</u> | | | | | | | | | | | | |
| 9. Initial salary | 67930.88 | 13245.22 | | | | | | .876** | | | | |
| 10. Initial job grade | 8.073 | 2.463 | | | | | | | | | | |

^a Full sample: N = 218, for all other variables N = 219. Refined sample: N = 172, for all other variables N = 173

* p < .05 ** p < .01

Table 7. Descriptive statistics for the dependent and control variables – full and refined samples (continued)

| | Mean | SD | Intercorrelations | | | | | | | | | |
|---|----------|----------|-------------------|--------|--------|--------|---------|---------|---------|---------|---------|----|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| b. Refined Sample | | | | | | | | | | | | |
| <u>Dependent Variables</u> | | | | | | | | | | | | |
| 1. Overall Career Progress ^a | -.080 | .830 | .829** | .892** | .432** | -.168* | .286** | -.055 | .169* | -.372** | -.398** | |
| 2. Ave. annual salary percent change | 3.102 | 2.364 | .500** | .355** | -.093 | .232** | -.104 | .034 | -.438** | -.354** | | |
| 3. Ave. annual job grade change | .043 | .405 | .433** | -.190* | .291** | .030 | .281** | -.223** | -.345** | | | |
| 4. Promotions | .717 | .886 | .217** | .601** | .048 | .135 | -.243** | -.243** | | | | |
| 5. Demotions | .214 | .439 | .203** | -.067 | -.049 | -.113 | -.391** | -.376** | | | | |
| 6. Rewards | 5.061 | .265 | | | | | | | | | | |
| 7. Final salary | 72895.27 | 13142.39 | | | | | | | | | | |
| 8. Final job grade ^a | 7.762 | 2.364 | | | | | | | | | | |
| <u>Control Variables</u> | | | | | | | | | | | | |
| 9. Initial salary | 65331.07 | 12952.50 | | | | | | | | | | |
| 10. Initial job grade | 7.430 | 2.322 | | | | | | | | | | |

^a Full sample: N = 218, for all other variables N = 219. Refined sample: N = 172, for all other variables N = 173

* p < .05 ** p < .01

variables and two variables that were used as control variables for some analyses are presented in Table 7a/b.

Examination of this table revealed that criterion variables 7 and 8, final salary and final job grade, were highly intercorrelated (full sample $r = .860$; $p < .001$; refined sample $r = .832$; $p < .001$). As would be expected, final salary and final job grade were also highly intercorrelated with the control variables of initial salary and initial job grade. These significant relationships seem very appropriate, as salary increases tend to accompany job grade increases. Final salary, however, was not significantly correlated with any of the other criterion variables and final job grade was only moderately correlated with some of the criterion variables (see Table 7a/b).

Examination of the Participant Samples

As discussed in the previous chapter, it was anticipated that all hypotheses would be examined in both the full sample and the refined sample. The reason for this dual analysis was to thoroughly examine the proposed hypotheses, while also attempting to determine the potential confound of including the individuals that received appointments associated with the re-organization. As a preliminary step, however, the data was examined to determine whether or not individuals that received an initial appointment experienced greater career advancement over the six-year period than the other individuals in this study.

General linear modeling was used to determine if individuals that received an appointment ($n = 46$) appreciated greater career progress than the other individuals in the study ($n = 173$). Results revealed a significant overall multivariate difference, $F(8,209) =$

16.821, $p \leq .001$, demonstrating that individuals who received an appointment directly after the completion of the assessment center also realized significantly greater career progress than all other individuals in this sample.

Since two of the career progress variables (i.e., final salary and final job grade) are highly related to initial salary and initial job grade, additional analyses were computed to determine if the multivariate relationship remained significant when controlling for the initial career progress variables. Using GLM to determine if the two groups were significantly different on initial salary and initial job grade level, revealed a significant multivariate relationship, $F(2,215) = 40.343$, $p \leq .001$. Furthermore, retesting the significance of final job grade and final salary, including initial salary and initial job grade as covariates also resulted in a significant multivariate relationship, $F(2,213) = 21.436$, $p \leq .001$. Table 8 presents both the multivariate and univariate results for the aforementioned statistical tests.

Given that these results definitively demonstrated that the group of 46 individuals who received initial appointments experienced greater career success than all other individuals, it seemed likely that including these individual in the hypothesis tests might artificially increase the likelihood of finding significant results. As such, it seemed more appropriate to pursue the hypothesis tests without including these individuals in the analysis. This analytic decision ensured that any significant results found in this study were not directly influenced by the assessment center outcomes. In summary, hypothesis tests were conducted on the refined sample only.

Table 8. Comparing the initially appointed individuals with all other employees

| | Initially appointed N = 46 | | All other employees N = 173 | | F | p ≤ | Eta ² |
|---|-------------------------------|-------------------|--------------------------------|-------------------|--------|------|------------------|
| | Mean | SD | Mean | SD | | | |
| <u>Multivariate</u> | | | | | 16.821 | .001 | .392 |
| <u>Univariate</u> | | | | | | | |
| OCP | .2989 | .9747 | .0806 | .8304 | 7.027 | .009 | .032 |
| Ave. annual salary Δ | .3916 | .2734 | .2580 | .1975 | 13.927 | .001 | .061 |
| Ave. annual job grade Δ | .0971 | .3016 | .0426 | .4054 | .721 | .397 | .003 |
| Promote | .8913 | .9001 | .7151 | .8887 | 1.419 | .235 | .007 |
| Demote | .1304 | .3405 | .2151 | .4396 | 1.469 | .227 | .007 |
| Reward | 5.3478 | 1.8764 | 5.0407 | 2.6454 | .546 | .461 | .003 |
| Final salary | 93356.04 | 12375.02 | 73037.39 | 13046.74 | 89.906 | .001 | .294 |
| Final Job grade | 10.8946 | 1.370 | 7.7616 | 2.3635 | 73.855 | .001 | .255 |
| Covariates: Initial salary & initial job grade | | | | | | | |
| <u>Multivariate</u> | | | | | 40.343 | .001 | .273 |
| <u>Univariate</u> | | | | | | | |
| Initial Salary | 77708.42 | 9216.12 | 65481.72 | 12837.41 | 36.602 | .001 | .145 |
| Initial Job grade | 10.478 | 1.130 | 7.430 | 2.322 | 74.345 | .001 | .256 |
| Final salary and final job grade, controlling for initial salary and initial job grade | | | | | | | |
| | <u>Adjusted Mean</u> | <u>Std. Error</u> | <u>Adjusted Mean</u> | <u>Std. Error</u> | | | |
| <u>Multivariate</u> | | | | | 21.436 | .001 | .168 |
| <u>Univariate</u> | | | | | | | |
| Final salary | 84663.57 | 1236.980 | 75362.12 | 583.724 | 42.043 | .001 | .164 |
| Final job grade | 9.178 | .251 | 8.220 | .119 | 10.795 | .001 | .048 |

Two exceptions were made to the decision to conduct analyses only on the refined sample. First, hypothesis 1, which was an examination of whether or not the “best” employees left the organization during a transition, was analyzed on both the full and the refined samples. Since this hypothesis was concerned with the career progress of the best employees, removing the 46 individuals who initially received appointments, severely limited the population of best employees. Specific information pertaining to the overlap of the best employees and the initially appointed employees is reviewed below.

Secondly, two research questions forwarded in this paper focus on the validation of the assessment center and several alternative predictors used in this comprehensive assessment process. Since it would be highly unusual to remove individuals that benefited from the screening process from the validation process, these research questions were examined using the full sample.

In summary, with the exception of hypotheses 1a/b and two research questions, all hypotheses were examined using the more conservative sample, the refined sample. Results for the full sample were also examined and are presented in Appendix J.

Primary Analyses

Hypothesis 1a and 1b

To examine whether or not the “best” employees left this company during a time of organizational transition, it was first necessary to determine who the “best” employees were. The performance summary variables generated after the second and final phase of the assessment (i.e., evaluation score and overall assessment rating, OAR) were used for this purpose. Since both the evaluation score and OAR were multi-level evaluations (i.e.,

evaluation had three levels and OAR had eleven levels), they were dichotomized into groups representing the most and the least likely to be successful.

To dichotomize the evaluation score, individuals with a rating of a 3 indicating high potential represented the best employees and individuals with a rating of 1 or 2, representing low or good potential, served as the comparison group. In order to dichotomize the OAR variable, a cut point of 3.7 was used to delineate the best employees from the other employees (for a reminder of the OAR scale refer to Table 5). This decision was based on the fact that when summarizing assessment center results, a skill dimension is considered to be a strength when the individual scores a 3.7 or higher on the dimension. Hence, this same cut-point was used with the summary evaluation, OAR. Assuming that both of these newly created dichotomized variables had an underlying normal distribution, a very reasonable assumption given the way they were formed, the tetrachoric correlation between these dichotomous indicators of employee potential (i.e., evaluation score and OAR) was substantial, $r = .512$, $p < .001$.

In addition to the variables indicating the employee skill level (i.e., best or other employee), a dichotomous variable indicating current employment status (still employed or no longer employed) was used to test this hypothesis. A Chi-square test for independence was computed to test hypothesis 1a and 1b. As previously discussed, this hypothesis was examined with both the full and refined samples. While there was not a perfect correlation between the individuals being appointed and the individuals determined to be the best, there was considerable overlap between the two groups. For example, with the dichotomized OAR, of the 46 individuals receiving initial appointments 27 or 59% were considered to be the best employees. Eliminating the full

or refined sample from this hypothesis evaluation would severely limit the ability to fully examine the proposed relationship. Hence, hypothesis 1a and 1b were examined in both the full and refined samples.

Hypothesis 1a examined the relationship between the evaluation score (i.e., the individuals potential as judged after the completion of the second phase of testing) and employment status six years after the assessment. Results for both the full and refined samples revealed that the dichotomized evaluation score created after the second phase and employment status were not significantly related (full sample $\chi^2(1, N = 211) = .691, p = .406$; refined sample $\chi^2(1, N = 165) = .686, p = .407$).

Hypothesis 1b was concerned with the relationship between the performance rating generated after the completion of the assessment center (i.e., OAR) and employment status. This hypothesis was tested using the dichotomized OAR variable and the current employment status variable. The results were similarly non-significant (full sample $\chi^2(1, N = 213) = .010, p = .921$; refined sample $\chi^2(1, N = 167) = 1.397, p = .237$). In summary, hypothesis 1a and 1b did not receive support in either the full or the refined samples. This result suggests that, in fact, the best employees did not leave this company during a time of transition at a rate greater than that of other employees.

Hypothesis 2

Hypothesis 2 predicted that individuals scoring better on the assessment center dimensions of judgment and decisiveness would achieve greater career success in a transitioning organization. Four ordered groups, which comprise all possible combinations of ratings on the two dimensions were articulated and used to test this hypothesis. Table 1 summarized these four groups which vary from individuals expected

to realize substantial career progress, to those individuals that were not expected to experience much career advancement.

General linear modeling (GLM) was used to test the four a priori ordered groups for differences. The multivariate test revealed a significant difference, $F(21, 492) = 1.74, p = .022$. Accordingly, group comparisons were conducted using Duncan's new multiple range test. The results revealed significant differences between the groups (see Table 9). Specifically, for the final salary criteria, group 1 (\$82,112.50) received a significantly higher final salary than group 3 (\$72,280.67) or group 4 (\$67,473.06), but not group 2 (\$75,647.85). Additionally, group 2 received a significantly greater final salary than group 4. For the criterion of final job grade, group 1 (8.80) was significantly different from group 4 (7.03), but no other significant group differences were detected. Taken together, these results provide support for the hypothesized relationship.

Table 9. Comparing means for hypothesis 2 four a priori groups of judgment and decisiveness for final salary and final job grade

| | GROUP MEANS | | | |
|-----------------|-----------------------|------------------------|------------------------|-----------------------|
| | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> |
| Final Salary | 82112.50 _a | 75647.85 _{ab} | 72280.67 _{bc} | 67473.06 _c |
| Final Job Grade | 8.80 _a | 8.31 _{ab} | 7.51 _{ab} | 7.03 _b |

Note. Means in the same row that do not share subscripts differ at $p < .05$ using Duncan's new multiple range test. Sample sizes: group 1 = 10; group 2 = 58; group 3 = 70; group 4 = 34.

Supplemental Analyses. To further explicate the significant relationship and support found for hypothesis 2, the univariate relationships between the two assessment center dimensions, judgment and decisiveness, and the criterion variables were examined. Since eight dependent variables were considered, multivariate multiple regression was utilized to test for overall multivariate significance while controlling for system-wise error (alpha = .05). Using the Wilks' lambda criteria, the overall test did not reveal significant results for either judgement, $F(8, 126) = 1.95, p = .058$ or decisiveness, $F(8, 131) = 1.06, p = .396$. Therefore, univariate tests were not formally interpreted, but are reported in Table 10. Neither judgment nor decisiveness independently predicted career progress as well as the combination of judgment and decisiveness. In summary, the a priori ordered groups provide definitive support for hypothesis 2. Suggesting that problem solving ability is positively related to final salary level and final job grade.

