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**Career Motivation and Career Change:  
A New Perspective**

**Maurice M. Grzeda**

**A Thesis  
in  
The Department  
of  
Management**

**Presented in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy at  
Concordia University  
Montréal, Québec, Canada**

**February 1993**

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## ABSTRACT

Career Motivation and Career Change:  
A New Perspective

Maurice M. Grzeda, Ph.D.  
Concordia University, 1993.

Traditional models of career change have proven effective in explaining why people embark upon career transitions. Career change is driven by a need to better balance one's psychological type and work environment, or by mid-life re-evaluation of values. Regardless, career change is simply a manifestation of related psychological or developmental processes.

More recently, massive economic restructuring has resulted in large numbers of managers and professionals unexpectedly confronting job elimination. Many have been forced into unanticipated career transitions unrelated to psychological or developmental factors. To adequately explain these transitions, a theory which accommodates environmentally-induced career change is necessary.

The theory of career motivation provides a framework in which motivational and career development factors suggest that individuals can prepare to face the challenges of environmentally-induced career change. Career motivation theory represents a proactive approach which complements the contributions made by traditional theories of career change.

A sample of former managers and professionals, most of whom were in the process of finding new work, were surveyed to determine levels of career motivation, degrees of participation in career development, and the degree of actual or intended



career change. A principal components factor analysis extracted various career motivation, career development, and career change factors which were used as input for a series of confirmatory factor analyses. The resulting retained measurement models formed the basis for validating and refining existing career motivation measures and for the structural equations used to test the hypotheses.

Career motivation theory and its major theoretical constructs were largely supported and the expected relationship between career resilience and career change was partially supported. Career motivation-career change relationships certainly warrant further investigation, and a refined measurement instrument is proposed. The career development results, although less promising, suggest a number of improvements which should be considered for future research linking this concept with career change.

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Connie, without your support and inspiration, this dissertation would never have materialized. To a true and faithful friend and partner, who willingly sacrificed more than she should have, I can say only that I consider myself blessed to have had you beside me throughout.

Ari and Elie, in completing this project, I faced many challenges, initially appearing difficult or insurmountable. In your own way you helped me maintain a focus on my objectives. As you grow, flourish and face your own challenges in the future, I hope what I have done will inspire you to consider even those opportunities in life that may at first seem but distant dreams.

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## CHAPTER 1: INTRODUCTION

Dans une vague de licenciements sans précédent depuis la fusion de la Banque provinciale du Canada et de la Banque Canadienne Nationale, la Banque Nationale du Canada vient de supprimer au delà de 250 postes de cadres, dont 200 à son siège social...

D'après les précisions obtenues ici et là, le corps d'emploi constitué des cadres intermédiaires aurait été le plus touché par cette politique. "Les chefs de division des divers services de support ont été particulièrement atteints"... (Truffaut, 1990, p. 1)

In adapting to unstable, turbulent environments by implementing cost reduction measures such as those described above at the Banque Nationale, organizations have contributed to a relatively new social process, the career transitions of displaced managers. Regardless of the root environmental causes, corporate re-organizations, mergers, and acquisitions have the potential to derail impressive numbers of upwardly mobile careers. In fact, unlike their predecessors who may have believed in the one-organization, one-career pattern, present and future generations of managers may have to reconcile themselves to new patterns entailing more than one career or occupation over a working life. Various elements of the organization's environment, including economic, demographic and technological trends have contributed to increases in the degree of environmental turbulence and are discussed fully in Chapter 2. The careers literature in general, and the career change literature in particular, has not yet begun to address the question of environmentally-caused career change. Anecdotal evidence has appeared but most investigations of career change are still rooted in traditional approaches which do not adequately account for environmental turbulence. This research orientation is described in detail in Chapter 2.

It is precisely because of the role played by the environment that contemporary explanations and current understanding of career change, both on the micro and macro levels, may require expansion beyond present boundaries. As its major objective, this research, having assessed the limited applicability of traditional career change theories under conditions of environmental turbulence, investigates career change by applying a theoretical approach which accommodates the impact of environmental turbulence.

This new approach addresses the question of career change from a career motivation perspective which leads to a second but equally important objective, determining whether organizations should rely on career development processes to better prepare employees for career change necessitated by environmental factors. Can organizations play a much more proactive role in helping laid-off managers prepare for and negotiate the unique challenges they face in their careers is a question indirectly addressed in this research.

Career theories which address the issue of career change have focused on person-environment fit (Holland, 1973) and life stages or adult development (Levinson, 1978; Super, 1984). Studies relying on these theories have typically viewed career change as a process equivalent to occupational choice, or a process related to the crisis experienced during adult stages such as mid-life. These theories fall short in not being able to accommodate conditions in the organizational environment. Holland (1973) focuses on psychological characteristics of individuals found in particular work environments while the life stage and adult development approaches emphasize roles and the inner states of the individual. A comprehensive

discussion of the strengths and weaknesses as well as the contributions and limitations of these approaches can be found in Chapter 2 and serves as the rationale for consideration of a new perspective.

By shifting the emphasis from inner states of the individual to career motivation and career development processes, this new perspective would permit an extension of career development theory to the phenomenon of environmentally-induced career change. To fit more effectively with the new perspective, the definition of career change adopted in the present research accommodates the environment. Chapter 2 describes traditional definitions of career change which have typically been a function of the type of sample available to the researcher. Career change as defined in the present research, refers to a change in one's career path brought about by turbulence in the organizational environment, and leading to a new job in another occupational or career area.

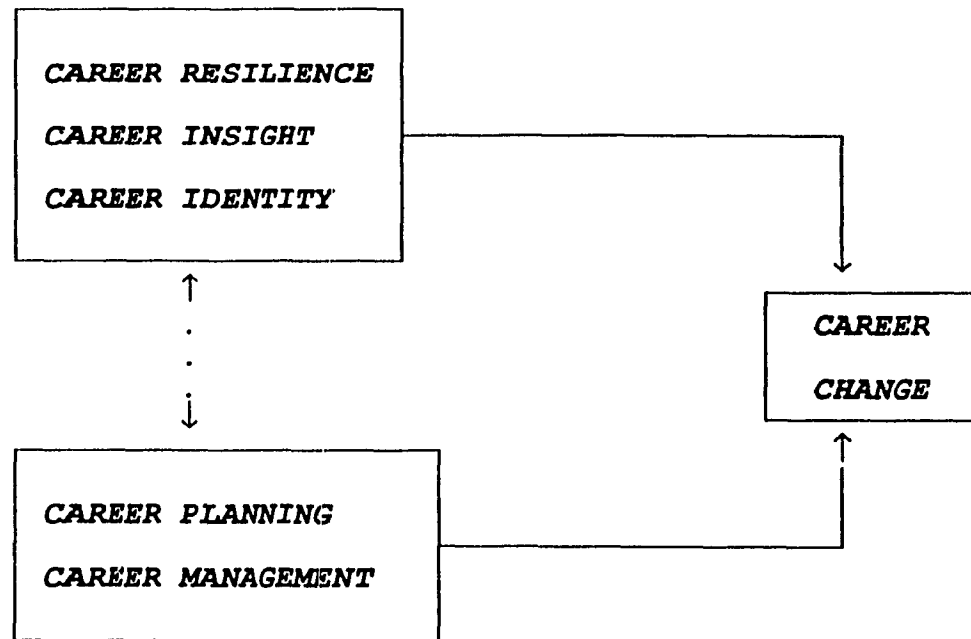
Examining career change as a career development phenomenon, i.e., as a decision related to career planning and career management experiences, may also contribute to what is currently known about mid-career issues, an area of increasing importance in the field which has received calls for further research (Hall, 1986b). Although the type of environmentally-induced change or interest in the present research can affect employees of any age and any career stage, the managers and professionals who are increasingly affected by environmental turbulence have typically already embarked on and in most cases, have established themselves in a particular career path. With respect to the present sample, and with other samples described in

the literature (see Chapter 2), environmentally-induced career change occurs at a mid-career stage of worklife.

In addition, career change may be considered an example of non-traditional career paths; consequently it may serve to contribute to this under-researched area as well (Hall, 1986a). Career change may include exit, downward or lateral movement, and as a result, it can be considered a particular, non-traditional career type.

Arguments in favour of a new perspective, i.e., environmental trends, the limitations of existing theories of career change, and calls in the literature, have not yet resulted in extensive new approaches to career change. One theoretical framework which seems applicable to career change and introduces a possible link between career change and career development is the theory of career motivation (London, 1983). The theory describes three career motivation dimensions, career resilience, career insight and career identity which the present research relates to various career decisions. These three dimensions may be affected by the individual's exposure to and involvement in various career development experiences. The present research will not attempt to test the relationship between the career development components, career planning and career management, and career motivation, but will look at the relationship between career change and each of these variables, as indicated in Figure 1-1.

Figure 1-1. A model of career change.



Whereas some past research (Noe, Noe, & Bachhuber, 1990) using the career motivation concept has described subjects as being either high or low in this attribute, the present research treats the three dimensions of career motivation independently. Consequently, career resilience, the ability to bounce back from career setbacks (London, 1983), is expected to be positively related to career change. Career insight, the degree to which an individual has realistic perceptions of the self and the organization (London, 1983) is not expected to be related to either career change or continuation in the same career. However, two characteristics theoretically linked to career insight, instrumental goal flexibility and the need for change (London, 1983) are expected to be positively related to career change. Career identity, the extent to which one's career is central to one's identity (London, 1983), is expected to have a negative



relationship with career change.

The original formulation of the theory of career motivation (London, 1983) describes sub-domains and correlates with expected relationships to the three dimensions. The present research aims to analyze the relationships between these correlates, their sub-domains and career change.

Although some evidence does exist regarding possible relationships between career planning and career management activities and career outcomes related to career change (Pazy, 1988), a lack of theory development in this area implies a more exploratory orientation to this aspect of the present research.

A fundamental assumption of this research is that managers faced with career disruption as a result of reorganization, will find some choice within the restricted job opportunities that may emerge. Consequently, by examining factors which may be associated with the degree of difference between former and new jobs, it may be possible to develop a better understanding of career change as a career process.

Research sites included two major corporations in the transportation industry which recently experienced major downsizing resulting in the elimination of large numbers of managerial positions. Subjects were asked to complete a questionnaire covering a) career resilience, career insight and career identity; b) participation in career planning and career management activities and c) career change behavior and intentions and preparations (for those subjects who were still in outplacement).

The second chapter begins with a discussion of environmental trends which give rise to organizational restructuring. This opening section, along with the second

section reviewing major theoretical approaches to career change and summarizing research findings, serves as a rationale for the development of a new perspective. A discussion of this perspective comprising application of the theory of career motivation follows in the next section. The second chapter concludes with a description of the model and a list of hypotheses. Chapter 3 is devoted to a discussion of the methodology.

The results are presented in two major parts. Chapter 4 describes the principal components and confirmatory factor analyses, with the focus on construct validity. Chapter 5 presents the results of the hypotheses tests. The sixth and final chapter discusses the conclusions and the implications of the findings.

## CHAPTER 2: TOWARDS A NEW PERSPECTIVE OF CAREER CHANGE

This chapter reviews literature dealing with organizational environments and career change. The evidence appears to indicate that to adequately study facets of career change in turbulent organizational environments, a new perspective is necessary. A description of this perspective and the hypotheses which emerge from this new model of career change can be found at the conclusion of the chapter.

### Environmental Change

Whereas career theories such as those generally associated with the person-environment fit approach (Holland, 1973) incorporate the micro-level environment of the individual's work setting, the aim of the present research is to more effectively account for the larger organizational environment. Although macro-environmental issues are not new concepts for the career literature, the tendency has been to relate them to career development processes, but not directly to career change.