Hypothesis 3 through Hypothesis 7

These five hypotheses were tested using a zero-order correlation as an indication of effect size and an associated p-value less than .05 as an indication of a significant relationship. However, an overall test of multivariate significance was conducted to control the system-wise error rate. All results are reported in Table 10. In cases where the predictors were significantly correlated with the final salary or the final job grade achieved, a sequential regression was conducted controlling for the initial job grade and/or salary as necessary.

Hypothesis 3. This hypothesis predicted a significant relationship between performance on the coaching/team building assessment center dimension and indices of

Table 10. Multivariate hypothesis tests and univariate correlations with career progress criteria

| | <u>Multivariate Tests</u> | | <u>Correlations with career progress criteria</u> | | | | | | | | | |
|--------------------------|---------------------------|----------|---|------------------|--------------------------|-------------------------|---------|--------|---------|---------------------|------------------------------|--|
| | λ | $p \leq$ | n | OCP ^a | Ave. % Salary Δ^a | Ave. Job Grade Δ | Promote | Demote | Rewards | Final Salary | Final Job Grade ^a | |
| | | | | | | | | | | | | |
| H2: Judgment | .890 | .058 | 136 | .109 | .073 | .107 | .081 | .114 | .007 | .261** | .209** ^b | |
| H2: Decisiveness | .939 | .396 | 141 | .110 | .097 | .113 | .133 | .059 | .005 | .121 | .137 | |
| H3: Coaching & TB | .946 | .602 | 122 | .010 | -.033 | .041 | .060 | .066 | -.100 | .093 | .121 | |
| H4: Leadership | .930 | .325 | 134 | -.051 | -.105 | -.006 | -.070 | -.114 | -.202** | .112 | .127 | |
| H5: Initiative | .896 | .046 | 151 | -.021 | -.116 | .061 | -.049 | -.166* | -.092 | .202** ^b | .136** ^b | |
| H6: Managerial Potential | .960 | .739 | 135 | -.013 | -.028 | -.003 | -.067 | -.001 | -.100 | .085 | .037 | |
| H7: Self acceptance | .925 | .262 | 135 | -.072 | -.072 | -.043 | .011 | -.191* | -.047 | .080 | .038 | |
| H8: People Orientation | .932 | .346 | 135 | -.010 | .016 | .007 | .020 | -.207* | -.016 | .099 | .059 | |
| H8: Value Orientation | .930 | .324 | 135 | -.121 | -.128 | -.109 | -.082 | .089 | -.153 | .076 | .054 | |
| H9: Good Impression | .960 | .727 | 135 | .089 | .084 | .064 | .016 | .046 | -.052 | .075 | .059 | |
| H9: Flexibility | .963 | .770 | 135 | .000 | .010 | .009 | -.062 | -.038 | -.099 | .090 | .129 | |

^a One individual did not have a job grade reported and was excluded for analyses involving job grade.

^b These results are no longer significant when controlling for the salary and grade level at the beginning of the data collection period (See Table 11).

* $p < .05$ ** $p < .01$

career progress. The overall multivariate test was non-significant, $F(8, 112) = .803, p = .602$. As such, the univariate correlational analyses were not interpreted. In summary, hypothesis 3 did not receive any support in the present study.

Hypothesis 4. A positive relationship between leadership exhibited in the assessment center and career progress in a transitioning organization was predicted with this hypothesis. In the refined sample, the multivariate test was not significant, $F(8, 124) = 1.17, p = .325$ (see Table 10). Therefore, hypothesis 4 was not supported in the refined sample.

Hypothesis 5. The assessment center dimension of initiative reflects the extent to which an individual attempts to influence events or acts in a proactive manner. It was predicted that individuals who displayed higher levels of initiative in the assessment center would experience greater career progress in a transitioning organization. This question was formally tested with hypothesis 5.

In the refined sample, the multivariate multiple regression revealed overall multivariate significance ($F(8, 141) = 2.037, p = .046$; see Table 10). Further, there were three significant correlations with initiative. Specifically, initiative revealed a negative relationship with demotions ($r = -.166, p = .021$), indicating that more initiative shown in the assessment center resulted in fewer demotions on the job. In addition, initiative was also significantly correlated with final salary ($r = .202, p = .006$) and final job grade ($r = .136, p = .049$). Initiative was also significantly correlated with initial salary ($r = .228, p = .005$); but not with initial job grade ($r = .117, p = .155$). Sequential regression revealed that after controlling for the effects of initial salary and initial job grade, incremental

validity for final job grade and final salary was not found (see Table 11). In summary, the negative relationship with demotion and the positive relationship with final salary and final job grade provide support for hypothesis 5.

Hypothesis 6. The California Psychological Inventory (CPI) special purpose scale for managerial potential was the focus of hypothesis 6. It was predicted that higher scores on the managerial potential scale would be positively correlated with the career progress criterion. The overall multivariate test was not significant, $F(8, 125) = .645, p = .739$. Thus, these results did not support hypothesis 6.

Hypothesis 7. Previous research has demonstrated the positive relationship between self-esteem and success in a changing environment. In the current study, the CPI scale of self acceptance, which encompasses self-esteem, was used to attempt to

Table 11. Sequential regression of significant predictors

| Variables | R^2 | $p \leq$ | ΔR^2 | $\Delta p \leq$ | Full Model β |
|----------------------------------|-------|----------|--------------|-----------------|-----------------------|
| Controlling for Salary | | | | | |
| Step 1: Initial Salary | .742 | .001 | | | .841 |
| Step 2: Judgment | .754 | .001 | .012 | .012 | .112 |
| Step 1: Initial Salary | .774 | .001 | | | .880 |
| Step 2: Initiative | .774 | .001 | .000 | .964 | .002 |
| Controlling for Job Grade | | | | | |
| Step 1: Initial Job Grade | .717 | .001 | | | .701 |
| Step 2: Judgment | .724 | .001 | .011 | .082 | .106 |
| Step 1: Initial Job Grade | .588 | .001 | | | .762 |
| Step 2: Initiative | .591 | .001 | .002 | .379 | .047 |

Note. β refers to the standardized beta weight

replicate this relationship. As such, it was predicted that there would be a positive relationship between scores on the self acceptance scale and career progress. Results reveal that this relationship did not hold true in the current study, $F(8, 125) = 1.28, p = .262$. In sum, hypothesis 7 did not receive support in this study.

Summary of findings for Hypothesis 3 through Hypothesis 7. Taken together, the results for hypothesis 3 through hypothesis 7 are disappointing. Only one predictor, initiative, achieved multivariate significance. The results do not support the anticipated relationships between coaching/team building, leadership, managerial potential, self acceptance, and the indices of career progress. Some support was found, however, to suggest that level of initiative was related to the number of demotions received and the final salary and final job grade attained. Overall, though, these results do not provide overwhelming support for the predicted relationships.

Hypothesis 8

Hypothesis 8 examined the relationship between people orientation and value orientation and the career progress criterion. As a reminder, people/value orientation were composites of performance on several scales of the CPI. Individuals higher in people orientation were more personable and more effective in interpersonal relationships. Individuals scoring higher in value orientation more strictly adhere to societal norms. It was predicted that individuals higher in people orientation and moderate in value orientation would be the most successful in a transitioning organization.

Similar to hypothesis 2, four ordered groups were predetermined to examine this hypothesis (see Table 2 to review the ordered groups used to test this hypothesis). This

hypothesis was examined using GLM to test the a priori ordered groups. Results from this analysis were not significant ($F(21, 378) = .99, p = .481$). Thus, hypothesis 8 received no support for the a priori order groups.

Supplemental Analyses. Finding no overall significance for the ordered groups, a follow-up analysis was conducted to determine whether people or value orientation taken separately were significantly related to any of the career progress criterion. Results were non-significant in the refined sample for both people orientation, $F(8, 125) = 1.13, p = .346$ and values orientation, $F(8, 125) = 1.17, p = .324$. Hence, analyses which deviated from the four ordered groups did not provide support for this hypothesis either. In summary, the expectation that individuals exhibiting a higher people orientation and a moderate value orientation would experience greater career progress was not supported.

Hypothesis 9

Flexible individuals who were moderately concerned with the impression they made upon others were predicted to have greater career progress in hypothesis 9. Specifically, information obtained from the CPI scales of flexibility and good impression was used to test this hypothesis. Three ordered groups were determined a priori (see Table 3 for a reminder of these groups). GLM with three a priori groups was conducted to examine the different levels of good impression and flexibility simultaneously. Results were non-significant ($F(14, 252) = 1.12, p = .338$).

Finding no support for the articulated hypotheses, multivariate regression was used to examine the relationship between good impression and flexibility taken individually and the eight criterion variables. This analysis also failed to yield significant results (Good impression: $F(8, 125) = .66, p = .727$; Flexibility: $F(8, 125) = .607, p =$

.770). As such, univariate analyses were not interpreted, but are presented in Table 10. In summary, no support for hypothesis 9 was found.

Research Questions

Three research questions were included in the present research project. The first question was pursued to determine which of the successful predictors of career progress accounted for the most variance in the prediction. This research question was directly tied to the results of hypotheses 2 through 9.

The second and third research questions were an examination of validity in a transitioning organization. These research questions were analyzed by looking at the results in the full sample only. This analytic decision was pursued primarily because these questions are examinations of the validity of the assessment center and alternative predictors. As such, removing the individuals that received initial appointments would not only reduce the likelihood of achieving respectable levels of validity, but would be highly unusual in a validity study. The results of the research questions are presented below.

Question 1

The first research question was presented to further examine any and all independent variables that were significantly related to the career progress criterion variables. In other word, this research question was proposed under the assumption that many hypotheses presented in this research document would yield significant results. Assuming significance of a majority of the hypotheses, dominance analysis was planned

to help determine which predictors accounted for the most variance in the career progress criteria.

Results for the eight previously reported hypotheses (i.e., hypotheses 2-9) were very weak, only two of the eight hypotheses showed significant prediction of career progress in the refined sample. Extending those hypothesis tests to the full sample (see Appendix J) only resulted in one relatively weak addition. Given only two or three of these hypotheses were successful, this research question was rendered moot.

Question 2

The data collected in this transitioning organization presented a unique environment to validate this assessment center. The second research question was pursued to examine the predictive validity of an assessment center in a transitioning organization. After demonstrating overall multivariate significance ($F(8, 121) = 8.02, p < .001$), correlations between the OAR and the eight criterion variables were computed to test this research question. These analyses were only computed for the individuals who remained with the company at the end of the data collection period (i.e., May 1999). Therefore, there were 134 individuals in the full sample, however this sample size was not consistent for all predictors. As Table 12 shows, the OAR was moderately predictive of average annual percent change in salary, as well as final salary and final job grade.

In summary, results for research question 2 suggest that the OAR was predictive of career success. More importantly, criterion validity for assessment centers in a transitioning organization has been demonstrated.

Table 12. Criterion validity of all predictors used in the comprehensive assessment for all remaining employees

| PREDICTORS | CRITERIA | | | | | | |
|-------------------------|------------------|---------------------------|------------------------------|------------|-----------|---------|------------------------------------|
| | OCP ^a | Ave. % Salary Δ | Ave. Job Grade Δ^a | Promotions | Demotions | Rewards | Final Salary Grade ^a |
| OAR (n=131) | .106 | .217* | -.073 | .045 | -.017 | -.144 | .487** |
| AC dimensions | | | | | | | |
| 1. Oral comm. (133) | -.106 | -.061 | -.150 | -.109 | .031 | -.197* | .175* ^b |
| 2. Written comm.(134) | .089 | .161 | -.030 | .018 | .002 | .038 | .212* |
| 3. Analysis (117) | .078 | .164 | -.058 | .090 | .003 | -.072 | .200* |
| 4. Judgment (109) | .133 | .200* | .008 | .078 | -.001 | -.070 | .345** ^b |
| 5. Plan. & Org.(127) | .063 | .102 | -.008 | .114 | -.068 | -.082 | .348** ^b |
| 6. Decisiveness (110) | .088 | .132 | .024 | .159 | -.028 | .016 | .233** ^b |
| 7. Delegation (122) | .125 | .136 | .076 | .195* | .052 | .014 | .361** |
| 8. Initiative (118) | -.025 | -.014 | -.037 | .010 | -.133 | -.100 | .260** ^b |
| 9. Confrontation (122) | .047 | .048 | .038 | .006 | .064 | -.024 | .040 |
| 10. Sensitivity (128) | .049 | .118 | -.072 | .020 | .111 | -.076 | .203 |
| 11. Leadership (102) | -.184 | -.157 | -.184 | -.047 | -.072 | -.347** | .261** ^b |
| 12. Coach. & TB(102) | .069 | .055 | .064 | .076 | -.021 | -.085 | .198* ^b |
| 13. Stress Tol. (134) | -.020 | .011 | -.061 | .047 | .001 | -.110 | .107 |
| 14. Flexibility (24) | .072 | .015 | .032 | -.154 | -.372 | -.406* | .482* ^b |
| CTA (132) | .040 | .012 | .068 | -.124 | .047 | -.168 | .185* ^b |
| Video Simulation (120) | -.073 | -.047 | -.086 | -.146 | -.021 | -.186* | .166 |
| Reasoning by Inference | | | | | | | |
| AM (119) | -.003 | -.070 | .079 | -.020 | .107 | .014 | .055 |
| FF (119) | .161 | .153 | .129 | .008 | -.243** | .017 | -.047 |
| (AM-FF) (119) | -.073 | -.122 | .006 | -.019 | .191 | .004 | .065 |
| Managerial Profile Rec. | | | | | | | |
| MPR - overall (133) | -.105 | -.140 | -.038 | -.109 | -.129 | -.181 | .412** ^b |
| MPR - bkg (133) | -.079 | -.112 | -.022 | -.087 | -.164 | -.202 | .399** ^b |
| MPR - judg (133) | -.146 | -.150 | -.109 | -.068 | .008 | -.062 | .262** ^b |

Table 12. Criterion validity of all predictors used in the comprehensive assessment for all remaining employees (continued)

| PREDICTORS | CRITERIA | | | | | | |
|--------------------------|------------------|--------------------|----------------------------------|------------|-----------|---------|---|
| | OCP ^a | Ave. % Salary Δ | Ave. Job Grade Δ ^a | Promotions | Demotions | Rewards | Final Salary Final Job Grade ^a |
| Strategic In-Basket dim. | | | | | | | |
| 1. Analysis (116) | -.025 | .024 | -.073 | -.130 | -.058 | -.117 | .077 .042 |
| 2. Judgment (116) | .081 | .108 | .029 | -.049 | -.028 | .049 | .027 .032 |
| 3. Initiative (1-16) | .042 | .069 | -.004 | -.012 | -.013 | .014 | .018 -.002 |
| 4. Team Bldg (77) | .103 | .022 | .186 | -.022 | -.047 | -.082 | .168 .218 |
| 5. Plan. & Org.(116) | -.044 | -.066 | -.003 | -.029 | -.100 | -.023 | .187* ^b .162 |
| Summary (112) | -.026 | .046 | -.107 | -.120 | -.118 | -.028 | .087 .042 |
| CPI | | | | | | | |
| V1 (108) | -.056 | -.056 | -.043 | -.055 | .176 | .148 | -.119 -.094 |
| V2 (108) | .044 | .086 | -.026 | .221* | .056 | .084 | .209* ^b .183 |
| V3 (108) | .066 | .040 | .088 | -.085 | -.198 | -.062 | .099 .049 |

Note. The n-size is reported parenthetically in the predictor column.

^a One individual did not have a job grade reported and was excluded for analyses involving job grade.

^b These results are no longer significant when controlling for the salary and grade level at the beginning of the data collection period. See Appendix H and I for the full results of the sequential regression.

* p < .05 ** p < .01

Question 3

The final research question was an examination and comparison of the predictive validity of all selection instruments employed in the full assessment process. The seven predictors which were considered included the assessment center, the Watson-Glaser critical thinking appraisal, a video simulation, the reasoning by inference test, the Managerial Profile Record (MPR), the strategic in-basket and the California Psychological Inventory (CPI). Several of these seven predictors were further divided into sub-predictors or sub-parts of the main predictors (e.g., there were 14 individual dimensions which could be summarized by the OAR; both the background and judgment subscores of the MPR were tested, as well as the overall MPR rating). In total 32 predictors were tested.

To examine the different validity levels of these alternative predictors, correlation coefficients between the 32 predictors and the 8 criterion variables were computed. These correlation coefficients are presented in Table 12. Given 32 predictors and eight criterion variables, it was anticipated that approximately 13 correlations would be spuriously generated ($\alpha = .05$). Results from the full sample revealed 46 significant correlations, which was considerably more than 13.

Examining the results from the full sample shows that the assessment center had substantially greater predictive validity than any of the alternative predictors. As an example, the overall score from the MPR followed the assessment center in validity; however, there was a sizable difference between the MPR and the OAR validity coefficients. Comparing these two predictors on the criterion of final salary revealed that the OAR ($r^2 = .237$) was a stronger predictor than the MPR overall score ($r^2 = .170$).

With the exception of individual assessment center dimensions or the sub-scales of the MPR, no other predictor even approached the same level of validity. In summary, the third research question was pursued in response to a call from Klimoski and Strickland (1977) to compare the validity of assessment centers with alternative predictors. Results presented in this study clearly suggest that in a transitioning organization the assessment center achieved the greatest predictive validity.

In their entirety, the results from this study provide only moderate support for the proposed hypotheses. The second hypothesis, which focused on problem solving skills as measured by the combination of the assessment center dimensions of judgment and decisiveness presented the most substantial findings in this study. Two research questions examined the validity of the assessment center and six alternative predictors. Results confirm the predictive validity of the assessment center, and also demonstrated the superiority of the assessment center for predicting career progress. Table 13 presents a summary of the results for each hypothesis and research question examined.

Table 13. Summary of research findings

| <u>Hypothesis</u> | <u>Content of Hypothesis/Question</u> | <u>Findings</u> |
|-------------------|--|---|
| 1 | Talent loss during transition | Not supported |
| 2 | Problem Solving Skills | Hypothesis 2 was supported. As predicted, analysis of the ordered groups revealed significant differences in final salary level and final job grade. |
| 3 | Coaching | Not supported |
| 4 | Leadership & Inspiring others | Not supported |
| 5 | Initiative & Self Reliance | Hypothesis 5 received support. Initiative was significantly correlated with final salary and final job grade. Additionally, initiative was negatively correlated with the number of demotions received. |
| 6 | Managerial Potential | Not supported |
| 7 | Self esteem & self acceptance | Not supported |
| 8 | Adaptive/Resilient (people & value orientation) | Not supported |
| 9 | Coping with change (flexibility and good impression) | Not supported |
| RQ - 1 | Determining which predictor(s) (from H2-H9) accounts for the greatest proportion of variance in the career progress criteria | Results from H2-H9 were not sufficient to warrant this research question |
| RQ - 2 | Validity of the overall assessment rating (OAR) | OAR was significantly correlated with 3 career progress criterion. |
| RQ - 3 | Comparing the validity of six alternative predictors to the OAR | None of the alternative predictors surpassed the predictive validity of the OAR |

CHAPTER V

DISCUSSION

This study was initially conceptualized to further our understanding of the impact that organizational transitions have on employees' careers. Specifically, an attempt was made to determine if certain individual characteristics were related to greater career success in a changing organization. Eight individual characteristics predicted to be indicative of success during transition were examined. Some of these characteristics were measured with assessment center dimension ratings and others were obtained from a personality instrument.

This paper also examined the impact that organizational transitions have on the composition of the employee talent pool. More specifically, as an organization engaged in a downsizing initiative, were a substantial number of key employees lost to either voluntary or involuntary turnover? Cameron (1994) discussed the difficulty that organizations have with retaining crucial skills and resources, suggesting a loss of talent during downsizing. This study examined whether or not top talent, as determined by the comprehensive assessment, was lost over the six-year period studied.

To examine these issues, data was gathered from a company that experienced massive re-organization and downsizing. Specifically, this organization contracted with a consulting firm to assess a multitude of employees to aid the decision makers with some position appointments made early in the re-organization process. Six years have past since this large scale assessment and initial re-organization, providing a rather unique environment for studying the career progress of the individuals affected by this process.

As previously discussed, 219 employees who were internal to the organization participated in all phases of the comprehensive assessment. Of those 219 participants, 46 individuals received an appointment directly after the completion of the comprehensive assessment. Therefore, we were faced with the dilemma of how to use the participant data so as to have the purest sample, while not sacrificing our ability to adequately test the hypotheses. Two operationalizations of the participant sample were created, the full sample and the refined sample.

The full sample ($N = 219$) included all individuals who completed the full assessment. The refined sample ($N = 173$) included all individuals who completed the full assessment, but did not receive an appointment as a direct result of the assessment process. Stated differently, the full sample was comprised of the 173 individuals in the refined sample plus the 46 individuals that received appointments associated with the completion of the comprehensive assessment. It is important to note, for these 46 individuals, this appointment was not included in the tally count of promotions. In other words, for the promotion criterion variable (variable 4 on Table 7) this number only reflects the promotions attained after September 1, 1993, which is a date after the initial appointments were realized (i.e., if one of these 46 individuals had received 2 promotions, that number reflects two promotions above and beyond the one they received immediately after the assessment process).

Based on the composition of the two groups, it was anticipated that results found in the full sample would provide more support for the proposed hypotheses. As was discussed in the previous chapter, early data analysis revealed that individuals who received an initial appointment also achieved greater career progress over the six year

period. This finding seems to demonstrate that these individuals were successful in the assessment, then received early appointments and subsequently advanced at a rate greater than all other individuals in the sample. While this finding provides strong evidence for the appropriateness of using some type of assessment process to isolate key employees, it may also serve to spuriously provide evidence for the proposed relationships. Therefore, the decision to examine hypotheses 2 through 9 with the more conservative sample, the refined sample, was pursued. This decision to eliminate the individuals at the top end of the population may somewhat decrease the likelihood of significant findings, but provides a more prudent test of the proposed hypotheses.

Driven by methodological appropriateness, the first hypothesis and two of the research questions deviated from the refined sample only analysis decision. The first hypothesis was pursued to determine whether or not this organization lost a significant amount of its top talent during the transition. Given that the focus was on the best employees, it was necessary to include the full sample in the analyses as it contained some of the best employees. The research questions were presented to examine the validity of the assessment center and six alternative predictors. As discussed previously, it would be highly unusual to remove the top performers from a validation study; therefore, these research questions were examined on the full sample only.

To reiterate, significant findings in this paper were generated on a sample that has restricted variation, due to the elimination of top end employees and the use of a multiple hurdle process which by its very nature reduced the number of low ability employees. The significant findings, while somewhat limited in their quantity, are expected to be

fairly robust. The balance of this chapter will review the results, suggest areas for future research and discuss some areas for enhancement of the present research.

Losing Talent during Transition

It is normal for organizations undergoing a transition to lose some employees. Often it is the primary impetus behind the transition; however, it would be detrimental to the organization if a large proportion of key talent was lost. The first hypothesis was put forth to examine whether or not this particular organization lost a significant amount of top talent during an organizational transition through either voluntary or involuntary turnover.

Results from hypotheses 1a and 1b reveal that the best employees were not leaving this organization at a proportionally greater rate than other individuals. This non-significant finding was somewhat surprising, as it has been commonly accepted that such a trend exists. Nevertheless, this finding provides good news for the company. It shows that they were not losing the best employees during this transition, a time when skillful and knowledgeable employees are essential to success. Indeed, when reducing the number of employees while intending to accomplish a similar workload, it is the most talented, rather than the least talented, one wishes to retain!

The flip side of this positive finding for the organization is the somewhat troubling finding that they were not shedding the least successful employees at a greater rate either. Basically, in the present situation, employee turnover was random with some of the best and some of the other employees leaving the organization. Further examination of the best and other employees revealed that the type of turnover (i.e., voluntary or involuntary) was not statistically related to the group membership (i.e., Chi-

square analyses revealed that the relationship between employment status, which was divided into three groups: still employed, voluntary turnover or involuntary turnover, and the dichotomized OAR was non-significant, $\chi^2 (2, N = 213) = 1.24, p = .54$). In other words, individuals considered to be the best were not immune to involuntary turnover.

Since the results presented above were counter to the proposed relationship, two alternative questions were pursued as post hoc analyses. Given that the best individuals were not leaving the company at a significantly greater rate than other employees, we decided to examine whether or not the best employees were receiving "incentives" from the organization which may have influenced their decision to stay. Two specific questions were asked to address this issue: (1) Were the best employees advanced at a greater rate than other employees? (2) Were the best employees being paid significantly better than the other employees.

To test the first alternative question, chi-square analyses were used to determine if the individuals judged to be the most successful received more promotions. Within this sample, the number of promotions received varied from zero to four; however, only nine individuals (4.1%) received 3 or 4 promotions. Therefore, to test this question the promotion variable was tricotomized for ease of analysis (i.e., no promotions, one promotion, or multiple promotions during the six year period). Results from the chi-square were non-significant for the dichotomized evaluation score (full sample $\chi^2 (2, N = 211) = 1.473, p = .479$; refined sample $\chi^2 (2, N = 165) = 3.723, p = .155$) and the dichotomized OAR (full sample $\chi^2 (2, N = 213) = 1.515, p = .469$; refined sample $\chi^2 (2, N = 167) = .891, p = .641$). These results demonstrate that individuals evaluated as the best were not promoted at a rate greater than other employees. Hence, while the

company may be retaining the best employees, it may not be leveraging these top employees to the fullest extent.