For example, citing work by Ouchi (1981) and Ouchi and Jaeger (1978), London and Stumpf (1982) assert that organizational patterns of managing employees depend on "...how well the pattern satisfies the demands placed on the organization by its social and competitive environment." (p. 9). According to Schein (1978),

Society influences both organizations and people directly through government legislation, incentives, tax programs, the educational system, and other institutions. These influences...cannot be ignored. Both the organization and the individual have to cope within that total environment. For the organization this means attention to labor-market characteristics, economic conditions, laws governing equal employment opportunities, occupational safety and health, retirement policies and age discrimination, technological forces, and market characteristics which

specify ultimately what kinds of skill will be needed in the employee pool and so on. (p. 3).

While these examples underline the importance of the organizational environment, they imply a degree of environmental stability which permits long term individual and organizational adaptation. With a sufficiently high level of outcome predictability, a context is provided within which career planning and career management can flourish. Consequently, after elaborating on the various environmental factors which can impact on career, Schein (1978) concludes that the individual must give greater attention to "...occupational and educational opportunities, and a balancing of career concerns with concerns for the family, self-development, and a life-style which has long-range viability." (p. 3). Social and cultural forces create opportunities and constraints leading to environmental pressures that limit identity development (Kanchier & Unruh, 1989). In this context, career change may be an effective individual response.

When organizational and individual planning processes result in outcomes such as "...increased productivity levels, creativity and long-range effectiveness for the organization and job satisfaction, security, optimal personal development, and optimal integration of work and family for the individual..." (Schein, 1978, p. 5), both the organization and the individual benefit. Undoubtedly, many organizations and many individuals, having in the past found a relatively higher level of environmental stability than exists today, benefitted from career planning processes when anticipated outcomes were actually achieved. Planning for career progression was an effective strategy for a stable organizational environment where growth in the organization

meant the future availability of career growth opportunities. Planning for career change does not seem to fit in the context of these organizational realities.

The environment organizations are faced with today reflects a new set of realities (Handy, 1989; Kanter, 1989; Miles & Snow, 1986). The present research incorporates environmental instability as the context in which career planning and career change take place. The next section is devoted to a discussion of environmental forces which have contributed to increasing the level of instability faced by both individuals and organizations.

### General Environment

A number of trends can be cited to establish the need to gain greater understanding of career disruption and subsequent varying degrees of career change. Specifically, the environmental elements to be examined here concern the following: economic trends, demographic trends, and technological trends.

### Economic Trends

Considering economic trends, there is a need to distinguish between environmental changes that result from economic cycles and structural changes that result from more permanent economic realignments. Although an economic analysis of business cycles is not one of the objectives of the current research, the outcomes of these trends and how they affect organizations set the backdrop for a new perspective on career change.

An earlier reference to the Banque Nationale (Truffaut, 1990) describes the outcomes of economic trends affecting business cycles. Recently, more frequent

reports of cost-cutting measures have been documented in both the banking and transportation industries. In the same week, Air Canada and CN Rail in Canada both announced significant reductions in personnel including large numbers of management employees (McGovern & Lebel, 1991; Turcotte, 1990).

Economic factors have contributed to an increasingly precarious situation for many institutions internationally as well. As reported in The Economist (Sept. 29, 1990), the increasing price of oil, the related post-war situation in the Gulf, as well as "higher interest rates, an uncut American budget deficit, collapsing thrifts, soaring Tokyo property prices, companies gorging on debt" (p. 15) are all contributing to a coming recession. Referring again to the banking industry, the article asserts that "banks are in retreat. Chase Manhattan, one of America's biggest, has announced cutbacks and lay-offs to try to boost its profits" (p. 16). Should these banks select a merger strategy, the resulting organizational restructuring will undoubtedly lead to the elimination of many jobs.

More permanent changes in the environment have resulted from realignments brought about by trends towards globalization. Some familiar examples include the emerging economic integration within the European Community and the Canada-US Free Trade Agreement. Even more recently, the evolution of the Pacific Rim market, described as today's fastest growing (Sanderson & Hayes 1990), has been coupled with rapid changes in Eastern Europe toward market economies that very few would have predicted even a short time ago. According to Sanderson and Hayes (1990), while "...some 35% of the 1,500 largest corporations have indicated their intention to

do business in Eastern Europe in the next twelve months" (p. 32), the economic potential is even greater in the negotiated Mexico-US-Canada tri-lateral trade agreement.

These changes have made labour-intensive manufacturing a much less attractive activity, while the appeal of providing knowledge-based services has grown (Handy, 1989). In addition, they have contributed to increasing the level of environmental instability or uncertainty and have resulted in organizational strategies relying on an increasing frequency of mergers (Quartararo, 1988), acquisitions (Howe, 1987), downsizing (Nielsen, 1985; Pascarella, 1986) and other forms of corporate reorganization along with consequent unexpected job loss (Cole, 1988; Miles, 1989; Moreau, 1987).

The extent of environmental unpredictability is underlined when considering some of the organizational strategies adopted during the mid 1980s, generally recognized as a period of economic growth. Whether in reference to the shamrock organizational structure (Handy, 1989), the network organization (Miles & Snow, 1986), or the self-designing organization (Weick & Berlinger, 1989), the results of downsizing and restructuring were already becoming quite evident in the mid 1980s (Nielsen, 1985). In the mid 1980s, four years into recovery, the US economy witnessed the loss of 24,000 jobs at AT&T, 30% of them in management, the start of a five year process to trim 10,000 jobs at Ford, and the loss of 4,000 jobs at Union Carbide over a short period of several months (Nielsen, 1985). According to Pascarella (1986), "In recent years, managers have had to lay off hundreds -- even tens

of thousands -- of employees as the result of difficult conditions and widespread merger activity" (p. 47). Estimates for the 1979 to 1987 period range as high as one million managers and professionals who have lost their jobs as a result of downsizing or restructuring strategies (Handy, 1989), a pattern which is expected to preoccupy the human resource field in the 1990s (Latack, 1990).

Outcomes. Restructuring strategies result in increased uncertainty and instability for the individual's career and affect people at all organizational levels (Kanter, 1989). When these strategies result in job loss, evidence suggests that it is likely to be associated with negative psychological and physical outcomes (Latack & Dozier, 1986). The literature provides countless anecdotal examples of managers who were quite unprepared for the personal changes resulting from the above-mentioned economic trends (Kanter, 1989; Latack, 1990). Despite a successful career, a senior position, and an attractive severance package including referral to an outplacement consultant, reactions are usually ones of complete disbelief. "Though he was at 50, the oldest director, nothing had prepared him for the day last year when the new young managing director told him he was surplus to requirements... 'I left four days later without the chance to say goodbye to many colleagues and friends'" (Cole, 1988, p. 112). Restructuring resulting in job loss has the capacity to wreak havoc on personal lives (Quartararo, 1988) to say nothing of the career plans most of the affected individuals had been implementing.

While mergers and acquisitions undoubtedly result in career disruption, it is important to distinguish the type of employee affected. Of nearly 11 million workers



displaced between 1981 and 1986, due in large part to permanent job elimination,

...56 percent of the displacement occurred in factory-related positions, almost 40 percent took place among white-collar groups most likely to have had safe corporate careers in the past; 15 percent of the displacement was from the managerial and professional ranks; 22 percent from technical, sales, and administrative support. (Kanter, 1989, p. 300)

Although some data reported in one review of the literature suggest that job loss resulting from mergers and acquisitions does not appear to be of the magnitude anticipated, studies of top managers and owners of companies that have been acquired reveal retention rates of 42% after five years (Schweiger & Walsh, 1990). The same literature review found rates of involuntary turnover in merged or acquired organizations to be significantly higher than in other organizations, although the relationship between mergers and acquisitions and job loss remained too complex to permit unqualified conclusions (Schweiger & Walsh, 1990). The same authors did recognize that career ladders were one of the areas unquestionably affected by mergers and acquisitions but had not received empirical examination (Schweiger & Walsh, 1990, p. 52). The extent to which mergers and acquisitions result in environmentally-induced career change could certainly be considered an aspect of this call for further research.

### Demographic Trends

The aging of the baby-boom cohort also has the potential to exert a profound effect on the organizational environment. Successful challenges to mandatory retirement, restrictions against age discrimination and the desire of aging workers to

maintain their standard of living will affect the supply of human resources (Gill, Coppard & Lowther, 1983). According to Latack and Dozier (1986),

...the baby boom has entered middle management; the retirement age, now 70, may be abolished entirely; and people are living healthier lives, longer. In short, many employees expect to maintain career involvement over a longer time span than earlier cohorts. (p. 376)

Other organizational scholars (Schwartz, 1989) have discussed the impact of the growing number of women in the work force, a segment which does not necessarily follow traditional male career paths and which is characterized by movement into and out from organizational environments to accommodate child-rearing. According to Schwartz (1989), two types of women can be found in organizations: a) career primary women, i.e. those who sacrifice family and parenting roles for the pursuit of a career more along the lines of traditional upward patterns; and b) career-family women, i.e. those who strive for a balance between the demands of career and the desire to fulfill family and parenting roles.

With the entry of more and more women into the workforce, organizations will have to adapt career structures, among others, to accommodate career-family women who will not be prepared to pursue careers along traditional patterns. Organizations which want to gain and maintain a competitive advantage by employing people from this growing pool of talent will be required to make themselves more responsive to the needs of career-family women.

For the organization, part of this adaptation may be the realization that an increasingly larger proportion of the organization's employees will be females who

shift between career and child-rearing, entering and leaving the organization as necessary. These patterns do not lend themselves to the senior management level but are not inconsistent with the demands of middle management. Consequently, career development experiences for these employees may not be as closely related to future career growth but rather to maintaining effective performance at the middle management level.

While the limitations imposed on career aspirations may be acceptable to some women, it may not always be possible for them to either return to the same organization after child-rearing, or to find continuing challenge in the same occupational field after plateauing at a middle management level. Under these conditions, women will have to consider various career options including career change.

Outcomes. According to Latack and Dozier (1986), organizations will have to broaden their perspective of career development to include recognition of organizational exits. These authors suggest that career growth can take place as a result of job loss transition. Given that career change can be considered one particular form of job loss transition, it is conceivable that it too should be associated in some way with career development.

Organizations which assume responsibility for managing exits more proactively will smooth the transition for the individual in situations where job loss is the only alternative. For example, while many organizations will undoubtedly re-engage former employees returning from maternity leave, in some cases, particularly after a lengthy

child-rearing absence, organizations may not be willing or may not have a position available at the time an employee is ready to return. Varying degrees of career change are possible for people who find themselves in this situation.

If more career-family women are selected for middle management this new supply of middle managers may lead to fewer middle management positions for men. In the case of a net reduction in the number of middle management positions due to reasons outlined in the section titled Technological Trends, both male and female employees who otherwise would have moved into these positions might find themselves with the need to consider changing jobs and changing careers.

#### Technological Trends

Technological trends will result in changes to both the structure of employment, and the values associated with work. As information technology reduces the need for various layers of the organizational hierarchy whose primary function is the manipulation of information (Drucker, 1988), there will be a corresponding reduction in demand for middle managers. These flatter organizations will operate on the basis of information being in the hands of low level task groups which actually complete the work, and feed back information directly to senior management. This represents a shift away from the hierarchical, command-control structure (Drucker, 1988), and places in jeopardy those middle management positions which supported it.

Technological change has already affected a variety of fields such as engineering, health and financial services (London & Stumpf, 1986). These technological changes have reduced or eliminated demand for existing positions, and

increased demand for new types of jobs requiring retraining (London & Stumpf, 1986).

Outcomes. As implied above, technological trends may have a direct effect on the type and number of jobs available particularly in the fields of communication or some of the others mentioned above. In addition, they will also affect values, or social trends (Kanchier & Unruh, 1989). Personal and work-related values are changing as people become more sensitized to the need for balance between family and work (London & Stumpf, 1986). The meaning of success is being redefined as individuals are increasingly dissatisfied with traditionally-structured work environments. New values recognizing that professional growth is a lifelong process, are more consistent with the notion of occupational change (Kanchier & Unruh, 1989). Consequently, career change may be increasingly viewed as a more beneficial, constructive, and functional process.

### Summary

The economic, demographic, technological and related social trends described above serve to underline the highly complex and unstable dimensions of current organizational environments. The organizational contexts which have evolved in response to these environmental changes have dramatic implications for careers. According to Peters (1992), functional divisions will all but disappear, as more work is carried out by project teams, with peer and subjective evaluations rivaling a superior's in importance. Thinking of careers as "...specifiable 'paths' that are governed, somehow, from on high by an organization where we hope to spend our life..." (Peters,

1992, p. 219) has quickly become an out-dated perspective.

In the post-entrepreneurial organization, the "corpocratic" career is being replaced with more functional forms, blends of the professional and entrepreneurial career patterns in which developing and marketing one's skills and ideas, not organizational rank, become the determinants of career success (Kanter, 1989). The human resource implications of these new environmental and organizational realities have the potential to be far reaching, necessitating innovative strategies on the part of individuals and progressive career development programs (Latack & Dozier, 1986) on the part of organizations. The present research aims to investigate whether, in such rapidly evolving environments, the degree of career change can be better understood by examining its relationship to other career dispositional characteristics.

### Career Change

While the concept of career change is a relatively recent topic of interest in organizational research, it has received attention from a number of different perspectives in the literature. This is due in part to its position as an extension of the career concept which, as Arthur, Hall and Lawrence (1989) point out, " ... is not the property of any one theoretical or disciplinary view ... [but] is shared among a diversity of perspectives." (p. 7).

The career change concept was shaped initially by the career choice paradigm, in particular, person-environment fit theory (Holland, 1973), an approach which generally viewed career change as the correction of a deficiency in initial career decision-making. Subsequently, as the field of psychology became more preoccupied

with adult development, career change as an outcome or manifestation of transition in adult life constituted an alternative approach (Brown, 1984; Hall, 1986b).

Because individuals are still encouraged to think of the single occupation in a working life as the ideal (Kanchier & Unruh, 1989), there is a greater abundance of research evidence dealing with career transitions, movement along an organizational or occupational career path, and career choice, choosing a psychologically-compatible career. Career change is a concept which has received relatively sparse research attention. Consequently, any conclusions about career change processes drawn from studies of subjects whose experiences are limited to progress through various career stages within a single organization or occupation might be qualified at best. Although both career choice and career transition are concepts which certainly touch on career change and represent valuable contributions to understanding transition processes, the present research argues in favor of discrete treatment of the career change process.

#### Personality-Based Career Theory Perspectives on Career Change

Holland's theory of occupational choice (Holland, 1973) and the related concept of congruence represent the two most common personality-based theories applied to career change. The theory has generated a substantial quantity of research in the vocational guidance field and its wide acceptance has spilled over to career change as well. In general, this approach has attempted to treat career change as a response to the incompatibility between the individual and the work environment.

### Holland's Theory of Occupational Choice

The Holland approach treats career change as an outcome of deficient career choice decision-making and does not consider career change resulting from turbulent organizational environments. Consequently, career change is nothing more than the resolution of a chronic mismatch between the work interests of the individual and the individual's work environment, as described by Holland's hexagon of personality types. The theory predicts that individuals facing the prospect of career change will naturally steer in the direction of a career type congruent with their dominant personality type. Although there are some conclusive findings, this theory does not account for career change resulting from profound changes in the external environment.

Research Support. Holland's theory of occupational choice has been extended to career change and, among the competing theories, has generated the largest volume of research (Rhodes & Doering, 1983). Among the research findings supporting the extension of Holland's theory to career change, Sedge (1985) and Hill and Roselle (1985) both reported significant differences among career changers and non-changers on certain Holland personality types. Testing a sample of engineer managers (career changers) and engineers (non-changers), Sedge (1985) found that non-changers scored significantly higher than changers on the Investigative scale of the Vocational Preference Inventory. Hill and Roselle (1985), using the Strong-Campbell Interest Inventory to investigate a sample of R&D managers (career changers) and technical specialists (non-changers), found significantly higher scores for changers on the



Investigative, Social, Enterprising and Conventional scales.

### Congruence

Another set of studies is based on congruity, a term Holland (1973) designated to represent the degree of fit between occupational interests and occupational environment. Of three investigations of career change, only one study, Vaitenas and Weiner (1977), found significant results. Investigating a sample of subjects who had indicated an intention to change career, or had taken some preliminary steps, they found significantly lower congruence scores for career changers than the control group of non-changers.

The remaining studies found differences which were not significant (Robbins, Thomas, Harvey & Kandefer, 1978; Salomone & Sheehan, 1985). In the first, the relationship between congruence and career change was not supported despite the use of subjects who had completed additional education in order to pursue a career change.

### Other Personality Characteristics

In addition to investigating constructs derived directly from Holland's theory, many studies also examined subjects' scores on various personality dimensions. Using the Adjective Checklist, Sedge (1985) as well as Gilbride (1973) found significantly higher achievement scores for career changers.

Thomas (1980) refers to career changers under varying degrees and combinations of external and internal pressure to change. Assuming that those who changed careers due to external pressure (Force Outs) would not have changed voluntarily while those under internal and external pressure (Bow Outs) would have

changed voluntarily, the reported findings indicated a significantly higher achievement score for changers (Bow Outs) than non-changers (Force Outs).

Snyder, Howard, and Hammer (1978) studied mid-career change in academia, by investigating various job characteristics in a sample of university professors and chairmen. They found significantly higher achievement scores for changers (professors who would accept a chairmanship if offered to them) than for non-changers (professors who would reject the offer of a chairmanship).

Neapolitan (1980), using qualitative methodology, reported that career changers had very strong beliefs in their ability to overcome obstacles to career change. Based on some of the anecdotal evidence underlying the preceding finding, it may not be unreasonable to infer the presence of a need to achieve. Kanchier and Unruh (1987) found that achievement was cited as a major reason for undertaking a career change.

The need for order was another personality variable found to differentiate between career changers and non-changers but results were not consistently in the same direction. Of the two studies reporting significant differences, Weiner and Vaitenas (1977) found higher scores for non-changers, while Gilbride (1973) found higher scores for career changers.

Among the studies investigating the relationship between affiliation and career change, Sedge (1985) and Perosa and Perosa (1984) both reported significant results with career changers scoring higher than non-changers. Autonomy was also investigated in a number of studies with two reporting significant differences among career changers and non-changers (Snyder et al., 1978; Weiner & Vaitenas, 1977).

Since the findings in the two studies were in the opposite direction, it is difficult to arrive at any unqualified conclusions.

Three studies examined the relationship between dominance and career change. Weiner and Vaitenas (1977) found significantly lower scores for career changers while Sedge (1985) and Gilbride (1973) found significantly higher scores. The relationship between endurance and career change was investigated in three studies, two of which (Gilbride, 1973; Weiner & Vaitenas, 1977) reported significant results but in the opposite direction.

Of the two studies which investigated esteem and career change, only one (Kanchier & Unruh, 1987) found self-esteem to be a major discriminating variable, with career changers scoring higher. The same study also found that career changers registered the lowest mean scores for security and the highest mean scores for independence as measured by Super's Work Values Inventory. Table 1-1 summarizes the results of the research reviewed above.

Table 1-1

Summary of Career Change Research Based on Holland's Theory of Occupational Choice

<i>Variable</i>	<i>No. of studies reporting higher scores for</i>	
	<i>Career changers</i>	<i>Non-changers</i>
<b><i>Holland Types:</i></b>		
<i>Investigative</i>	1	1
<i>Social</i>	1	
<i>Enterprising</i>	1	
<i>Conventional</i>	1	
<i>Congruity</i>		1
<b><i>Personality Variables:</i></b>		
<i>Achievement</i>	6	
<i>Order</i>	1	1
<i>Affiliation</i>	2	
<i>Autonomy</i>	1	1
<i>Dominance</i>	2	1
<i>Endurance</i>	1	1
<i>Esteem</i>	1	
<i>Security</i>		1
<i>Independence</i>	1	

According to the summary in Table 1-1, with the exception of achievement,

there does not appear to be strong support for arriving at any conclusions about the other variables. However, if the variables which tested consistently in the same direction, even with a limited number of investigations, were used to construct a profile of the career changer, this individual would tend to manifest Holland's social, enterprising or conventional personality types.

In addition, career change would be in the direction of a more congruous fit between the personality and environmental types. Career changers would also be expected to demonstrate higher needs for affiliation, esteem and independence. However, given the limited number of studies, and the lack of conclusive results, these descriptions must be considered as extremely tentative.

Deficiencies. While Holland's theory of occupational choice appears to have been the preferred model in investigations of career change, a number of shortcomings result from taking this approach. Holland relies exclusively on personality, a phenomenon which remains relatively stable over time. Consequently career change is treated as the correction for error in career choice decision making. Since initial career choices resulted in a poor fit between the individual's interests and the work environment, the individual is internally driven to resolve the incongruity, eventually arriving at a better fit between interests and the work environment.

Holland's theory provides no basis on which to consider career change as a function of turbulent organizational environments. The theory focuses exclusively on personality variables and does not incorporate environmental variables whatsoever. Consequently, the theory is limited in explaining career change processes resulting

from organizational restructuring.

Although Holland's theory has certainly contributed to understanding career change as a function of personality characteristics, some limitations do exist. The theory was originally developed as a theory of occupational choice, based on research conducted primarily with younger populations, and many of the instruments used to measure Holland's constructs were validated on these same types of populations. Whether research findings emerging from younger populations can be generalized to mid-career populations becomes the basis for suspecting that Holland's theory may have limitations in its applicability to career change.

Other weaknesses in the research reviewed above also limit the conclusions. For example, there is very little consistency in the definition of career change and the selection of samples. In some cases, career changers were represented by subjects who expressed an intention and had taken some preliminary action towards change. Other studies tested subjects who had changed from established careers to ones for which previous training was unnecessary and for which additional training was needed. There may be many differences attributable to the nature of samples in comparing people who express an intention to those who have retrained for a new career.

In some studies, career changers were represented by technical specialists who had moved into management positions, in other words, subjects who had made the transition from practitioner to administrator. What this research strategy fails to detect is an underlying expectation in certain professions that this type of transition is not only perfectly acceptable but in some cases, is a valued manifestation of the career

growth to which many employees aspire.

By far the most serious deficiency in the research generated by the Holland theory and other personality-driven views is the difficulty in generalizing to career change induced by environmental change. Because it is essentially a psychological theory, it does not consider the potential impact of rapidly changing environments on the individual's career. The one study to make reference to this condition was Thomas (1980) who talked about Force Outs, subjects who changed career primarily due to external conditions. Further research along this stream might lead to the development of a profile of personality traits or Holland types which are associated with successfully negotiating career changes due to external factors.