To examine the second alternative question, a closer examination of salary levels for the employees was pursued. Specifically, mean difference in salary was calculated for the best employees versus all other employees at both the initial data collection point (1993) and the final data collection point (1999). The results provide us with an interesting explanation for the finding that the best employees did not leave the company. Both the initial salary and the final salary were significantly higher for the individuals rated as best versus all other employees (see Table 14). This finding is true in both the full and the refined samples, thus providing an interesting explanation for the retention of these employees.

At an average salary of \$76,265 in 1993 and \$88,772 in 1999, the best employees may have experienced, and may in fact still be experiencing, "golden handcuffs". Stated differently, it may not be feasible for these individuals to earn a similarly high salary in this geographic area (i.e., Southeast United States). Therefore, they remain loyal to this organization due to the extraordinarily high pay levels. Salary survey results from the Bureau of Labor Statistics show that for the category of General Managers and Top Executives, the average salary in 1997 was \$54,284 for the Southeast (Bureau of Labor Statistics website). This salary figure, while being 2 years out of date, is still considerably lower than the \$88,772 being earned by the best employees at the organization examined within this document.

In summary, these results tend to demonstrate that what is commonly thought, that the best employees leave in a time of downsizing, has not been displayed in the

Table 14. Comparison of average initial and final salary

| | | <u>N</u> | <u>Mean</u> | <u>SD</u> | <u>F</u> | <u>p ≤</u> |
|-----------------------|-----------------|----------|-------------|-----------|----------|------------|
| Full Sample | | | | | | |
| Initial salary | Best employees | 46 | 76265.44 | 10191.50 | 25.13 | .001 |
| | Other employees | 167 | 65801.05 | 13099.93 | | |
| Final salary | Best employees | 46 | 88772.50 | 13721.52 | 38.12 | .001 |
| | Other employees | 167 | 74274.51 | 14202.98 | | |
| Refined Sample | | | | | | |
| Initial salary | Best employees | 19 | 73615.21 | 11933.81 | 9.04 | .003 |
| | Other employees | 148 | 64349.39 | 12729.07 | | |
| Final salary | Best employees | 19 | 81658.33 | 12449.45 | 10.125 | .002 |
| | Other employees | 148 | 73901.98 | 12597.59 | | |

present study, nor did these employees receive more promotions than other employees. The best employees did, however, earn significantly more money than other employees both within this organization and across the southeastern United States. This sizable salary difference may have influenced their decision to remain loyal to this organization.

Individual Characteristics Related to Career Progress

Hypotheses 2 through 9 were presented for the exclusive purpose of identifying individual characteristics that were related to career progress in a transitioning organization. From these analyses, some very interesting findings emerged. Each characteristic examined is reviewed below followed by an overall synthesis of the findings.

Problem Solving Skills

One of the most predominant findings throughout this study was that of hypothesis 2, which tested the importance of problem solving skills via the assessment center dimensions of judgment and decisiveness. Four ordered groups combining judgment and decisiveness ratings from the assessment center were articulated to represent various problem solving skill levels. Analysis of these four groups revealed that higher degrees of problem solving skills affected two career progress variables. As predicted, individuals with the greatest problem solving skills attained a higher final salary and also a higher job grade than any other group members. These individuals were typically characterized as individuals who are willing to render decisions, while also showing the ability to consider the ramifications of their actions/decisions and the proficiency to avoid premature decisions. Furthermore, those individuals who showed moderate problem solving ability also appreciated greater career progress than individuals who were likely to commit to poor decisions or willing to prematurely commit to a decision that was not supported by logic.

The above mentioned findings seems to reconcile very nicely with some existing leadership literature. For example, Kenny and Zaccaro (1983) suggest that a characteristic related to the emergence of a leader is the ability to read "the needs of their constituencies and altering their behaviors to more effectively respond to these needs" (p. 683). The essential ability as defined by Kenny and Zaccaro (1983) is quite similar to the expected problem solving skills of individuals predicted to realize the greatest career progress in the current study. Therefore, while we have no means for evaluating the effectiveness of the individuals in this organization, we have anecdotal evidence to suggest that the ability to read the situation and respond accordingly is related to career

success. Moreover, Moses and Lyness (1990) suggest that adaptive managers will be the most successful in a change environment, identifying an adaptive manager as one who maintains a broad perspective while also using “intuition and logic when solving problems” (p. 330). Again, these are characteristics which are highly similar to those predicted to lead to career success in the present study.

In summary, problem solving skills have been identified as important characteristics in both business leadership positions and managerial positions. This study furthers that notion by showing that problem solving ability, as measured by the combination of the assessment center dimensions of judgment and decisiveness, is related to career progress in a transitioning organization. While these findings are not surprising, they do suggest that it may be important to evaluate the problem solving skills of employees prior to making re-organization decisions.

Coaching

The importance of being able to build interpersonal relationships by being a coach and counselor, as measured by the coaching/team building dimension, was also reviewed in the present study. As the results show, there was no support for this hypothesis in the present study. However, it would be premature to conclude that coaching others is not an important characteristic in employees working for a transitioning organization. In summary, coaching, as defined in our assessment center context, was not significantly related to the career progress indices.

Inspiring Others

The ability to inspire others is often cited as one of the main components of transformational leadership (Bass, 1991). In this study, however, we were not concerned

with the leaders of the transformation per se, but rather the employees who were responsible for working through the “change.” Based on the notion that in a time of transition, managers need to inspire others to become problem solvers and decision makers (Belasan et al., 1996), the relationship between leadership as exhibited in the assessment center and career progress was examined.

The findings for this individual characteristic are interesting. In the refined sample, there was a failure to attain multivariate significance; however, examination of the univariate correlations suggest that leadership was positively related to the final salary and the final job grade attained. This suggests that the capacity the participant showed for using appropriate interpersonal styles to guide others toward task accomplishment was related to their final salary and final job grade within the organization. The lack of multivariate significance limited the interpretability of these findings; however, examination of the full sample (see Appendix J) shows that the trend is highly similar. In the full sample, multivariate significance was established, as well as the positive correlations with final salary ($r = .270$) and final job grade ($r = .285$).

The combination of these findings suggests that leadership ability is related to success at work. Clearly, only focusing on the sample of interest, the refined sample, does not allow for the substantive proof. However, noting that the trend identified in the refined sample is replicated with the full sample suggests that this is an area of research that might benefit from replication. Further examination of this relationship should be pursued.

Self Reliance and Initiative

Self reliant individuals are able to differentiate between occasions when it is appropriate to move ahead with independent action versus occasions when assistance should be sought (Burke & Nelson, 1998) . Paired with self reliance, this study examined willingness to take risks and propose unique solutions. In the present study, we measured these characteristics with the assessment center dimension of initiative. In this context, initiative refers to the extent to which an individual is a self-starter, willing to take action to meet the demands of the situation and the likelihood of proposing proactive solutions to problems.

The results from this study reveal that initiative was related to career progress. Specifically, higher levels of initiative were related to overall career success as measured by salary and position levels. Additionally, results on the assessment center dimension of initiative were negatively related to the number of demotions received, suggesting that individuals who showed more initiative during the assessment center were less likely to be demoted over the six year period.

Kirkpatrick and Locke (1991) highlight employee drive (which includes initiative, tenacity and energy) as an important characteristic for leader success. Again, while this study is not solely focused on “leaders,” these results tend to lend support for Kirkpatrick and Locke’s assertion. Overall, these findings show that initiative was related to three career progress variables suggesting its importance as an indicator of career success in a transitioning organization.

Managerial Potential

The California Psychological Inventory (CPI) special purpose scale of managerial potential has previously been demonstrated to be related to career advancement and it

was included as a hypothesis in the present study in an attempt to replicate previous findings. Unfortunately, replication of the previous relationship was not demonstrated in the present study. While managerial potential was slightly correlated with three career progress criteria, the overall multivariate test was not significant.

A previous examination of the relationship between career advancement and scores on the managerial potential scale report significant mean differences for individuals that did advance compared to those that did not (Jacob, 1992 as cited in Gough, 1996). A similar test comparing the managerial potential score for individuals who received no promotions with individuals that received at least one promotion did not result in a significant difference (i.e., results from a oneway ANOVA were non-significant $F = .518, p = .473$). Therefore, without additional research it is not recommended, based on the current findings, that this scale be employed to make managerial promotion/retention decisions in a transitioning organization.

Self-esteem

This dispositional variable has a long history in psychology literature. In essence, it refers to the opinion or belief that an individual has about him or herself. In this study, the CPI scale of self acceptance was used as a surrogate for self-esteem. Individuals with high self acceptance are described as thinking positively of themselves, being liked by others, and in general having an optimistic take on life (Gough, 1996). As such, it was anticipated that individuals with higher self acceptance levels would excel in a transitioning organization.

In short, their positive outlook and belief in themselves should manifest itself in a self-fulfilling prophecy, leading to greater career success in the face of adversity.

Unfortunately, the results from this study do not support this belief. While higher self acceptance scores were negatively correlated with the number of demotions, the non-significant overall multivariate finding limits the interpretability of this finding.

Resilience and Adaptability to the Demands of Reality

The ability to adapt to change as necessary while also being conscientious and demonstrating interpersonal savvy was predicted to be an important characteristic for employees to exhibit during a time of change. Results from hypothesis 8, however, did not provide support for this contention. Similar to hypothesis 2, which examined the importance of problem solving skills, four ordered groups based on a compilation of scales from the CPI, presumed to represent differing levels of adaptability and interpersonal fluency were predetermined to examine this hypothesis. No significant differences between the groups were detected. Additional analyses, considering the value orientation and people orientation of the participants separately, did not reveal any notable significant difference either.

Coping with Change

Judge et al. (1999) presented some fairly convincing findings that tolerance for ambiguity was predictive of ability to cope with change. An attempt was made to provide additional support for this relationship in the present study. It was expected that individuals who were very concerned about how others perceive them while also being unable to adapt to changes would not succeed in a change environment. To test this, three ordered groups were identified comprising combinations of the flexibility and good impressions scales of the CPI. Unfortunately, this relationship was not at all supported in this research paper.

In retrospect, it seems that the way in which this hypothesis was formulated was too narrow in focus. Hence, it is unlikely that considering only flexibility and good impression accurately represent an individual's tolerance for change. Therefore, this finding should not be interpreted as opposition to the findings of Judge et al. (1999).

Summary of Findings

The primary assumption for these hypotheses was that the skills demonstrated and evaluated in the assessment center are then displayed on the job. These skills are then recognized and appreciated on the job, resulting in career advancement. Obviously, the use of correlational analyses does not allow for causal interpretation of the results. In other words, the strong relationship demonstrated between initiative in the assessment center and career progress does not mean that all individuals demonstrating high initiative levels will be successful in a change environment. What this study does do is provide some direction and suggestions about what individual difference characteristics seem to bare a relationship with career advancement.

Specifically, it has been demonstrated that problem solving and initiative are related to organizational success. Correlational analyses revealed that all three dimensions (i.e., judgment, decisiveness, and initiative) were related to initial salary/job grade levels and final salary/job grade levels. Additionally, a relationship between leadership ability and career success was hinted at, but needs replication. All of these findings could be bolstered with both replication and the addition of job performance evaluations. Performance evaluations could help to determine if these abilities are transferable to workplace behavior and subsequently discernable on the job.

Interestingly, analyses conducted to examine the research questions revealed an additional assessment center dimension that demonstrated a strong relationship with the career progress criteria. The assessment center dimension of delegation achieved overall multivariate significance and showed a positive relationship with final salary and final job grade in both the full and refined samples (see Table 12 for results). This strong finding is somewhat surprising. Many of the proposed hypotheses grew out of the results presented by Belasen et al. (1996), which suggested that the more transformational roles, as shown by the Competing Values Framework would become increasingly important in a changing organization. Delegation, however, is typically not considered a transformational behavior.

Delegation as defined in the assessment center context refers to “the ability to utilize subordinates effectively by providing direction and giving accountability while also setting limits on authority and providing clear deadlines for project completion.” This description is very similar to the coordinator and director roles outlined in the Competing Values Framework. The coordinator role is defined as someone who “maintains work flow with analyzing task requirements and organizing staff efforts” (p. 170, DiPadova & Faerman, 1993). The director role is defined as someone who “provides direction for others with goal setting and clarifying expectations” (p. 170, DiPadova & Faerman, 1993). Both of these are considered to be more transactional roles; while Belasen et al. (1996) demonstrated their increased importance, these roles were not found to be as essential as the transformational roles.