The present research does not intend to pursue this direction. Although career change and personality might very well demonstrate an association, personality may not be able to contribute to career change far beyond what is presently known. Rather than continue with the investigation of career change on the basis that the individual's career change experience is a function of personality, what may be more fruitful is to explore the career change experience as a manifestation of and an extension of career. In other words, it may be necessary to complement the traditional personality-based career choice models of career change with a framework that relies more on career theory and related career development processes. This position will be examined further following a review of other approaches to career change.

#### Adult Development Theory Perspectives on Career Change

Classical approaches to psychological development assumed that by the end of

adolescence, most vital developmental functions had already taken place. Adult life was, for the most part, a period of stability characterized by relatively little development. More contemporary views, such as Erickson (1963) challenged the classical approach by demonstrating that development continues well into adult life.

Although the recognition accorded adult development has generated research bearing on careers and the individual's organizational life (Gould, 1978; Levinson, 1978) the question of career change as an expression of adult development has received relatively limited research attention. Attempts to relate career change to adult development have typically investigated either mid-life transition, a developmental phase which has become associated with change in fundamental orientations including career (Levinson, 1978), or career stages, typically associated with parallel stages of adult development (Super, 1984).

#### Mid-Life Transition

According to Gill et al. (1983), until recently, knowledge of mid-life transition was limited. Levinson (1978) described mid-life transition as a period characterized by a potential range of emotional impact from mild to highly disruptive. The crisis one may experience is an important opportunity to lay the foundation for continued growth and development in the balance of adult life. As described by Levinson, mid-life transition is a stage with a great deal of potential impact on career change. It is a time when the individual evaluates what has been accomplished during the early adulthood period. Aspects which are considered to have contributed negatively to this period are modified in an attempt to build a basis for the middle adulthood period.



Until the late 1970s, the processes associated with adult development had not been well researched, the emphasis in the psychological literature having been placed on childhood and adolescence (Levinson, 1978). Utilizing a sample of 40 men divided into four occupational groups, hourly-paid industrial workers, business executives, university biologists and novelists, Levinson (1978) set out to describe the elements in the life cycle, in particular, the period between the ages of 35 and 45 which were considered to be the mid-life decade or the shift from youth to middle age.

Of interest to studies of career change, Levinson (1978) found that the mid-life decade could be described as a period of reflection and change, often expressed or manifested in occupational terms. The evaluation and modification process can include changes in the external aspects of the life structure such as "...divorce, remarriage, major shifts in occupation and lifestyle..." (Levinson, 1978, p. 194). Much of the evidence used to describe this process is drawn from occupational patterns: the man "...tentatively tests a variety of new choices, not only out of confusion or impulsiveness but, equally, out of a need to explore, to see what is possible, to find out how it feels to engage in a particular...occupation..." (Levinson, 1978, p. 199).

Levinson's research has certainly contributed to understanding the importance of adult development, a period of rich and profound changes. However, "... drawing conclusions about mid-life from what is known about developmental stages is premature" (Gill et al., 1983, p. 20).

Lawrence (1980) concluded that mid-life crisis owed its popularity more to timeliness than to its long-term validity. It is a concept that had a ready public,

interested in this little understood stage of adult life. But after taking into account the importance of social environments, and the relative simplicity of the mid-life concept in comparison to the complex foundations of adult behavior, Lawrence (1980) concluded that "... mid-life crisis is not an inevitable experience" (p. 46).

Research Findings. Despite the controversy regarding the precise nature of mid-life transition, the literature does include examples of research linking career change to this stage of adult development. A number of constructs associated with mid-life transition have been investigated for their relationship to career change. The first of these, life-style doubts, appears to connote the concept of mid-life transition more directly than some of the others such as family concerns, a construct which may represent a more oblique reference to mid-life transition.

Introspection and concomitant contemplation of personal values related to family and life-styles are frequently associated with mid-life transition. This tendency to engage in soul-searching is tapped by another construct, intraception, defined as the tendency "... to analyze motives and feelings of oneself and others" (Anastasi, 1988, p. 545). However, differences between career changers and non-changers on this variable have not been widely investigated. Of two studies examining the relationship between intraception and career change, only one reported significant findings, with lower scores for career changers in comparison to non-changers (Sedge, 1985).

Thomas (1980) examined various motivations for career change among which he included rejection of societal values, potentially an outcome of the self-reflection, self-examination process associated with mid-life transition. The findings indicated

that subjects who opted for career change were most influenced by values.

Consequently, it may be possible to infer an association between career change and rejection of societal values, the latter being very closely related to mid-life transition.

Increased concern for family is another factor which has been investigated as a reason for changing careers. Although not necessarily associated solely with mid-life transition, increased concern for family may certainly take on greater importance during the mid-life transition phase, particularly when the man attempts to rework and improve what he has come to realize is a less than ideal marriage (Levinson, 1978, p. 258). However, the research evidence linking this aspect of mid-life transition with career change is quite inconclusive.

Kanchier and Unruh (1987) describe a group of subjects whose change does not resemble the type normally associated with occupational career change. They found that subjects who left corporations to become housewives gave more family time as a major reason for the change. Since these subjects interrupted their careers as opposed to having changed careers in the sense used in the current research, this finding may have only limited applicability.

Bailyn and Lynch (1983) examined a subgroup of a sample they had originally investigated eight years prior. The subgroup consisted of male engineers who either held the same job, had changed technical assignments, had remained a staff engineer but had assumed increased coordination and supervisory responsibility, had become a manager, or had left engineering. They found that

movement away from the...[original] job is accompanied  
by an increase in work involvement, which is more

dependent on changes in orientation to family than it is on changes in orientation to work. In particular, those in identical jobs significantly increase their orientation towards their families, whereas those who have been promoted to management significantly decrease their family orientation. (Bailyn & Lynch, 1983, p. 270)

In the absence of data on the age of the sample in this study, how the evident decrease in family concerns is related to mid-life transition cannot be clearly specified.

Studies relating age and career change have also produced mixed results, with the tendency being for increased stability with advancing age. Older subjects were found to score higher on career stability (Gottfredson, 1977), on emotional stability (Vaitenas & Weiner, 1977) and lower on the desire to change career (Garcia, 1983). Here again, data on age is necessary to relate these findings to mid-life transition. These findings appear to contradict the notion of mid-life transition as a period of turmoil manifested in occupational redirection.

Deficiencies. The approach relating mid-life transition to career change has not generated a sufficiently large enough body of research upon which to draw conclusions. The findings are tentative at best, with many results contradicting each other.

Nevertheless, in considering these inherent limitations of mid-life transition as a suitable model for the explanation of career change, a number of points need to be addressed. First, the mid-life transition approach does not accommodate career change induced by the external organizational environment. Mid-life transition is clearly based on a psychological process. Second, by its very nature, mid-life transition is limited to career change at a given stage in life. To be related to externally-induced

career change, all such changes would have to take place at mid-life, a condition which cannot be met. Consequently, mid-life transition appears to have virtually no bearing on externally-induced career change.

Nevertheless, the mid-life transition framework does contribute to a fuller understanding of the career change process. In highlighting the close association between career change and examination of personal values and orientations, the framework suggests that these dimensions of the change process may be present regardless of the reasons for the initiation of change. Consequently, any new model of career change should incorporate a process which is partially devoted to self-reflection.

### Career Stages

The Life-Career Rainbow (Super, 1990) portrays the life-space careers occupy as individuals move through the life span, thereby linking career development with the various developmental stages of adult life. For the most part, the work stemming from this approach has been applied to students and young adults who are at the initial stages of career development (Super, 1990). It has not been used to a great extent with adults and is not referred to as an approach with particularly direct applicability to career change. As with many of the other theories of career development, the Life-Career Rainbow seems to be oriented to individuals whose career and life pattern follow one constantly evolving path.

The first contribution of the Life-Career Rainbow towards understanding career change rests in providing a model to describe careers and transitions in terms of a series of stages: exploration, entry, establishment, maintenance, and disengagement.

The relationship between these stages implies that any career transition will be accompanied by a repetition of all the stages or a portion of the full cycle. According to Super (1990), each transition in the Life-Career Rainbow consists of a minicycle, "...a recycling through one or more of the stages..." (p. 215). As someone moves from establishment to maintenance within the same career, transitions from one stage to the next will consist of a repetition of one or more of the Life-Career Rainbow stages.

By extending Super's approach, transitions from one career to the next could also be viewed in terms of the repetition of the stages. In other words, career transitions are accompanied by disengagement from the previous career, and exploration and entry into the subsequent career. These exploration and entry tasks form the basis of a full repetition of the Life-Career Rainbow stages.

Beyond this contribution, Super's approach appears to be rather limited in its application to environmentally-induced career change. Since this type of change can take place at any time and therefore at any stage of adult development, it is equally likely to occur during any of the corresponding career stages. The Life-Career Rainbow does not assist in clarifying environmentally-induced career change or predicting when or how it will occur.

A second, although related view of career stages is provided by Hall (1990). His work suggests that an individual's performance need not follow traditional patterns of stagnation and decline in the post-establishment stage. These options, expressed in terms of the individual's job performance are continued growth, a steady but levelling-off pattern, and decline in performance.

Anyone in an industry subject to rapid environmental change may find themselves in a situation where organizational restructuring results in the need to make unexpected career decisions. In the case of a layoff accompanied by industry-wide downsizing, there will undoubtedly be limited opportunities in the same career. Continued growth in performance may be more likely if an individual is able to change career.

As Hall (1990) points out,

What we are currently finding is that with flatter, delayed organizations, the establishment stage is ending earlier and maintenance is starting earlier, often in the early thirties. In many cases, people recycle into second or third careers, a phenomenon that is being accentuated by the current rash of early-retirement programs, which are part of corporate downsizing. (p. 432)

It appears that individuals who are not prepared to readily accept limitations imposed on their careers may respond by following a pattern of growth in the post establishment stage. Hall's comment regarding the earlier onset of maintenance, implies that organizations, forced to reorganize due to mergers, acquisitions, or other factors, can potentially affect the careers of individuals across the career cycle. An unacceptable transfer or an outright layoff may necessitate an unexpected transition. These younger individuals who follow a pattern of post-establishment growth by embarking on a second career may display behavioral processes normally associated with the disengagement stage.

Whether these disengagement behaviors occur at an earlier age or at a more developmentally congruent age should have some bearing on the difficulty these career

changes represent, however, the evidence is contradictory. According to Latack and Dozier (1986), those in the later stages of mid-career, as well as those in the early entry and establishment stages may react most negatively to the realities of job loss. For individuals at the early entry stage, a career change may require assuming a more dependent role of student or child in order to acquire the necessary educational or financial resources to complete a career change. This may become especially difficult after a period of relative independence in the early entry stage.

Individuals at the late establishment stage have not yet adjusted to a levelling off in career growth, consequently, job loss is often unexpected, shocking, and quite disruptive. When job loss occurs at the late maintenance or disengagement stages by comparison, those involved view terminating as a more stage-appropriate process.

The evidence cited by Latack and Dozier (1986) highlights the fact that career change can bring about conflicting emotional responses. For younger career changers, the transition may represent a period of starting over, of regression in a sense, but in some cases, younger changers feel they are up to meeting the challenge. What prior career development experiences result in the second reaction versus the first is a dimension of career change which has not been sufficiently investigated. Furthermore, if prior career development experiences can potentially affect the emotional response of young changers, can they contribute to successful career changes for the mid-career subject as well? Both of these questions appear to warrant closer examination.

### Summary

Adult development theory has provided a valuable contribution to career



change by focusing attention on mid-life transition and the relationship this period has with career change. The developmental themes of this transition, questioning values and personal orientations, serve as a powerful backdrop for the changes often manifested in career re-direction.

Adult development theory falls short in not being directly applicable to career change induced by a turbulent organizational environment, in turn leading to various forms of organizational restructuring. Nevertheless, processes associated with adult development such as questioning values and personal orientations may also be evident in environmentally-induced career change, particularly since career is so closely tied with identity and self-esteem (Hall, 1990).

Career stages, and specifically the Life-Career Rainbow contribute to career change by providing a vocabulary for describing career changes, and highlighting the nature of various tasks that must be accomplished as one career ends and another is about to begin. The individual must undertake disengagement and entry tasks virtually concurrently. If the outcomes of tasks are considered at the level of career, disengagement from one career and entry to a second suggests that there may be related changes in career identity; i.e., changes in career identity may reflect the extent of disengagement and entry.

Despite this contribution, the overall applicability of the career stages framework to career change in turbulent organizational environments is limited. The Life-career Rainbow describes stable and conventional careers (Super, 1990), and consequently, cannot adequately account for career change resulting from turbulent

organizational environments. When organizational restructuring results in career change, the individual is forced to terminate the former career irrespective of the developmental stage. Disengagement can occur at any chronological age or developmental stage, as can exploration and entry behaviour related to the second career.

However, there is an additional contribution that the career stages framework is able to make. Implicit in the career stages perspective is the notion that experiences in one stage will influence outcomes in a subsequent stage. The present research is based in part on this premise, i.e., prior career experiences play a role in determining the outcomes associated with later stages. This premise draws attention to the potential role played by career development in determining subsequent career outcomes.

In addition, building on Hall's (1990) approach, the consequences of environmentally-induced career change in the post-establishment stage can be described in terms of performance. The individual who desires growth in performance may find that a change in career offers the most likelihood of moving successfully in this direction. The premise that it is possible to find opportunities for growth in performance after job loss due to organizational restructuring connotes the image of a resilient individual who can bounce back after a career setback. Resilience may be an important factor in considering career change from a new perspective.

#### A New Perspective

Consideration of recent social, economic, demographic and technological trends

highlights the increasing environmental turbulence currently faced by most organizations. Under these conditions, the limitations encountered in analyzing and explaining career change on the basis of traditional theories, Person-environment Fit, Adult Development, or Life-career Rainbow, become quite profound. The shortcomings of these theories, in attempting to apply psychological concepts to processes which are not psychologically induced, prevent a richer, deeper understanding of career change. What is needed is a perspective which shifts attention away from assumptions of career change as an expression of deficient initial career decision-making, as a manifestation of mid-life transition, or as simply an expression of a particular stage or role in life.

What these theories appear to share in common is a reactive approach to career change. Applying person-environment fit theory to the career change scenario, the individual whose career is suddenly blocked due to organizational restructuring will make a better career decision the second time with greater insight to the degree of congruence between personal characteristics and the nature of work environment. The individual's tasks consist of remedial action to be taken after the career change process has been initiated.

With mid-life transition, an individual, confronted with deep personal questions about values and orientations, initiates a change in career as a reaction to these developmental processes. Here again tasks related to career change are implemented after the discrepancy between personal and work values has become sufficiently salient. The Life-career Rainbow does not address career change specifically but

views disengagement from organizations as a naturally occurring process at the latter stages of career and life. As the individual disengages, other roles in the life space fill in the gaps formerly occupied by career. This model does not address career change specifically and seems to apply almost exclusively to shifts between work and non-work roles.

A proactive approach to career change would shift the focus more to prior career experiences and to the nature of the individual's career development processes. Activities related to preparing the individual for career change occur before rather than after environmental conditions create the need to consider career change as an alternative. This permits the career changer to be viewed as preparing for the transition of career change rather than dealing with the crisis which may follow an unexpected career change.

While this characterization of proactive career change resembles the portrait of the protean career (Hall, 1976), there is another distinction between traditional perspectives and the new perspective proposed in the current research. This distinction has to do with the organization, an element essentially entirely omitted from traditional perspectives, which view career change as more of an individual-level process. A career development perspective is a more proactive approach for the organization as well, since it is possible to plan for restructuring by helping employees acquire skills related to career change. By viewing career change as an integral part of career development, the organization is able to rely on career development experiences during all types of transition periods, those involving growth as well as downsizing.

The sense of career change invoked by attention to career development processes effectively accommodates individuals whose career path is not limited to the traditional single career pattern due to factors in the organizational environment. The present research proposes the adoption of a new perspective, which better accounts for the increasing importance of non-traditional career paths, is based on a clearer definition of career change, and is also built on a theoretical framework of career development and career motivation (London, 1983). In the present research, the term career change will refer to those work transitions precipitated by change in the organizational environment, and characterized by differences in a variety of work dimensions related to the nature and functions of the work, the occupation and the field.

A key proposition of the present research is that under conditions of high environmental turbulence, the extent to which effective career development experiences are evident, i.e., both career planning on the part of the individual and career management on the part of the organization, will ease the transition for the individual confronted with career blockages, and for the organization confronted with excess personnel. This scenario would be remarkably different from the current career change process with its element of crisis for the individual and associated costs for the organization in terms of severance payments and loss of goodwill.

#### Current Research and Theory Development

Any model describing the relationship between career development and career change, will have to be built on consistent definitions of these concepts, particularly

the latter. Because it is often difficult to find subjects who are career changers, there does not appear to have been much consistency in the literature regarding definitions of career change and their application to delineating samples of career changers (Hill & Roselle, 1985; Sedge, 1985; Vaitenas & Weiner, 1977).

In addition, midcareer issues (Hall, 1986b), and nontraditional career paths (Hall, 1986a) are among the gaps in the research which an investigation of career change ought to address. Although environmentally-induced career change can occur at any career stage, a career development perspective may reveal processes that will have applicability to mid-career change in a variety of organizational environments.

When faced with the need to consider career change as a result of job elimination, individuals are forced to exit from the organization when they cannot be reassigned. In addition, movement to a subsequent job may be lateral or even downward, especially in the case of career changers who may not, in all cases, be able to start a new career at the same level as their previous one. Because these career moves are forms of nontraditional career paths (Hall, 1986a), the latter may be better understood as a result of investigating environmentally-induced career change.

### Career

A relatively new concept in the field of management, career has only recently been recognized as a division of the Academy of Management (Schein, 1986).

Consequently, it should not be surprising to find a variety of definitions, for example:

The sequence of a person's work-related behaviors and activities and associated attitudes, values and aspirations over the span of one's life. (Gutteridge, 1986, p. 54)

The sequence or combination of roles that a person plays during the course of a lifetime. (Super, 1986, p.96)

Other definitions (Morrison & Holzbach, cited in Morrison & Hock, 1986) emphasize career as a continuous process where experiences acquired in one stage or role contribute to the success of the next. The definition developed by Hall (1976) is undoubtedly the one cited most frequently: "The career is the individually perceived sequence of attitudes and behaviours associated with the work-related experiences and activities over the span of the person's life" (p. 4).

As evidenced by these definitions, career has the capacity to capture the developmental aspects of the life span and, at the same time, can serve as a link between inner processes and the external environment (Arthur, Hall & Lawrence, 1989). In addition, these examples share two common themes: a) career can be defined objectively because it is based on observable behaviors or activities; b) career is also associated with the individual's values and attitudes so it reflects the individual's inner core. These two perspectives of career have been described as the external and internal dimensions respectively (Van Maanen & Schein, 1975).

Because career is a sequential process, the roles assumed in the evolution of career provide opportunities for cumulative learning, essential to the successful performance of future roles. This aspect of career development is fundamental to career patterns in many occupations which prescribe movement from specialist to administrator, patterns which have frequently been classified as examples of career change (Hill & Roselle, 1985; Sedge, 1985). What emerges from this line of thinking portrays the career as a linear pattern where movement away from a traditional,

accepted path is generally not even considered.

Consequently, individuals who depart from these paths are often referred to in terms such as derailers (Hall, 1986c) which reflect negative values associated with deviations from accepted career patterns. The notion of one career with episodes of derailment may no longer serve as the most accurate reflection of career change processes. Do derailed individuals simply stop and wait to get back on the same tracks from which they fell? Recent arguments in favour of legitimizing exit, downward and lateral movement seem to imply otherwise (Hall, 1986c). Where such career moves also involve a change in occupational domain, Hall's arguments can be extended to the legitimization of career change as well. To summarize, while underlying psychological states may be of interest to investigators of derailed careers in relatively stable work environments, the type of change depicted by the notion of derailment may indeed be a suitable, appropriate, and effective response to environmental turbulence resulting in organizational restructuring and consequent job loss.

These descriptions of career change should not be surprising given that, to date, the overwhelming proportion of the universe of careers in Western organizations undoubtedly follows a traditional, linear, upward path. The subset of this universe consisting of careers deviating from these predominant patterns has been relatively insignificant in size but for reasons referred to previously in the section dealing with environmental change, indications are that it is a rapidly growing segment.



### Career change definitions

Because the topic of environmentally-induced career change has not received widespread attention, commonly accepted definitions are rare. Some researchers (Hill & Roselle, 1985; Sedge, 1985) prefer to view changes from practitioner to administrator within the same occupational group as representing career change. This approach does not take into account the existence of accepted career patterns in certain professions whereby career advancement is defined in terms of movement into administrative roles.

Two examples serve to highlight the importance of not assuming that a change from practitioner to administrator is evidence of career change in every case. First, in many social work agencies, it is generally accepted that a practitioner who is successful and upwardly mobile will eventually attain an administrative position. Second, the individual who carves out a career in banking by accepting an assignment as a teller is not prevented from ultimately becoming bank president. Both individuals are likely to perceive themselves pursuing one career in a particular profession or field.

However, in the event of environmental turbulence which leads to organizational restructuring and job loss, these notions of career change do not appear adequate. It is unlikely that a bank teller confronted by environmentally-induced job loss will be able to respond by moving into a supervisory or middle management position in the banking organization.

In addition to challenging the adequacy of practitioner-to-administrator forms

of career change, the present research is centered on defining the career change concept within a framework of career development. This approach implies that an individual has participated in some form of career planning, and may have already held more than one position in the organization, repeating the exploration to disengagement cycle. However, a definition of environmentally-induced career change involves disengagement from a former career or occupation, and entry into a new one.

Examining how previous definitions of career change have been operationalized highlights the difficulty faced in adapting these definitions to the problem of environmentally-induced career change. These difficulties are illustrated in the types of samples which have been chosen for investigation, ranging from subjects whose career change has been defined as simply their intention to change (Vaitenas & Weiner, 1977), to objectively measuring the degree of change with scales based on Dictionary of Occupational Titles codes (Robbins, et al., 1978). The use of Holland's theory as a basis for occupational change has also been documented (Parsons & Wigtil, 1974). Samples of subjects who have moved from practitioner to administrator have also been investigated (Hill & Roselle, 1985; Sedge, 1985). None of these examples account for environmental turbulence as a factor precipitating the response of career change among subjects.

The problem of determining when a career transition involves a sufficient degree of modification in occupation to be considered career change has also received some attention in the literature. According to Latack (1984), career transitions can be described in terms of their magnitude along several dimensions ranging from job to

occupational field. This framework includes one transition level in which job, occupation and occupational field change. Of these, changes in the latter two dimensions appear to correspond most closely to the degree of change implied by transitions from one Holland category to another.

To summarize, the concept of career change which emerges from consideration of these types of career transitions should contain three facets. First, it must accommodate the presence of a turbulent organizational environment. Second, drawing on the career stages approach referred to in the previous section, career change should be accompanied by disengagement from one career and entry to a new one. Thirdly, career change can be thought of as a transition which incorporates change in occupation and occupational field (Latack, 1984). Combining these facets produces the following definition of career change as applied in the present research:

Career change is a selected career pattern, in response to organizational environmental turbulence, characterized by evidence of disengagement from a former career and entry to a new occupation or occupational area.