The results of the present study, therefore, are rather provocative. Presumably, there would be fewer individuals to which tasks could be delegated in a downsizing environment. Additional research to further substantiate this finding is needed.

In conclusion, eight hypotheses were forwarded in an attempt to explicate whether or not certain individual characteristics were related to career success. Results from this study provide substantial support for two of these hypothesized relationships. Support for the importance of problem solving and initiative are clear in this paper. The predictive nature of the assessment center dimension delegation was also discovered although not hypothesized.

Contribution to the Assessment Center Literature

Although an examination of assessment center predictive validity was not the primary focus of this study, the context of this research project allowed for just such an examination. The use of a managerial assessment center allowed for the computation of predictive validity coefficients in a transitioning organization setting. Additionally, the comprehensive assessment process presented the opportunity to also examine the validity of a variety of selection predictors in a transitioning organization setting as well.

Previous meta-analytic work on the predictive validity of assessment centers has shown that assessment center results were correlated with indices of career progress ($r = .30$ uncorrected; Gaugler et al., 1987). This study replicated these findings ($r = .49$ with final salary and $r = .45$ with final job grade), thereby extending the applicability of assessment center validity into a change organization. As previously noted, there has been little debate about the predictive validity of assessment center in growth

organizations (Thornton & Byham, 1988); however, this is the first known explicit examination of assessment center validity in a change environment.

Klimoski and Strickland (1977) made two primary suggestions to improve the quality of assessment center research. First, they suggested varying the type of criterion measures used; specifically they call for “predictive validity studies of *performance*” (p. 359, emphasis added). In their seminal article, they illuminated the problems encountered by only using salary growth and progress as criteria. For example, they suggested that assessment center staff members may only be predicting, albeit sooner, the very same things organizational decision makers would also predict. Suggesting it is a “subtle kind of ‘criterion contamination’” (Dawes, 1971, as cited in Klimoski & Strickland, 1977, p.358). Further they noted the difference between predicting advancement over success. In sum, they suggested that assessment center researchers should consider other types of criteria, such as performance data. Their criticisms and suggestions were not ignored in the present study; it simply was not possible to obtain performance appraisal data from this organization. Replication of this type of study, with the addition of performance evaluations, is strongly encouraged.

The second point made by Klimoski and Strickland (1977) was successfully incorporated into this study. They encouraged researchers to draw comparisons between the validity of alternative selection predictors and assessment center results. Stating, “given that we accept salary progress or number of promotions as criteria worthy of predicting, we must entertain the notion that there are more easily obtained predictors available than the assessment center, and these alternative predictors might offer superior validities” (p. 357).

Six alternative predictors were examined in this study. This included a biodata instrument, a strategic in-basket, two personality instruments, a cognitive ability measure and a video simulation. Results revealed that none of six alternative predictors were as predictive as the overall assessment rating (see Table 12). Of the alternative predictors, only the biodata instrument, the Managerial Profile Record, achieved multivariate significance thus, allowing for the interpretation of the significant correlations with final salary and final job grade. Furthermore, even if we overlook the lack of multivariate significance for the remaining predictors, very few significant relationships emerge.

In summary, the comparison between alternative predictors, in this organizational setting, revealed that assessment center results were more predictive of career progress than any of the six alternative predictors. While not being the only valid predictor, it does have the greatest prediction. Admittedly, assessment centers are a costly endeavor for an organization to implement, but this study has shown that assessment center results have the potential to help inform re-organization decisions. Using a formal evaluation or testing procedure, similar that that used for selection, to inform re-organization can help to ensure that the transitioning organization retains individuals with the skill sets needed for organizational success.

Practical Implications

Several applications and suggestions for practitioners can be garnered from the present study. Organizational transitions continue to impact American business. While it would be difficult to argue that we truly understand how to go about making those transitions more successful and less damaging for the personnel of the organization, the

compilation of many studies in this area have helped to provide some suggestions for how transitions can be better implemented. Specific suggestions focusing on the human resource aspect of transitions are presented below.

One application that can be drawn from the present study is the possibility of utilizing a formalized system to select employees out of the organization. Rather than offering handsome retirement options and severance packages that encourage individuals to leave the organization, organizations should selectively invite employees to remain with the company or encourage others to leave the organization. These decisions can not be made in a vacuum however. Employers need to determine what skill sets or competencies will be necessary in the changing organization. After identifying the competencies needed in the “new” organization, employers should then assess employees that will be affected by the re-organization on those skill sets (Gowing, Kraft & Quick, 1998) so that informed decisions can be made.

Leonard et al. (1999) developed a reduction-in-force (RIF) model, in which they present a eleven step process for the general flow of a RIF process. Specifically, they outline the importance of defining the future organization which includes: articulating the rationale for the changes, determining the new organizational structure, and predicting the number of positions that will comprise the new organization. They also posit that “as the organization is redefined the required mix of skills and abilities required to maintain the function of the organization must be identified” (p. 16). Other steps of their process include determining what type of selection system should be used, as well as the selection criteria that should be referenced when making decisions.

While the model goes on to discuss the importance of assessing candidates for necessary qualifications, the authors focus primarily on using job performance and seniority information to make the re-organization decisions. Results from the current study provide ample evidence for the applicability of typical selection methods in this change environment. The predictive validity of the assessment center has been previously discussed in this chapter and seems likely to serve as valuable resources when making decisions about which employees to select-out of the organization.

More importantly, this study presents data that could serve as general guidelines for important characteristics that employees should possess during a time of transition. For example, this study presents some fairly convincing results that problem solving skills are related to career success during a time of transition. Therefore, organizations pursuing change initiatives in the future might want to consider assessing the problem solving skills of employees impacted by the transition.

In summary, while it is easy to see from a legal standpoint that it would be wise for organizations to use some type of validated evaluation methodology to make re-organization staffing decisions, such techniques are rarely used. The present study has provided some preliminary validation research to demonstrate that techniques typically employed to make hiring selection decisions can be equally valuable in a transitioning organization. Furthermore, this study is an initial examination of some of the more salient individual characteristics essential during an organizational transition. Results from this study, for example evaluating problem solving ability or initiative level, can serve as preliminary screening points for future organizational transition efforts.

While it may be a costly endeavor for the organization to use a comprehensive managerial assessment center to make re-organization decisions, the benefits do not stop with more valid and defensible decisions. Performance feedback can be generated and shared with the managers and employees such that developmental needs for future advancement can also be identified. The well planned implementation of a selection system paired with a feedback component to surviving employees could allow for both the optimal workforce and the opportunity to further enhance the skills of critical employees. Additionally, performance feedback could aid exiting employees with outplacement and career change decisions.

Furthermore, research is just beginning to be pursued that has considered the impact of corporate transitions on careers. As early as 1987, the impact of downsizing on careers, rather than individuals, was first discussed (London, 1987). However it was not until nearly 10 years later that specific suggestions for handling career development in a downsizing organization surfaced (Feldman, 1996). Moving away from the traditional model of career development (Russell, 1991), Feldman noted that the challenges and activities encountered during the early, mid and late career stages are different in a transitioning organization.

Feldman (1996) suggests that "mid-career employees, perhaps more than any other group, have been negatively affected by corporate restructuring" (p. 148). These individuals are often the targets of re-organization efforts and without actively working to maintain current skill sets they may be easily identified as non-essential. A few specific suggestions for enhanced career development programs have been identified (Feldman, 1996). First, it was suggested that thorough skill assessment be conducted to avoid career

plateauing and skill obsolescence. Additionally, organizations have been encouraged to provide retraining and cross-training opportunities for mid-career employees. The use of an assessment process, similar to the one employed in the current study would be extremely valuable for both skill assessment to avoid plateauing and to identify overall training needs for individual employees, as well as groups of employees. Assessment centers in specific have a long history of being used solely for development purposes (Spychalski et al., 1997) and would be equally valuable in this situation. Simply stated, we do not know enough about career development in transitioning organizations; however, utilizing formalized systems for both re-organization selection decisions and skill enhancements should help to ensure organizational viability by demonstrating a commitment toward the development of employees.

Study Limitations

There were several limitations with this study that deserve mention. As with any research design, the researcher needs to be prepared to deal with the limitations of the approach (McGrath, 1982). In the present study, a field sample was utilized providing a very realistic setting, but limiting the amount of direct control that the researcher had on the format and content of the data collected. Additionally, since the data obtained for this study was entirely archival or historical in nature, the extent to which the author could exercise control over the data collection process was very limited. At most, the researcher could identify what variables needed to be compiled, however even these requests were not always met. Presented below are the identified limitations that impacted this study. These limitations are divided into two categories: (1) the data

utilized in this study and (2) the situational/organizational constraints that impacted this study:

Limitations of the Data

Predictor Data. The comprehensive assessment process that was used in the present study represented an actual selection system. As such, advancement decisions were made after each phase of the process, thereby restricting the sample size. Furthermore, as the sample size was restricted so to was the possible range of performance on the predictor variables.

This problem was most evident with the predictor data collected during the second phase of the assessment process. Specifically, this impacted the range of scores on seven predictors including the evaluation score used to test hypothesis 1, the biodata instrument, the cognitive ability test, the video assessment, the strategic in-basket and the personality test. The sample size for data collected during phase 2 was approximately 400; however, the actual sample size used in this study was 219 in the full sample and 173 in the refined sample. Thus, this restriction in range may have inhibited our ability to detect significant relationships. It is important to note however, that this range restriction only directly impacted hypothesis 1a and the third research question which focused on comparing alternative predictors to the assessment center.

Criterion Data. Another difficulty presented in this study which permeated all of the results was the quality of the criterion data. A quick scan of Table 7 reveals that the criterion variables are highly interrelated. Additionally, several of the career progress variables that were used in this study seem to be severely lacking in substance.

In particular, the data representing monetary bonuses that did not impact the base salary seemed to be quite unreliable. Examination of the data quickly revealed that the action codes which were supposed to denote bonuses were not used consistently across all departments, causing the unreliability in this variable. Nonetheless, this data was used to define half of the reward variable, the other half being a tally count of the number of pay increases impacting base pay. Results revealed that the reward variable was not significantly related to any of the proposed predictors. What remains unknown, however, is whether this lack of findings has to do with the proposed hypotheses or with the quality of the data.

If it would have been possible to quantify the monetary amount of the bonuses received, we may have been more successful at detecting differences within this sample. Monetary bonuses were frequently utilized in this organization to reward commendable performance of employees who were in the higher end of the pay grade. Stated differently, this organization utilized fairly stringent pay grades to determine salary; however, in order to keep individuals' pay rates within the range of their pay grade, bonuses that did not impact base salary level were frequently utilized. Having incomplete data for what is essentially half of the compensation system limited our ability to track career progress in its entirety.

Situational/Organizational Constraints

Organizational Transition Timeline. The time period of this study (i.e., 1993 to 1999) did not comprise the entire transition period. While the comprehensive assessment utilized in this study began in 1993 and was specific to one division within the larger organization, global organizational transition across the company actually began

approximately six years earlier. Therefore, as a whole, this organization had been experiencing a transitioning culture long before the initial data collection for this study began. Unfortunately, this could not be avoided in the present situation. Future researchers, however, would be well served to limit their data collection effort to the period just before and just after the actual transition was realized. While we have no way to measure the impact of this mid-point data collection effort, we can only assume that some of the variables might have shown more substantial findings had a more “pure” measure been possible.

Inaccessible Data. In addition to the data that was examined in this study, the author attempted to obtain two additional forms of information that would have further enhanced this study. Specifically, an attempt to ascertain performance information for all individuals completing all three phases of the comprehensive assessment was pursued. Unfortunately, the organization was unable to release that information. Inclusion of performance data would have presented the researcher with the opportunity to not only examine career progress, but also to assess which individual characteristics were related to *successful* job performance in a transitioning organization. Additionally, performance data would have allowed the researcher to address both main concerns presented by Klimoski and Strickland (1977) as discussed earlier in this chapter.

In addition to seeking performance data, the author briefly entertained the notion of collecting information not only from employees that remained with the organization, but also from those employees that left the organization over the six-year period. This last limitation presents itself as both a limitation of the findings in the present study, but also as a rich area for future research. The inability to track the progress of individuals

that left this organization limits the overall interpretability of these findings. It would be specifically interesting to conduct some type of follow-up interview or survey with all individuals that participated in the comprehensive assessment but later left the organization. Investigating the type of work and pay level that departed employees were experiencing could provide an additional element of interest when examining talent loss. Additionally, examining the differences in career success for employees that departed voluntarily versus involuntarily would be a potentially rich research area.

In summary, pursuing a field study, while leading to optimal realism, often opens the door for several other problems. Most of these problems were anticipated at the onset of the study and were calculated risks. However, the problems encountered with the career progress criterion variables were unexpected and may have contributed to the somewhat disappointing findings. Nonetheless, even with some fairly restrictive conditions, this study has made contributions to the existing literature.

Future Research Possibilities

This study presented several challenges which will be very fruitful areas for future research. While some of these difficulties were due to the nature of the archival data, other problems emerged and festered due to the limited direction provided by the existing literature. Specifically, two difficulties that were faced had to do with the nature of the criterion data and the appropriate analytic approach for dealing with multiple years of career progress data. Both of these problems will be discussed below so as to provide ample information for future researchers.

Career Progress Criterion

Remarkably, there is no universally accepted definition of career progress. Typically, career progress is measured by both financial indicators and organizational hierarchical advancements; however, specific variables related to these conditions seem to vary greatly across organization and study. This comment is not meant as a critique of the way organizations operationalize career advancement, but rather a call for some common operationalization in academic literature.

As discussed in the literature review, most typically, measures of salary change and position change are used to represent career progress (Hilton & Dill, 1962; Moses, 1972). However, change in base salary or change in position may not accurately represent career progress. Financial rewards or incentives have become a surrogate for advancement as organizations have continued to flatten their organizational structure, but these variables are not fully recognized or utilized as indices of career progress. An attempt was made to use monetary bonuses received, along with the number of pay increases received in the reward variable; however, this variable resulted in only spurious correlations with a few of the predictors. In this study an attempt was also made to create an overall composite variable indicating career progress. Similar to the reward variable, the results involving the OCP variable were dismal. Future researchers should not interpret these findings as dead ends, but rather, they should look for new and creative ways to include monetary bonuses or other perks related to career success in their research projects.

However, future researches need to balance their attempts to quantify career progress with their desire to reveal meaningful relationships. As would be expected, in the current study, if we had more precisely determined what our career progress criterion

were, the findings of this study would be appreciably different. For example, had we only utilized final salary and final job grade as criterion variables, the overall multivariate test of significance would have been significant for ability to cope with change (i.e., hypothesis 9) in the refined sample. In the full sample, the overall multivariate test of significance would have been significant for the coaching/team building dimension used to test hypothesis 3, the value orientation considered in hypothesis 8, and the ability to cope with change. Thus, providing support for hypothesis 3, hypothesis 9 and partial support for hypothesis 8.

In summary, career progress is a complex and dynamic criteria and only measuring one or two of its aspects (i.e., salary or position level) could result in the loss of meaningful data. As compensation systems continue to evolve, this picture will become even more complex necessitating that researchers adopt creative approaches that go beyond measures of base salary change to fully capture career progress.

Multiple Years of Data

An additional challenge of this study was the question of how to deal adequately with multiple years of career data. In this study, a decision was made to examine the starting and ending salary and job grade levels in combination with tally counts of specific career progress indices (i.e., promotions, demotions and rewards received over the six year period). However, this decision was not made lightly. An alternative way to examine the data would have been to track career progress variables annually. For example, a variable that represented the percent change in pay for each year could have been computed. Then, a time series or repeated measures design could have been used to analyze the data. Both approaches for dealing with this multi-year data set have merit

and potential to provide meaningful information to the existing literature; however, they are examining two subtly different research questions.

The approach taken in the present study was to examine whether or not certain individual characteristics, as determined by an assessment center or personality instrument, were related to the career progress achieved over an extended period of time, in this case six years. Examining the career progress achieved each year for multiple years would have tested a different question. Specifically, this type of analysis would have allowed us to determine if particular characteristics are differentially related to career progress early in the organizational transition as compared to later in the transition. It does seem likely that some individual characteristics would be more related to success early in the transition as compared to success later in the transition. For example, flexibility may be an essential characteristic in the early phases of the transition. Whereas, willingness to challenge the system or take independent action may be a more important characteristic as the transition continues. Results from such a study could help to contribute to the meager career development literature that currently examines career development models in changing organizations (cf. Feldman, 1996; London, 1987).

Both of these research questions have value, however, the approach taken in the present study seems to be the preliminary step en route to the more sophisticated analysis. Having demonstrated that some individual difference variables are related to career progress, it seems like a valuable extension of the present study would be to examine the data on an annual basis. Future studies, with multiple years of data, should consider pursuing a more longitudinal research design.

Additional Research Suggestions

Another area that would be interesting to pursue would be a similar study, however, instead of focusing solely on psychological variables related to success, consider the bigger picture. The results from the present study suggest that a few variables, like problem solving skills, seem to be related to individual career success; however, this study does not address whether individuals with good problem solving skills generate a better financial impact for the company. As such, a multi-discipline research project, which focuses on both the personnel and financial impact of the downsizing could go a long way to further this line of research. Obviously such a research endeavor would not be easy to pursue; along with the challenge of getting specialists from different disciplines (e.g., management, psychology, economics and finance) to work together, an enormous amount of corporate information would have to be gathered and examined. Nevertheless, this integrated research would be exceptionally valuable to organizational decision makers as they plan for future transitions.

Finally, as noted under the limitations section, it would be very valuable to track the career progress of individuals that have left the organization. Measuring whether or not these individuals went on to be successful with other organizations would more clearly allow for the quantification of talent loss. Taken together, a more comprehensive definition of career progress with a true longitudinal analysis of career progress would allow researchers and organizations alike to rapidly improve the process of organizational transitions, at least from a personnel perspective. If small steps could be taken toward the integration of financial analysis in tandem with the appropriate personnel changes, the impact for the organization would be even greater.

Conclusion

The findings of the present study suggest that in this particular organization, key employee resources were not lost at a significantly greater rate than other employees during this transition. Furthermore, individuals that are skilled at solving problems and initiating action have achieved greater career advancement in this particular organization. Taken together, these findings provide a starting point for understanding how organizational transitions impact a critical organizational resource: employees.

Throughout this paper, we have referred to organizational change efforts generically as organizational transitions. The most prevalent change effort in American business today being downsizing. Downsizing was defined as,

a set of activities, undertaken on the part of management of an organization designed to improve organizational efficiency, productivity and/or competitiveness. It represents a strategy implemented by management that affects (a) the size of the firm's workforce, (b) the costs, and (c) the work processes (p. 192, Cameron, 1994).

This paper specifically focused on the size and quality of the firm's workforce; however, this is only one-third of the equation identified by Cameron. Undoubtedly, these three components (workforce size, costs, and work processes) are all interrelated. For example, retaining specific talent by using specific methods to identify employees to retain during transitions will have implications for the work process used thereafter and those decisions will ultimately impact organizational costs. So, while this paper has focused on the transitioning organization from a human resources perspective, considerations from alternative vantage points are equally important. Finally, in 1986

Byham and Thornton summarized the contribution of assessment center methodology by stating, "while criticisms have been raised about other aspects of assessment centers, even the critics agree that the process accurately identifies persons who, if promoted, are most likely to experience success as managers" (p. 161). Indeed, the present study has definitively demonstrated that assessment center ratings and skill evaluations can isolate individuals that subsequently succeed on the job, even in a transitioning organization.

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APPENDICES

A. DELINEATION OF A PRIORI GROUPS FOR TESTING
HYPOTHESIS 2, 8 AND 9

Hypothesis 2 Groups:

| <u>Group</u> | <u>Characteristics</u> |
|--------------|---|
| 1 | High judgment & high decisiveness |
| 2 | High judgment & moderate decisiveness Moderate judgment & high decisiveness Moderate judgment & moderate decisiveness |
| 3 | Low decisiveness & high, moderate and low judgment |
| 4 | Low judgment & high and moderate decisiveness |

Note. High, moderate and low levels of judgement and decisiveness were determined by tricotomizing the 11-point rating scale. High = 3,7 and above. Moderate = 3 and 3.5. Low = 2.7 and below

Hypothesis 8 Groups:

| <u>Group</u> | <u>Characteristics</u> |
|--------------|--|
| 1 | Moderate value orientation and high people orientation |
| 2 | High value orientation and high people orientation |
| 3 | Moderate value orientation and low people orientation |
| 4 | High value orientation and low people orientation |

Note. Score above 60 were considered indicative of high people and values orientations. Moderate value orientation included individuals with scores ranging from 40 to 60. No individuals in this study scored below 40 on the value orientation.

Hypothesis 9 Groups:

| <u>Group</u> | <u>Characteristics</u> |
|--------------|--|
| 1 | Above average flexibility and moderate good impression |
| 2 | Above average flexibility and either high or low good impression |
| 3 | Below average flexibility paired with any level of good impression |

Note. Flexibility was split at the mean of 50. Good impression: high = greater than or equal to 65; moderate = between 45 and 65; low = less than or equal to 45.

B. SUMMARY OF ASSESSMENT CENTER DIMENSIONS

DIMENSIONS:

Oral Communication

Oral communication refers to effective expression of thoughts in individual or group situations. It includes delivery (e.g., volume, inflection, eye contact), clarity of ideas, and speaking with enthusiasm and confidence).

Written Communication

Written communication refers to the ability to clearly express ideas in writing, use good grammatical form, and use correct mechanics (e.g., proper spelling, punctuation, and sentence structure).

Analysis

Analysis refers to the ability to identify problems, secure relevant information, relate data from different sources, and identify causes of problems.

Judgment

Judgment refers to the ability to develop alternative courses of action and make decisions based on logical assumptions that reflect factual information. Judgment also includes providing rationale for decisions and recommendations.

Planning & Organizing

This dimension refers to the ability to establish a course of action to accomplish a specific goal. It includes factors such as setting priorities and making appropriate allocation of time and resources.

Decisiveness

Decisiveness is the willingness to make decisions, render judgments, take action, or commit one's self. It also includes firmly stating one's opinion on an issue.

Delegation

Delegation refers to utilizing subordinates effectively. It implies direction, accountability, and control. Good delegation is clear and is directed to the best-suited individual; it includes deadlines and sets limits on authority.

Initiative

Initiative refers to the extent to which an individual is a self-starter and actively attempts to influence events to achieve goals. High initiative individuals take actions beyond those called for to achieve goals.

Confrontation

This dimension is defined as the ability and willingness to disagree or express opposing viewpoints in a tactful style. It also includes the willingness to assert and defend one's position even when challenged.

Sensitivity

Sensitivity is demonstrated with actions that indicate a consideration for the feelings and needs of others. A highly sensitive individual is not brash, rude, or threatening, asks for the opinions of others, and gives encouragement.

Leadership

Leadership refers to utilizing appropriate interpersonal styles and methods in guiding individuals (subordinates, peers, or superiors) or groups toward task accomplishment.

Coaching and Team Building

Coaching and Team Building refers to the ability to provide instruction, encouragement, and guidance to peers and subordinates, and to develop cohesive, effective, and efficient work groups. It is critical for developing others, improving their competence, and working in teams.

Stress Tolerance

Stress tolerance refers to the ability to perform well under pressure and/or opposition.

Flexibility

Flexibility refers to the ability to adapt or modify behavior based upon situations, and to alter one's style so as to deal effectively with the personal styles and preferences of others.

C. SUMMARY OF ASSESSMENT CENTER EXERCISES

EXERCISES:

In-Basket

This exercise is a partial simulation of administrative tasks associated with managerial and supervisory jobs. It calls for rapid perusal and disposal of a large number of items. The scenario, that of a manager suddenly confronted with a pile of paperwork left by his or her predecessor in the in-basket, is largely an artificial constraint to force all interaction to take place in short memo form. Assessing priorities, making decisions on limited information, using resources of other members within the organization, and being able to write succinctly and clearly are parts of the successful solution of this exercise.

Simulation Role Plays

This exercise simulates two types of interpersonal situations that might be expected in a managerial position. Two role players, each with a defined script, serve as subordinates of the applicant. Successful resolution of each task depends on being able to correctly assess the nature of the problem from both the materials provided and information provided by the subordinate, addressing the problem in an appropriate manner, and effectively counseling the subordinate as necessary. Good interpersonal skills are required to perform well in this exercise.

Simulation Letter

The written component of the Simulation provides an opportunity to evaluate the applicant's ability to synthesize information (both written and oral) presented throughout the exercise. Successful completion of this portion of the exercise requires that the applicant correctly analyze the performance characteristics of various subordinates relative to the demands of the company, and to provide appropriate training recommendations to increase the subordinates' likelihood of success as company employees.

Case Analysis

This exercise required the applicant to read a summary of a consultant's visit to a production facility, suggest the nature of the problems facing the company, and propose recommendations as to how to improve the situation. The purpose of this exercise was not to evaluate the applicant's report-writing skills. A well written, polished report would have required much more time and attention. The first draft, however, allows an assessment of the applicant's ability to recognize problems and develop possible solutions.