Concerning the differences between this new perspective of career change and career change as it has been considered traditionally, what appears to emerge first is a difference in the nature of the change in careers. In the traditional view of career change, the transition from one career to the next was represented as the resolution of a state of disequilibrium, due to poor fit with the work environment or mid-life transition. In the present research, the transition is simply an anticipated stage of a

career path in a turbulent environment; resolution of psychological or developmental crises does not enter into consideration.

### Mid-career Issues

As mentioned previously, one of the gaps in the current career development research has been the lack of attention to mid-career issues, with emphasis placed almost exclusively on early career stages (Hall, 1986b). By comparison, research and theory development dealing with the maintenance and disengagement stages of the career cycle have been relatively under-developed. While not dealing exclusively with later career stages, the present investigation of career change will nonetheless focus attention on processes normally associated with these stages of the career cycle. In other words, any conclusions which the present research may draw regarding disengagement, for example, may have a bearing on disengagement behaviours regardless of when they occur in terms of chronological time or psychological development.

The evidence of disengagement and entry behaviors, expected to be associated with career change, is independent of chronological age and psychological development, i.e., these behaviors may occur as easily with individuals who are in their thirties as in their forties or fifties. Therefore, career change, as it is defined and operationalized in the present research is essentially a mid-career phenomenon. This proposition is further supported because the research also investigates the role played by career development, implying that some investment of effort has already been made in the former career. If career change is considered to be a mid-career phenomenon

then the individual may already have begun to address mid-career issues such as increased awareness and responsibility for one's own career, increased salience of separation from old roles, and the need to trigger exploration as a response to the disruption of psychological success (Hall, 1986b). When career development activities are directed towards these ends, they may more effectively prepare the individual for the disengagement and entry behaviors once job loss occurs as a result of restructuring. Therefore, a career development perspective is useful in that it introduces career planning and career management activities which have not been included in previous theoretical formulations used to study career change.

#### Non-traditional Career Paths

In addition to the lack of attention to mid-career issues, a second gap in the career development literature is related to non-traditional career paths. Recent references in the literature point to an increasing interest in nontraditional career patterns (London & Bassman, 1989; Sonnenfeld, 1989; Weick & Berlinger, 1989). According to Hall (1986a), "Because of this interest in nontraditional career movement, exit and downward movement are becoming more acceptable, and more research is being done in this area" (p. 8). Although these non-traditional paths are often necessitated by organizational restructuring and demand innovative career development strategies for individuals remaining in the organization (Hall, 1986b), they also imply consideration of career change as a viable alternative.

To be consistent with this call for continued interest in nontraditional career patterns, a new perspective based on career development is required. Person-

environment fit theory cannot effectively accommodate the phenomenon of exit movement resulting from turbulent organizational environments. Mid-life transition also has limitations in being able to adequately account for nontraditional career patterns resulting from environmental factors.

Hall (1986a) believes that exit and downward movement are achieving a new degree of respectability and a new perspective of career change must also promote this sense of legitimacy. Just as organizational cultures must change to place greater value on exit or downward movement, a new perspective on career change should be derived from values which view career change as a legitimate form of career development. By choosing to describe career change in career development terms, the present research can potentially extend what is known about nontraditional career patterns while avoiding the negative value judgments previously associated with career change processes.

### Career Development

As described above, the traditional view of career change has a number of shortcomings in dealing with environmentally-induced career change. A career development perspective appears to provide a basis for a new perspective of career change which accommodates the dynamics of turbulent organizational environments. It removes career change from the realm of psychological or developmental processes and appears to have greater potential to provide a framework for investigating career change as an issue related to mid-career and nontraditional career paths.

The introduction of career development as the context within which the career

change concept is defined shifts the attention away from the field of psychology towards human resources management. One of several human resources functions, career development consists of two facets, career planning and career management.

Storey (cited in Hall, 1986a) defines these two facets as follows:

Career planning is a deliberate process of (1) becoming aware of self, opportunities, constraints, choices, and consequences, (2) identifying career-related goals, and (3) programming work, education and related developmental experiences to provide the direction, timing, and sequence of steps to attain a specific career goal. Career management is an ongoing process of preparing, implementing and monitoring career plans undertaken by the individual alone or in concert with the organization's career systems. (p. 3)

Because traditional approaches fall short in not accounting adequately for career change due to environmental turbulence, theories based on person-environment fit and adult development models do not lend themselves to a proactive, strategically-oriented approach to managing the career implications of organizational restructuring. The traditional approaches are much more useful in describing career change processes at the individual level but do not provide a robust model for dealing with organizational-level issues involving career management in periods of restructuring. Just as career development is the process through which the organization is able to influence the relationship between individual career requirements and its strategic objectives in periods of growth and stability, it may serve as a suitable model for accomplishing strategic objectives during intervals of downsizing and turbulence (London, 1988).

The shift from the traditional approach to career change, with its emphasis on

personality and the psychological development of the adult, to a career development orientation also represents an effort to build a stronger theoretical link between career change and human resources management at large. Consequently, the prior contributions of vocational guidance and organizational behavior views of career change are complemented and by a human resource perspective, provided by the introduction of career development.

Within the framework of human resources management, career change has not been widely investigated as a element of career development. The career development function and its constituent career management and career planning processes have been focused for the most part on the concept of career, usually implying a constantly upward linear path. The major themes of the career management process have typically consisted of organizational activities designed to ensure an adequate internal supply of managerial manpower to meet the future needs of the organization. Consequently, subprocesses such as recruitment and selection, appraisal and evaluation, as well as training and development play an important role in the career management process (Gutteridge, 1986). Career planning, connoting the individual's actions aimed at assuring continual upward movement in the organization, and in the occupation, is most often associated with the processes of occupational choice, organizational choice, choice of job, and self-development (Gutteridge, 1986).

To complement what has already been contributed through career change research, a career development perspective would focus attention on the career management and career planning dimensions. The relationship between career



management and career planning activities and career change are the central concerns of the present research. Specifically, the research aims to examine the antecedents of career change, in terms of associations between various career management and career planning activities and career change. These activities are described by Hall (1986a) and are discussed more fully in the following section.

### Career Management

Organizational responsibility for career management processes are complemented by individual responsibility for career planning activities. As the field of career development has evolved, career management and career planning have given rise to a number of research interests (Hall 1986a), some of which are related directly to career change:

1. Strategic human resource planning
2. Succession planning
3. Assessment/Development of management potential
4. Training managers in career coaching / counselling skills
5. Alternative career paths (nontraditional)
6. New human resource movement systems
7. Legitimation of exit, downward movement
8. Concerns about baby boom cohort
9. Linking of career management systems to career-planning systems (p. 6)

The first four areas of research interest concern traditional human resource management functions. The last five items refer to contextual factors in which career change as a career development outcome in response to turbulent organizational environments can be considered. Career change can be viewed as an alternative to lateral movement when organization restructuring is necessary; under such

circumstances, career change is one of several career options available to the individual. Certainly, for reasons stated earlier, as the baby boom cohort moves through the career population, more frequent deviations from traditional career patterns will result.

Career change can become a viable choice for those managers who experience difficulty adjusting to the prospect of lateral, non-management, or temporary assignments, and who are not prepared for early retirement as a result of organizational restructuring. Consequently, career change can be dealt with as one of several alternative career paths. In all likelihood, career change will involve exit from the organization, and therefore, it may serve to legitimize exit movement.

### Career Planning

Activity in research and practice related to career planning are also covered by Hall (1986a):

1. More concern for protean (self-directed) careers.
2. Midcareer coming earlier.
3. More questioning, rejection of job moves (including promotion)
4. More honest self assessment
5. More plateauing by choice
6. More two-career planning: more family inputs to career decisions
7. Desire for more mutual career planning with company
8. Need for more information on company career opportunities
9. Desire for more company assistance in implementing career plans (link to corporate career management systems) (p. 6)

These nine contextual factors describe an organizational setting in which the individual desires a greater degree of input and control over decisions affecting the career. Certainly, career change becomes an increasingly relevant alternative which permits the individual to retain control over the destiny of the career.

These factors illustrate how career change can be closely related to career planning. Hall's use of protean career (1976) is meant to specify a more proactive approach to achieving what is most valued, needed, or of greatest interest. Implicit in this analysis is the recognition that the traditional career path may not be capable of providing all that the individual desires over the course of a single career. Consequently, career change can be considered as one form of a protean career path.

The earlier onset of mid-career means careers will naturally span a shorter time period than they have in the past. This implies that environmental conditions will necessitate the termination of the first career before the individual may be ready for retirement. The earlier onset of mid-career may coincide with initiation of active planning for the second career. As more and younger individuals grapple with issues related to limited opportunities in the single-organization, single career, career change will increasingly be viewed as a viable alternative to situations where retirement is premature, or where the individual is faced with undesirable career moves.

To describe the various dimensions of career change in a turbulent organizational environment, a broad framework is required. Such a framework must accommodate both the individual perspective, addressing individual differences and responsibilities for career planning, as well as the situational or organizational

perspective, covering organizational career management activities. This is precisely the framework provided by the theory of career motivation (London, 1983), and the associated concepts of career resilience and career identity.

### Career Motivation

London (1983) describes career motivation as a multi-dimensional concept consisting of individual and situational characteristics and reflected in the individual's career decisions and behaviors. As defined by London, not only does career motivation encompass the motivation to do one's present job, and to meet expectations related to various managerial roles, but it also includes the

motivation associated with a wide range of career decisions and behaviors ... searching for and accepting a job, deciding to stay with an organization, revising one's career plans, seeking training and new job experiences, and setting and trying to accomplish career goals. (London, 1983, p. 620).

Although London refers to managerial roles in his discussion, it would appear that the notions associated with career motivation apply equally well to professionals working at the practitioner level. The universe of individuals to which career motivation applies directly might exclude those individuals in organizations who do not hold a managerial job or who do not have a professional designation.

Career motivation is conceptualized as an individual level construct consisting of three dimensions: a) career identity, factors reflecting career decisions and behaviors; b) career insight, the extent to which the individual has realistic career perceptions; and c) career resilience, the ability to overcome career setbacks. All three appear to have particular significance for career change in conditions of turbulent

organizational environments.

Although career motivation is essentially a concept internal to the individual, London (1983) believes that many aspects of the work environment, e.g. staffing policies, group cohesiveness, career development programs, are also likely to be important. This aspect of the theory supports a major contention of the present research, namely that previous career change theories are limited precisely because they do not consider any possible role for career development.

Several references to the theory of career motivation can be found in the literature in relation to a variety of research topics including skills obsolescence (Fossum, Arvey, Paradise & Robbins, 1986), self-presentation in job interviews (Baron, 1986), career stages and organizational meaning (Isabella, 1988) and job attitudes and performance (Slocum & Cron, 1985). More closely related to careers are studies dealing with career commitment (Blau, 1985, 1988, 1989; Colarelli & Bishop, 1990) the meaning of careers (Gunz, 1989), various career management issues (Granrose & Portwood, 1987; McEnrue, 1989) and managerial characteristics (Wohlers & London, 1989).

Of these studies, most make only passing reference to career motivation with the exception of Blau (1989) and Wohlers and London (1989). Blau (1989), investigating the generalizability of a career commitment measure, partially tested the proposition that career withdrawal cognitions mediate the negative relationship between career commitment and employee turnover. Although the findings indicated support for this relationship, they do not appear to have a direct bearing on the current

research issues. More directly related to the present research, the second study (Wohlers & London, 1989) will be referred to in subsequent sections dealing with career resilience, career insight, and career identity.

### Career Resilience

Of the three elements comprising the individual characteristics, career resilience, defined as "... the person's resistance to career disruption in a less than optimal environment" (London, 1983, p. 623), appears to be a dimension which should be related to career change. In applying this concept, the present research views the career change path as a reflection of resistance to career disruption, in the sense that the individual has prepared to manage the career in the face of turbulence in the organizational environment. The individual has actively engaged in building resistance to the potentially disruptive effects of environmentally-induced career change.

Because certain dimensions used to describe the self-efficacy sub-domain of career resilience are also often used in connection with individuals who change careers, there appears to be some support for applying the resilience construct to the subject of career change. For example, the need for achievement and autonomy are correlates of career resilience (London, 1983) as well as characteristics of career changers (Gilbride, 1973; Perosa & Perosa 1984; Sedge, 1985; Snyder, Howard, & Hammer 1978; Thomas, 1980).

London (1983) provides a listing of various characteristics and attributes which can certainly serve as a basis for describing the level of resilience displayed by an individual. All characteristics were expected to be positively related to career

resilience unless otherwise indicated and are listed as follows:

1. self-esteem: the degree to which the individual has a positive self image;
2. need for autonomy: the individual's striving for independence;
3. adaptability: how the individual reacts to organizational changes;
4. internal control: an internal locus of control regarding career outcomes;
5. need for achievement: the extent to which the individual wants to succeed at difficult tasks;
6. initiative: proactive responses to career enhancement;
7. need for creativity: the degree to which the individual is motivated to demonstrate innovation;
8. inner work standards: the aspiration to perform at a level higher than the minimum required;
9. development orientation: the ambition to further one's skills and knowledge;
10. risk-taking tendency: the extent to which the individual is prepared to assume risk for potential gain;
11. fear of failure: lacking fear of not meeting personal or external expectations (negative relationship);
12. need for security: the degree to which secure employment is valued (negative relationship);
13. tolerance of uncertainty and ambiguity: the individual's ability to maintain acceptable performance in unstructured situations;
14. competitiveness: the "... need to compete with one's peers..." (London,

1983, p. 624) (negative relationship);

15. career dependency: prevailing expectations that the organization or superiors will provide direction for the career (negative relationship);

16. need for supervisor approval: the extent to which the individual is emotionally dependent on superiors (negative relationship);

17. need for peer approval: the extent to which the individual is emotionally dependent on co-workers (negative relationship);

Although investigations of the career motivation concept have not been extensively reported in the literature, Wohlers and London (1989) found that a number of these characteristics - adaptability, initiative, and tolerance of uncertainty and ambiguity - loaded on a factor labelled resilience. The authors also found support for considering additional characteristics; decisiveness, tolerance for risk taking, and independence were positively loaded on resilience, while tolerance for stress was negatively loaded on this factor. These are summarized below in Table 2-2.



Table 2-2

Characteristics Positively Related to Career Resilience

1. self-esteem	2. need for autonomy
3. adaptability*	4. internal control
5. need for achievement	6. initiative**
7. need for creativity**	8. inner work standards**
9. development orientation	10. risk-taking tendency
11. fear of failure [-]	12. need for security[-]
13. tolerance of uncertainty and ambiguity*	14. competitiveness
15. career dependency [-]	16. need for supervisor approval
17. need for peer approval	18. decisiveness*
19. tolerance for risk taking*	20. independence*
21. tolerance for stress* [-]	

Notes. \* characteristics found to load on resilience (Wohlers & London, 1989).  
 \*\* characteristics found to load on other factors (Wohlers & London, 1989).  
 [-] negatively associated with career resilience.

Within the career resilience domain, London (1983) describes three sub-domains: a) self-efficacy (expected to be positively related to career resilience); b) risk taking (expected to be positively related to career resilience; c) dependency (expected to be negatively related to career resilience). As predicted by London (1983), the correlates which identify the dependency sub-domain (career dependency, need for supervisor approval and need for peer approval) are all negatively related to resilience

with the exception of competitiveness. In particular, career dependency and its associated behaviors, waiting for information about career development and relinquishing responsibility for one's career planning to the organization appear to have a direct bearing on career change. Certainly those who have taken more personal responsibility and whose career-related behavior can be characterized as proactive would be more likely to consider changing careers.

According to London (1983), the correlates in the risk taking sub-domain, risk taking tendency, and tolerance of uncertainty and ambiguity should be positively related to career resilience while fear of failure and need for security would have negative relationships. Each of these correlates appears to have a potential bearing on the individual's tendency to consider career change alternatives. The individual who is more willing to assume responsibility for personal behavior, is organized even in unstructured situations, does not withdraw from difficult situations, and is willing to consider new opportunities where security may not be high, will be more likely to consider career change as an alternative.

The self-efficacy sub-domain comprises the remaining correlates: self-esteem, need for autonomy, adaptability, internal control, need for achievement, initiative, need for creativity, inner work standards, and development orientation. Although each of the correlates is expected to have a bearing on career change and to be related to career resilience as predicted (London 1983), development orientation, in particular, appears to have a more direct relationship to the present research topic. Defined as "...desire to expand one's skill or knowledge..." (London, 1983, p. 623), development

orientation is related to the individual's receptiveness to tuition aid, in-house training programs, and rewards for development. For the developmentally-oriented employee, these organizational career management activities would be supplemented by individual career planning activities such as enrolment in courses, staying abreast of developments in one's field, and skill improvement. London (1983) expands his discussion of career planning when dealing with the second career motivation dimension, career insight.

In subsequent work (London & Stumpf, 1986), the sub-domains of career resilience are considered to be belief in oneself, (corresponding to the self-efficacy sub-domain), need for achievement (originally a correlate in the self-efficacy sub-domain) and willingness to take risks (corresponding to the risk taking sub-domain). The dependency sub-domain is not referred to nor is it mentioned in the most recent discussion of career motivation (London, 1991) which, in fact, makes no reference to any sub-domains. Since the theory of career motivation has yet to be tested on a sample of individuals who have lost their jobs as a result of organizational restructuring, it may be more appropriate to retain all of London's original sub-domains.

### Career Insight

Career insight is defined as "... the extent to which the person has realistic perceptions of him or herself and the organization and relates these perceptions to career goals." (London, 1983, p. 621). As with career resilience, a number of correlates can be specified by combining the original description of career insight

(London, 1983) with the results of the more recent factor analysis of Wohlers and London (1989).

London (1983) listed several characteristics expected to be associated with career insight:

1. goal clarity: the extent to which career goals are clear;
2. path goal clarity: the extent to which the methods for attaining career goals are clear;
3. goal flexibility: willingness to adjust career goals (negative relationship);
4. need for change: need for different career experiences (negative relationship);
5. social receptiveness: the individual's awareness of various organizational and interpersonal forces influencing career progress;
6. self-objectivity: possessing an accurate impression of personal strengths, weaknesses and motives;
7. realism of expectations: realistic expectations regarding career outcomes;
8. career decision making: the extent to which career decisions can be described as decisive and based on thorough consideration;
9. future time orientation: the extent to which the future is anticipated and actively pursued.

Of these characteristics, goal flexibility and need for change are negatively related to career insight.

In a recent study, Wohlers and London (1989) found several characteristics that

loaded positively on a factor labelled insight: self objectivity, leadership, sensitivity, organization sensitivity, and organization awareness. The characteristics from both lists are combined in Table 2-3.

Table 2-3

Characteristics Positively Related to Career Insight

- |                             |                               |
|-----------------------------|-------------------------------|
| 1. goal clarity             | 2. path goal clarity          |
| 3. goal flexibility [-]     | 4. need for change [-]        |
| 5. social perceptiveness    | 6. self-objectivity*          |
| 7. realism of expectations  | 8. career decision-making     |
| 9. future time orientation  | 10. leadership*               |
| 11. sensitivity*            | 12. organization sensitivity* |
| 13. organization awareness* |                               |

Note. \* characteristics found to load on career insight (Wohlers & London, 1989).  
 [-] negatively associated with career insight.

In the original formulation of the theory of career motivation (London 1983), there are no sub-domains identified for career insight. In subsequent statements of the theory (London & Stumpf, 1986), career insight is described as comprising clear career goals and knowledge of one's strengths and weaknesses. For career insight, these do not appear to have the same status as the career resilience sub-domains discussed previously; they each appear to stem from single correlates in the original research.

In general, the career insight correlates appear to have some bearing on career

change. According to London and Bassman (1989), insight involves understanding personal strengths, weakness, interests, and level of career satisfaction. Insight is also increased when individuals understand potential career changes, gather information about career opportunities, and identify realistic goals and action plans. In other words, behaviors related to career planning contribute to the development of career insight (London, 1983).

However, one problem which emerges in considering career insight is its negative relationship to goal flexibility and need for change. These characteristics, defined respectively as the willingness to modify career goals and interest in different career experiences would appear to be important attributes for individuals choosing to change careers. In proposing these negative relationships, and by referring to goal clarity and path goal clarity, London (1983) virtually defines the boundaries of career insight in terms of one career with an upward linear path within one organization. This implicit treatment of career is not consistent with a basic proposition of the present research, namely that career insight will be applicable to career change, i.e., a nontraditional career. In addition, in his later work, London appears to recognize career insight as a factor related to the potential for career change (London & Bassman, 1989).

How can the apparent contradiction between London's use of career insight be reconciled with the present application of career motivation? The basis for London's theory development lies in the AT&T studies conducted by Bray, Campbell and Grant (1974). It is quite conceivable that in a large organization which undoubtedly

dominated its environment, sufficient stability existed to dramatically reduce the likelihood of an individual confronting the possibility of career change for other than voluntary reasons. The data on which the theory of career motivation is based was collected during the 1970s and early 1980s, prior to the breakup of AT&T, a period of high stability in which one career in one organization over a working life was the accepted standard. Contingencies brought about by acquisitions, mergers, and downsizing would not have affected an organization like AT&T during the period in which this research was conducted. It is also likely that any original subjects who subsequently changed careers and left AT&T ceased to be part of the sample. Furthermore, it is likely that an organization like AT&T would not have attracted the kinds of individuals who would have been more likely to actively pursue career change.

In unstable environments, more common to many contemporary organizations, having realistic expectations of oneself and the organization (career insight) may of necessity imply a willingness to modify or alter career goals (goal flexibility) and should not negate interest in different career experiences (need for change). In fact, London (1983) describes changing goals in changing circumstances as behavior associated with goal flexibility. It is precisely this redefined view of the relationship between goal flexibility, need for change and career insight which must be taken here in order to apply the latter to the investigation of career change.

Assuming goal flexibility and adaptability are closely related, further support for an expected positive relationship between goal flexibility and career change is

provided by Pazy (1988). She investigated the relationship between career effectiveness and career planning, which she defined as a process of self-assessment, goal setting, and designing goal-attainment routes. Her conceptualization of career effectiveness was based on Hall's (1986b) definition which specified four career outcomes: performance, attitudes, career identity, and adaptability. According to Pazy (1988), "Adaptability is the capacity to acquire new skills and knowledge in the face of changing career demands"(p. 312). Her findings indicated a significant positive relationship between individual career planning and adaptability, as well as between proactivity (assuming personal initiative for career decisions) and adaptability. In addition, Gould (1979) found that individuals who scored higher in career effectiveness dimensions including adaptability, also reported more extensive career planning.