Leaderless Group Discussion

This task requires the applicant to participate on a school board committee allocating a substantial sum of money to various needs of a school system. This exercise contains two major parts. First, the applicant is required to individually assess the situation and decide how the funds should be allocated among a number of proposals. Next, the "school board committee," which consists of four applicants, must arrive at a consensus decision on how funds should be distributed. This problem was designed to be relatively independent of the particular expertise of any applicant. Successful completion of this exercise requires that the applicant be able to communicate in a group setting, orally support his or her ideas, and be able to exert leadership and influence others.

D. AN EXERCISE BY DIMENSION MATRIX

| | Assessment Center Exercises¹ | | | | | |
|-------------------|--|-------|-------|------------|----------|-----|
| | In-Basket | Sim 1 | Sim 2 | Sim Letter | Analysis | LGD |
| Dimensions | | | | | | |
| Oral Comm. | | x | x | | | x |
| Written Comm. | x | | | x | x | |
| Analysis | x | x | x | x | x | x |
| Judgment | x | x | x | x | x | x |
| Plan & Org. | x | | | x | x | |
| Decisiveness | x | x | x | x | x | x |
| Delegation | | | x | | | |
| Initiative | | x | | | | |
| Confrontation | | | x | | | |
| Sensitivity | | x | x | | | x |
| Leadership | | x | x | | | x |
| Coaching & TB | | x | x | | | |
| Stress | | x | x | | | x |
| Flexibility | | | | | | |

Note: ¹The exercise names are abbreviated as follows:

Sim 1 – Simulation exercise, male role player

Sim 2 – Simulation exercise, female role player

Sim Letter – the letter prepared after meeting with both role players

Analysis – Case analysis exercise

LGD – Leaderless group discussion

E. COMPETING VALUES FRAMEWORK -
DEFINITIONS OF MANAGERIAL ROLES

Definitions of Managerial Roles - CVF

| <u>Role</u> | <u>Explanation¹</u> |
|--------------------------|--|
| Producer ² | Task and work focused with high energy and motivation; self-motivated and motivates others; pursues productivity. |
| Director ² | Decisive, provides direction for others with goal setting and clarifying expectations, pursues goal clarity |
| Coordinator ² | Maintains work flow with analyzing task requirements and organizing staff efforts; pursues goal clarity |
| Monitor ² | Concerned for facts, details, reports, paperwork, rules and regulations; pursues documentation and information management |
| Mentor ³ | Sensitive to the needs of employees and helps employees plan their growth and development; pursues morale and commitment |
| Facilitator ³ | Builds cohesion and teamwork among employees with group problem solving and conflict management; pursues participation and openness |
| Innovator ³ | Creative, deals with risk and uncertainty, envisions needed changes and helps others to adapt to change; pursues innovation and adaptation |
| Broker ³ | Politically astute, represents the work unit, meets with people outside the work unit; pursues external support and resource acquisition |

¹ Explanations taken verbatim from DiPadova & Faerman (1993)

² These roles are considered transaction roles (Belasen et al., 1996)

³ These roles are considered transformation roles (Belasen et al., 1996)

F. DEFINITIONS OF 9 CPI FOLK SCALES INCLUDED IN HYPOTHESES

CPI Folk Scale Definitions

| <u>Folk Scale</u> | <u>Description of Scale</u> ¹ |
|---------------------|--|
| Dominance | Used to assess factors of leadership ability, dominance, persistence, and social initiative. |
| Capacity for status | Identifies the personal qualities and attributes that underlie and lead to the attainment of status and symbols of success. |
| Social presence | Used to assess factors such as poise, spontaneity, and self-confidence in personal and social interactions. |
| Self-acceptance | Used to assess factors such as sense of personal worth, self-acceptance, and capacity for independent thinking and action. |
| Responsibility | Identifies individuals who are conscientious, responsible, and possess a dependable disposition and temperament. |
| Socialization | Indicates the degree of social maturity, integrity, and rectitude that an individual has attained. |
| Self control | Indicate the degree and adequacy of self-regulation, self-control, and freedom from impulsivity and self-centeredness. |
| Good impression | Identifies individuals who are concerned about how other react to them and who are capable of creating a favorable impression. |
| Flexibility | Indicates the degree of flexibility and adaptability of a person's thinking and social behavior. |

¹ Descriptions taken from "A Practical Guide to CPI Interpretation" by L. McAllister, 1997. Copyright 1997. Consulting Psychologists Press, Inc.

G. POWER ANALYSIS

Determination of Power

Power was computed separately for the correlational analyses and the multivariate analyses. The alpha level of .05 was used for all hypothesis tests. Both power determinations are reported below.

Power for Correlational Analyses (Hypotheses 3 through 7) One-tail test

| | <u>Effect Size</u> | |
|--------------------------|--------------------|--------------|
| | Small (.10) | Medium (.30) |
| Full sample (N = 219) | .44 | 1.0 |
| Refined sample (N = 173) | .37 | .99 |

Power for Hypothesis 2, 8 and 9

Cohen & Cohen (1983) suggest using the following equation (p. 163):

$$L^* = f^2(n-k-1) \quad \text{where: } f^2 = R^2/1-R^2$$

Making the appropriate calculations, referring to the L* table look up (see table E.2 in Cohen & Cohen, 1983) and then using interpolation the Power for finding a significant relationship is reported below.

| | <u>Effect Size</u> | |
|--------------------------|--------------------|--------------|
| | Small (.10) | Medium (.30) |
| Full sample (N = 219) | .24 | .99 |
| Refined sample (N = 173) | .20 | .96 |

H. SEQUENTIAL REGRESSION RESULTS FOR FINAL SALARY

Sequential regression for predictors examined with research question 3 - final salary while controlling for initial salary

| Variables | R^2 | p | ΔR^2 | Δp | Full Model β |
|------------------------|-------|--------|--------------|------------|-----------------------|
| Full Sample | | | | | |
| Step 1: Initial Salary | .745 | < .000 | | | .792 |
| Step 2: OAR | .776 | < .000 | .031 | .000 | .191 |
| Step 1: Initial Salary | .742 | < .000 | | | .861 |
| Step 2: Oral Comm | .742 | < .000 | .000 | .000 | .001 |
| Step 1: Initial Salary | .742 | < .000 | | | .848 |
| Step 2: Written Comm | .754 | < .000 | .012 | .012 | .111 |
| Step 1: Initial Salary | .745 | < .000 | | | .851 |
| Step 2: Analysis | .755 | < .000 | .010 | .033 | .101 |
| Step 1: Initial Salary | .714 | < .000 | | | .809 |
| Step 2: Judgment | .735 | < .000 | .021 | .005 | .148 |
| Step 1: Initial Salary | .743 | < .000 | | | .832 |
| Step 2: Plan & Org. | .752 | < .000 | .009 | .034 | .100 |
| Step 1: Initial Salary | .765 | < .000 | | | .861 |
| Step 2: Decisiveness | .772 | < .000 | .006 | .088 | .081 |
| Step 1: Initial Salary | .739 | < .000 | | | .824 |
| Step 2: Delegation | .754 | < .000 | .014 | .010 | .124 |
| Step 1: Initial Salary | .755 | < .000 | | | .861 |
| Step 2: Initiative | .756 | < .000 | .001 | .520 | .031 |
| Step 1: Initial Salary | .748 | < .000 | | | .879 |
| Step 2: Leadership | .750 | < .000 | .002 | .438 | -.042 |
| Step 1: Initial Salary | .777 | < .000 | | | .874 |
| Step 2: Coach & TB | .779 | < .000 | .002 | .812 | .043 |
| Step 1: Initial Salary | .815 | < .000 | | | .863 |
| Step 2: Flexibility | .821 | < .000 | .006 | .412 | .087 |
| Step 1: Initial Salary | .746 | < .000 | | | .858 |
| Step 2: CTA | .748 | < .000 | .001 | .451 | .034 |

Note. β is the standardized beta weight

Sequential regression for predictors examined with research question 3 - final salary while controlling for initial salary (continued)

| Variables | R^2 | p | ΔR^2 | Δp | Full Model β |
|----------------------------|-------|--------|--------------|------------|-----------------------|
| Full Sample (cont.) | | | | | |
| Step 1: Initial Salary | .743 | < .000 | | | .857 |
| Step 2: MPR | .743 | < .000 | .000 | .839 | .010 |
| Step 1: Initial Salary | .743 | < .000 | | | .852 |
| Step 2: MPR bkg. | .743 | < .000 | .000 | .650 | .023 |
| Step 1: Initial Salary | .743 | < .000 | | | .868 |
| Step 2: MPR judg | .743 | < .000 | .000 | .673 | -.020 |
| Step 1: Initial Salary | .721 | < .000 | | | .845 |
| Step 2: In-Basket - P&O | .721 | < .000 | .000 | .733 | .017 |
| Step 1: Initial Salary | .737 | < .000 | | | .848 |
| Step 2: CPI - v2 | .740 | < .000 | .004 | .234 | .061 |
| Refined Sample | | | | | |
| Step 1: Initial Salary | .770 | < .000 | | | .859 |
| Step 2: OAR | .782 | < .000 | .012 | .023 | .111 |
| Step 1: Initial Salary | .769 | < .000 | | | .835 |
| Step 2: Delegation | .782 | < .000 | .013 | .021 | .122 |
| Step 1: Initial Salary | .766 | < .000 | | | .858 |
| Step 2: MPR | .768 | < .000 | .001 | .442 | .041 |
| Step 1: Initial Salary | .766 | < .000 | | | .861 |
| Step 2: MPR bkg. | .767 | < .000 | .001 | .477 | .038 |
| Step 1: Initial Salary | .766 | < .000 | | | .871 |
| Step 2: MPR judg. | .766 | < .000 | .000 | .762 | .015 |
| Step 1: Initial Salary | .823 | < .000 | | | .888 |
| Step 2: In-Basket- Team | .840 | < .000 | .017 | .017 | .131 |

Note. β is the standardized beta weight

I. SEQUENTIAL REGRESSION RESULTS FOR FINAL JOB GRADE

Sequential regression for predictors examined with research question 3 – final job grade while controlling for initial job grade

| Variables | R^2 | p | ΔR^2 | Δp | Full Model β |
|----------------------------|-------|--------|--------------|------------|-----------------------|
| Full Sample (cont.) | | | | | |
| Step 1: Initial Job Grade | .609 | < .000 | | | .741 |
| Step 2: OAR | .613 | < .000 | .005 | .221 | .078 |
| Step 1: Initial Job Grade | .611 | < .000 | | | .777 |
| Step 2: Written Comm | .612 | < .000 | .001 | .658 | .025 |
| Step 1: Initial Job Grade | .598 | < .000 | | | .771 |
| Step 2: Analysis | .599 | < .000 | .000 | .827 | .013 |
| Step 1: Initial Job Grade | .581 | < .000 | | | .738 |
| Step 2: Judgment | .585 | < .000 | .005 | .268 | .074 |
| Step 1: Initial Job Grade | .597 | < .000 | | | .756 |
| Step 2: Plan & Org. | .601 | < .000 | .003 | .318 | .060 |
| Step 1: Initial Job Grade | .590 | < .000 | | | .740 |
| Step 2: Decisiveness | .599 | < .000 | .009 | .120 | .101 |
| Step 1: Initial Job Grade | .596 | < .000 | | | .735 |
| Step 2: Delegation | .609 | < .000 | .014 | .044 | .123 |
| Step 1: Initial Job Grade | .630 | < .000 | | | .786 |
| Step 2: Initiative | .631 | < .000 | .001 | .571 | .003 |
| Step 1: Initial Job Grade | .561 | < .000 | | | .771 |
| Step 2: Leadership | .563 | < .000 | .003 | .433 | -.057 |
| Step 1: Initial Job Grade | .608 | < .000 | | | .764 |
| Step 2: Coach & TB | .615 | < .000 | .007 | .191 | .084 |
| Step 1: Initial Job Grade | .611 | < .000 | | | .782 |
| Step 2: Stress Tolerance | .611 | < .000 | .000 | .993 | .000 |
| Step 1: Initial Job Grade | .610 | < .000 | | | .770 |
| Step 2: CTA | .616 | < .000 | .006 | .147 | .081 |
| Step 1: Initial Job Grade | .609 | < .000 | | | .779 |
| Step 2: MPR | .611 | < .000 | .001 | .529 | .036 |
| Step 1: Initial Job Grade | .609 | < .000 | | | .776 |
| Step 2: MPR bkg. | .611 | < .000 | .002 | .419 | .047 |

Note. β is the standardized beta weight

Sequential regression for predictors examined with research question 3 – final job grade while controlling for initial job grade (continued)

| Variables | R^2 | p | ΔR^2 | Δp | Full Model β |
|---------------------------|-------|--------|--------------|------------|-----------------------|
| Refined Sample | | | | | |
| Step 1: Initial Job Grade | .502 | < .000 | | | .702 |
| Step 2: OAR | .503 | < .000 | .001 | .722 | .027 |
| Step 1: Initial Job Grade | .496 | < .000 | | | .655 |
| Step 2: Delegation | .514 | < .000 | .018 | .071 | .143 |
| Step 1: Initial Job Grade | .502 | < .000 | | | .699 |
| Step 2: MPR | .503 | < .000 | .001 | .605 | .038 |
| Step 1: Initial Job Grade | .502 | < .000 | | | .699 |
| Step 2: MPR bkg. | .503 | < .000 | .001 | .612 | .037 |

Note. β is the standardized beta weight

J. TABULAR RESULTS FOR
FULL SAMPLE ANALYSES

Table 9. Comparing means for hypothesis 2 four a priori groups of judgment and decisiveness for final salary and final job grade

| | GROUP MEANS | | | |
|-----------------|-----------------------|------------------------|-------------------------|------------------------|
| | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> |
| Final Salary | 87880.63 _a | 79517.15 _{bc} | 75983.71 _{bcd} | 70040.73 _{bd} |
| Final Job Grade | 9.95 _a | 8.91 _{ab} | 8.04 _{bc} | 7.41 _c |

Note. Means in the same row that do not share subscripts differ at $p < .05$ using Duncan's new multiple range test. Sample sizes: group 1 = 19; group 2 = 81; group 3 = 81; group 4 = 37.

Table 10. Multivariate hypothesis tests and univariate correlations with career progress criteria

| | Multivariate Tests | | Correlations with career progress criteria | | | | | | | | | |
|--------------------------|--------------------|------|--|------------------|------------------------------|------------------|---------|---------|---------|---------------------|------------------------------|--|
| | λ | p ≤ | n | OCP ^a | Ave. % Salary Δ ^a | Ave. Job Grade Δ | Promote | Demote | Rewards | Final Salary | Final Job Grade ^a | |
| | | | | | | | | | | | | |
| H2: Judgment | .798 | .001 | 177 | .192* | .190* | .142 | .097 | .027 | .019 | .400** | .375** | |
| H2: Decisiveness | .912 | .045 | 179 | .126 | .130 | .105 | .121 | -.001 | .028 | .242** | .265** | |
| H3: Coaching & TB | .933 | .210 | 164 | .097 | .089 | .080 | .030 | -.011 | -.077 | .201** ^b | .228** ^b | |
| H4: Leadership | .853 | .001 | 169 | .018 | .010 | .002 | -.047 | -.109 | -.154** | .270** ^b | .285** ^b | |
| H5: Initiative | .882 | .003 | 195 | .059 | .005 | .094 | -.003 | -.201** | -.050 | .284** ^b | .261** ^b | |
| H6: Managerial Potential | .948 | .359 | 172 | .028 | .015 | .029 | -.100 | -.089 | -.131* | .147* ^b | .138* ^b | |
| H7: Self acceptance | .931 | .161 | 172 | .015 | .011 | .025 | .009 | -.222** | -.083 | .101 | .102 | |
| H8: People Orientation | .922 | .101 | 172 | .093 | .080 | .092 | .052 | -.236** | -.060 | .097 | .115 | |
| H8: Value Orientation | .918 | .077 | 172 | -.048 | -.023 | -.082 | .094 | .011 | -.141 | .185* ^b | .171* ^b | |
| H9: Good Impression | .971 | .764 | 172 | .127 | .130 | .090 | .013 | -.035 | -.067 | .016 | .045 | |
| H9: Flexibility | .932 | .167 | 172 | .020 | -.003 | .051 | -.102 | -.088 | -.175* | -.028 | .073 | |

^a One individual did not have a job grade reported and was excluded for analyses involving job grade.

^b These results are no longer significant when controlling for the salary and grade level at the beginning of the data collection period (See Table 11).

* p < .05 ** p < .01

Table 11. Sequential regression of significant predictors

| Variables | R^2 | $p \leq$ | ΔR^2 | $\Delta p \leq$ | Full Model |
|---------------------------|-------|----------|--------------|-----------------|------------|
| | | | | | β |
| Controlling for Salary | | | | | |
| Step 1: Initial Salary | .697 | .001 | | | .786 |
| Step 2: Judgment | .723 | .001 | .026 | .001 | .168 |
| | | | | | |
| Step 1: Initial Salary | .727 | .001 | | | .835 |
| Step 2: Decisiveness | .737 | .001 | .010 | .009 | .104 |
| | | | | | |
| Step 1: Initial Salary | .734 | .001 | | | .848 |
| Step 2: Coach & TB | .736 | .001 | .002 | .252 | .047 |
| | | | | | |
| Step 1: Initial Salary | .730 | .001 | | | .850 |
| Step 2: Leadership | .730 | .001 | .000 | .754 | .013 |
| | | | | | |
| Step 1: Initial Salary | .736 | .001 | | | .844 |
| Step 2: Initiative | .739 | .001 | .002 | .201 | .049 |
| | | | | | |
| Step 1: Initial Salary | .712 | .001 | | | .846 |
| Step 2: Mgr. Potential | .712 | .001 | .000 | .777 | -.012 |
| | | | | | |
| Step 1: Initial Salary | .712 | .001 | | | .853 |
| Step 2: Value Orientation | .713 | .001 | .001 | .416 | -.035 |
| | | | | | |
| Controlling for Job Grade | | | | | |
| Step 1: Initial Job Grade | .601 | .001 | | | .731 |
| Step 2: Judgment | .618 | .001 | .017 | .006 | .139 |
| | | | | | |
| Step 1: Initial Job Grade | .624 | .001 | | | .767 |
| Step 2: Decisiveness | .637 | .001 | .013 | .014 | .115 |
| | | | | | |
| Step 1: Initial Job Grade | .611 | .001 | | | .766 |
| Step 2: Coach & TB | .618 | .001 | .007 | .087 | .086 |
| | | | | | |
| Step 1: Initial Job Grade | .604 | .001 | | | .769 |
| Step 2: Leadership | .604 | .001 | .000 | .673 | .022 |
| | | | | | |
| Step 1: Initial Job Grade | .664 | .001 | | | .797 |
| Step 2: Initiative | .670 | .001 | .006 | .060 | .081 |

Note. β refers to the standardized beta weight

Table 11. Sequential regression of significant predictors (continued)

| Variables | R^2 | $p \leq$ | ΔR^2 | $\Delta p \leq$ | Full Model β |
|--|-------|----------|--------------|-----------------|-----------------------|
| Controlling for Job Grade | | | | | |
| Step 1: Initial Job Grade | .639 | .001 | | | .796 |
| Step 2: Mgr. Potential | .639 | .001 | .000 | .652 | .021 |
| Controlling for Job Grade and Mgr. Potential | | | | | |
| Step 1: Initial Job Grade | .799 | .001 | | | .809 |
| Step 2: Value Orientation | .800 | .001 | .001 | .411 | -.040 |

Note. β refers to the standardized beta weight

K. TABULAR RESULTS FOR
REFINED SAMPLE ANALYSES

Table 13. Criterion validity of all predictors used in the comprehensive assessment for all remaining employees

| PREDICTORS | CRITERIA | | | | | | |
|-------------------------|------------------|--------------------|----------------------------------|------------|-----------|---------|------------------------------------|
| | OCP ^a | Ave. % Salary Δ | Ave. Job Grade Δ ^a | Promotions | Demotions | Rewards | Final Salary Grade ^a |
| OAR (n=100) | .034 | .120 | -.070 | .005 | .071 | -.076 | .256* |
| AC dimensions | | | | | | | |
| 1. Oral comm. (102) | -.176 | -.138 | -.195 | -.191 | -.066 | -.229* | -.027 |
| 2. Written comm.(103) | -.009 | .063 | -.090 | .015 | .051 | .029 | .085 |
| 3. Analysis (91) | .127 | .206 | .009 | .160 | .007 | .019 | .070 |
| 4. Judgment (80) | .084 | .138 | .009 | .078 | .099 | .026 | .150 |
| 5. Plan. & Org.(97) | -.038 | -.033 | -.040 | .128 | .025 | -.073 | .122 |
| 6. Decisiveness (84) | .067 | .102 | .038 | .180 | .041 | .064 | .187 |
| 7. Delegation (94) | .055 | .040 | .053 | .152 | .081 | -.013 | .405** ^b |
| 8. Initiative (88) | -.113 | -.128 | -.074 | -.050 | -.072 | -.105 | .197 |
| 9. Confrontation (93) | .087 | .052 | .118 | .030 | .066 | .015 | -.089 |
| 10. Sensitivity (100) | .024 | .082 | -.066 | -.019 | .105 | -.068 | .069 |
| 11. Leadership (79) | -.213 | -.238 | -.153 | -.078 | -.070 | -.301** | .114 |
| 12. Coach. & TB(74) | -.001 | -.046 | .048 | .082 | .049 | -.041 | .069 |
| 13. Stress Tol. (103) | -.017 | .010 | -.046 | .050 | .013 | -.052 | .016 |
| 14. Flexibility (21) | -.046 | -.156 | .005 | -.189 | -.381 | -.286 | .252 |
| CTA (100) | .145 | .093 | .176 | -.061 | .007 | -.128 | .159 |
| Video Simulation (96) | -.087 | -.088 | -.063 | -.140 | -.073 | -.209* | .186 |
| Reasoning by Inference | | | | | | | |
| AM (95) | .154 | .076 | .202 | .050 | .045 | .023 | .072 |
| FF (95) | .098 | .083 | .096 | -.010 | -.298** | .020 | -.102 |
| (AM-FF) (95) | .078 | .023 | .116 | .004 | .166 | .009 | .103 |
| Managerial Profile Rec. | | | | | | | |
| MPR – overall (102) | -.119 | -.178 | -.034 | -.135 | -.129 | -.156 | .397** ^b |
| MPR – bkg (102) | -.109 | -.167 | -.030 | -.114 | -.142 | -.173 | .373** ^b |
| MPR – judg (102) | -.115 | -.142 | -.067 | -.068 | -.044 | -.040 | .255** ^b |

Table 12. Criterion validity of all predictors used in the comprehensive assessment for all remaining employees (continued)

| PREDICTORS | CRITERIA | | | | | | | |
|--------------------------|------------------|--------------------|----------------------------------|------------|-----------|---------|--------------|---------------------------------|
| | OCP ^a | Ave. % Salary Δ | Ave. Job Grade Δ ^a | Promotions | Demotions | Rewards | Final Salary | Final Job Grade ^a |
| Strategic In-Basket dim. | | | | | | | | |
| 1. Analysis (92) | .028 | .081 | -.025 | -.038 | -.049 | -.047 | .056 | .008 |
| 2. Judgment (92) | .108 | .152 | .041 | .061 | -.008 | .124 | .029 | .029 |
| 3. Initiative (92) | -.015 | .014 | -.044 | .045 | .040 | .091 | -.034 | -.070 |
| 4. Team Bldg (60) | .175 | .109 | .207 | .058 | -.015 | .041 | .262* | .222 |
| 5. Plan. & Org.(92) | -.019 | -.064 | .041 | .094 | -.130 | .043 | .200 | .182 |
| Summary (88) | -.060 | -.005 | -.101 | -.039 | -.102 | .045 | .051 | -.002 |
| CPI | | | | | | | | |
| V1 (86) | .016 | .034 | -.015 | .006 | .186 | .158 | -.061 | -.015 |
| V2 (86) | -.033 | -.030 | -.029 | .211 | .083 | .158 | .120 | .078 |
| V3 (86) | .046 | .050 | .036 | -.107 | -.148 | -.043 | .052 | -.038 |

Note. The n-size is reported parenthetically in the Predictor column.

^a One individual did not have a job grade reported and was excluded for analyses involving job grade.

^b These results are no longer significant when controlling for the salary and grade level at the beginning of the data collection period. See Appendix H and I for the full results of the sequential regression.

* $p < .05$ ** $p < .01$

VITA

Laura Ann Gniatczyk was born in Detroit, Michigan on January 9, 1970. She attended school in the Utica Community School District, where she ultimately graduated from Adlai Stevenson High School in June 1988. She entered Adrian College, a private college in Adrian, Michigan and graduated with a Bachelor of Business Administration with double majors in Management and Psychology in May 1992. Laura continued her education at Illinois State University in Normal, Illinois. She received her Master of Science degree with an emphasis in Industrial/Organizational Psychology in August of 1995. Immediately after received her Master's degree in 1995, Laura entered the Doctoral program in I/O Psychology at The University of Tennessee, Knoxville. Laura officially received her Doctoral degree in May 2000.

While completing her graduate work, Laura has been involved in a variety of consulting projects in the areas of employee selection, assessment centers, training, and performance appraisal. She has worked with a variety of organizations including Mitsubishi Motor Manufacture of America, Columbia/HCA, Ruby Tuesday Inc., and the Applied Social Research Unit at Illinois State University.