In conclusion, career insight as originally described by London appears to have a bearing on career change. However, because of the environmental conditions present when the original data was collected, not all of the original correlates (London, 1983) should be related to insight in the same way within a sample of career changers. Therefore, it may be necessary to consider perceptions of personal strengths and weaknesses and perceptions of organizational/career limitations as two sub-domains which are related both to career change and to continuation in the same career. Correlates of career insight such as the propensity for goal flexibility and the need for change should have positive relationships to career change.



### Career Identity

According to London (1983), career identity represents the degree to which career is central to one's identity. It is a concept closely related to work involvement and upward mobility which serve as two sub-domains for career identity. The following characteristics are all positively associated with the work involvement sub-domain:

1. job involvement: interest in and satisfaction from one's present job
2. professional orientation: identification with an area of specialization
3. commitment to managerial work: preference for managerial work compared to other types of work
4. identification with the organization: how central the organization is to one's identity.
5. primacy of work: satisfaction derived from one's career compared to other areas of life.

The characteristics positively associated with the upward mobility sub-domain are:

1. need for advancement: the need to be promoted
2. need for recognition: the need to be appreciatively acknowledged
3. need for dominance: the need to lead and direct
4. financial motivation: the need to make money
5. ability to delay gratification: the willingness to wait for promotion and other career rewards (negatively related to upward mobility)

In their recent study, Wohlers and London (1989) also found six characteristics which loaded positively on a factor they labelled identity: initiative, energy, tenacity, work standards, career ambition, and creativity. Both lists of characteristics are summarized in Table 2-4.

Table 2-4

Characteristics Positively Related to Career Identity

- |                                  |   |
|----------------------------------|---|
| 1. job involvement               | 2. professional orientation             |
| 3. commitment to managerial work | 4. identification with the organization |
| 5. primacy of work               | 6. need for advancement                 |
| 7. need for recognition          | 8. need for dominance                   |
| 9. financial motivation          | 10. ability to delay gratification [-]  |
| 11. initiative*                  | 12. energy*                             |
| 13. tenacity*                    | 14. work standards*                     |
| 15. career ambition*             | 16. creativity*                         |

Notes. \* characteristics found to load on career identity (Wohlers & London, 1989).

[-] negatively associated with career identity.

London (1983) proposed that career identity comprises two sub-domains, work involvement and desire for upward mobility. Both of these appear to have some bearing on career change. These sub-domains were also referred to in subsequent discussions of career motivation (London & Stumpf, 1986). In contemplating how career identity and its sub-domains are related to career change, it is necessary to specify whether the former career or the new career is being considered. In relation to

the prior career, there should be declining work involvement and less desire for upward mobility, while the opposite would be evident for the new career.

Support for this position is provided by London and Bassman (1989) who state that when companies are faced with the task of retraining midcareer workers, training programs should be geared to developing new career identities. In other words when the objective is change, new career identities must evolve. Examples are provided of companies promoting volunteerism and sabbatical projects, which are not related to the individual's career, as a technique for gaining exposure to new potential career identities. The emphasis appears to be on reducing career identity in relation to the prior career as a prerequisite for receptivity to future change. In conclusion, it is likely that subjects who have already decided on or are considering a career change will demonstrate low career identity in relation to the prior career.

#### Relationship Between the Three Dimensions of Career Motivation

According to London (1985), career resilience develops over time from childhood and adolescent experiences, and although it is not entirely static, it is more stable than career insight and career identity. The latter two tend to vary according to work- related circumstances.

London (1985) has concluded that career resilience precedes career insight and that high levels of career resilience will contribute to the earlier development of career insight. However, he also proposes that the relationship is reciprocal and that "Once established, career insight may reinforce the level of career resilience" (London, 1985, p. 66). The relationship between career insight and career identity also appears to be

reciprocal.

Career resilience precedes career identity, but London also claims that different combinations of these two dimensions are possible. Of interest in the present research are individuals high in resilience but low in identity. When such individuals also demonstrate high levels of career insight, "...they will realize that they have not yet found themselves and may anticipate that their career identity will emerge as they have more experiences and glean more information about themselves and the organization" (London, 1985, p. 67). Subjects who share this profile and are forced to leave the organization as a result of restructuring, may be more likely to search for a new career in an effort to find themselves.

### Summary

Traditional theories of career change focus on psychological processes related to person-environment fit, and adult development. These theories limit the extent to which career change can be conceived as a strategic response for individuals in organizations in periods of restructuring brought about by environmental turbulence. To view career change in this manner, a new way of describing the concept must be found.

The application of career motivation theory directs attention to the potential effects of career planning and career management. If a broader view of career planning and career management is taken, then it is possible to consider whether they can have an effect on how an individual will react to the prospect of changing careers. If career planning and career management are viewed as building the types of skills

necessary for effectively responding to career disruption, then they become another strategic option for organizations wishing to reduce the work force.

A theoretical framework for considering possible relationships between career change and career resilience, career insight, and career identity, as well as career development, is provided by the theory of career motivation (London, 1983).

Although very little research has been conducted to test the theory, and no research has been found applying this theory to career change, its three dimensions, career resilience, career insight, and career identity appear to have a direct bearing on the present research topic.

More recently, London and Bassman (1989) described some career motivation implications when individuals are confronted with the prospect of changing careers:

People may become bored or feel that they could accomplish more. They may lose a job or work in a company that has few advancement opportunities. They may feel like runners-up. A solid foundation of resilience is likely to prompt exploration of alternatives in midcareer. (p. 342)

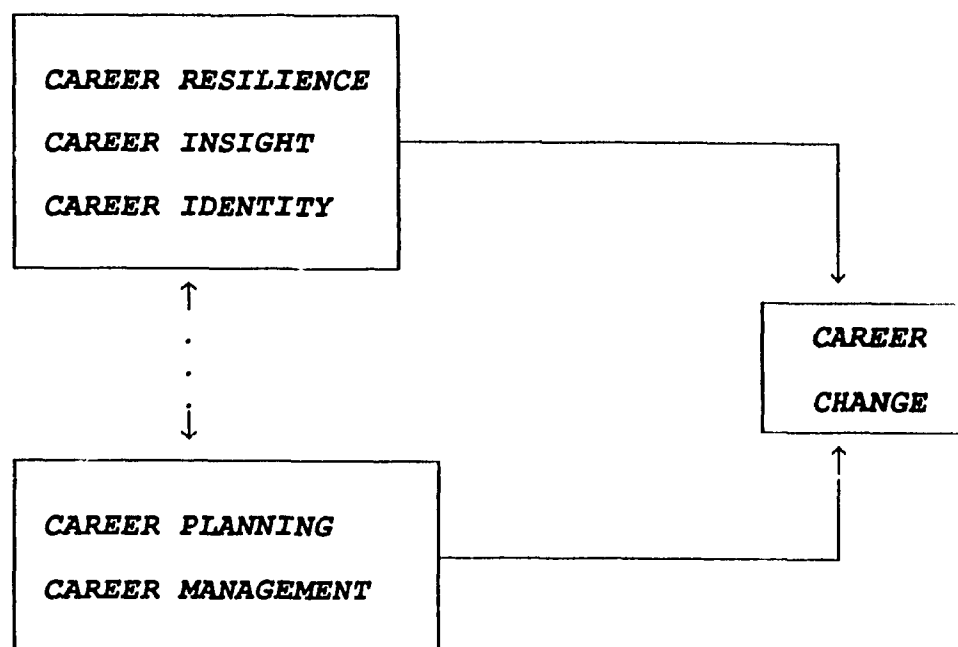
It appears that career motivation theory has the potential to contribute to what is currently known about career change by offering a theoretical framework for a new perspective. Although many concepts in a theory of motivation are of necessity related to personality, the theory of career motivation recognizes the importance of situational conditions such as career development. Career motivation is partly a process theory which in the present research helps to describe the possible relationships between previous career development activities and career change. For example, since the theory suggests that individuals can develop varying degrees of

career insight, career identity, and to a lesser extent, career resilience, prior career development experiences will contribute to differential outcomes with respect to these dimensions. Consequently, career motivation theory appears to contain a variety of elements which permit consideration of career change as being related to prior career experiences.

### A Model of Career Change

A model of career change which captures the elements of organizational change in a turbulent environment is presented in Figure 2-1. Whereas traditional models of career change have examined the individual's psychosocial development or congruence between career and work environment type, the present model suggests that career change is associated with career resilience, career insight and career identity. In addition, career change is related to career management and career planning experiences.

Figure 2-1. A model of career change.



#### Environmental Constraints on Career Choices

The nature of change in organizational environments will undoubtedly play a major role in the type of structure many organizations will need to adopt in the future. As a result of technological, demographic and economic changes in the environment, the evidence appears to indicate that even those organizations which have enjoyed relatively stable environments in the past may be placed in a position where restructuring becomes a necessity (Howe, 1987; Nielsen, 1985; Pascarella, 1986; Quartararo, 1988; Sanderson & Hayes, 1990; Truffaut, 1990).

These restructuring responses to environmental turbulence result in cutbacks and job elimination reducing the likelihood that established career paths, evolved during periods of environmental stability and low levels of uncertainty will remain. When organizational restructuring results in the elimination of management positions,

those who depended on a slow but steady rise to the top are faced with career disruption (Nielsen, 1985; Truffaut, 1990). Since traditional theories of career change focus on psychological and developmental processes (Holland, 1973; Levinson, 1978; Super, 1984) introducing environmental turbulence as a contextual variable in the career change process exceeds the limits of such approaches.

Consequently, the model presumes that career disruption is the result of organizational restructuring, an organizational response to environmental turbulence that results in cutbacks and job elimination. Faced with career disruption, the individual may have two alternatives: exit, or remain if offered a reassignment. Exit may involve downward or lateral movement (Hall, 1986a) within the same general occupational area, within a different organization, or, as is the contention of the present research, it may involve a career change (i.e., a significant change in one's occupational domain). In fact, all members of the sample in the present research had already left their former organizations.

Of interest in the present research are situations where restructuring results in exit behavior, a form of career movement which, for the most part, has not yet found legitimacy within existing organizational cultures (Hall, 1986a). Faced with career disruption, individuals who leave the organization may respond by persisting in their career, i.e., looking for upward, downward or lateral shifts in similar organizations and occupational fields, or changing career.

Exit movement (i.e., leaving the organization for similar work in a similar organization) is likely to be a less viable alternative during periods of environmental



turbulence. Logically, it is more likely that an organization confronting environmental turbulence is reacting to industry-wide conditions. Consequently, if an individual leaves an organization as a result of restructuring there will be a reduced probability that he will be able to find a similar position in another organization in the same industry. Any positions that might have been open in the second organization within the industry would likely have been filled by individuals being reassigned as a result of similar environmentally-induced restructuring. Therefore, an important assumption of the present research is that opportunities for a new job within one's current occupational area are more limited when the environment creates the need for organizational restructuring. This does not imply that the opportunities for job or employer changes within one's general career area are entirely lacking; there will be some choices for the individuals, but these options are likely to be more limited.

Conditions of environmental turbulence leading to career disruption are likely to increase the prospect of career change, i.e., individuals are increasingly likely to embark on a new career direction, which would include a change in occupational field and a repetition of exploration and entry behavior related to the second career. It is under circumstances such as these that differences in individual characteristics, particularly career motivation, and past career planning and career management experiences are increasingly likely to influence career decisions. The present research aims to explore the proposition that the individual's degree of career change is related to career resilience, career insight and career identity (London, 1983), and prior career planning and career management experiences.

### Statement of Hypotheses

The career resilience dimension of career motivation comprises three sub-domains: a) self-efficacy, b) risk-taking and c) dependency. The relationships between these three sub-domains and career resilience, as predicted by London (1983), are all expected to hold with career changers. Associated with self-efficacy are behaviors manifesting belief in oneself, striving for autonomy, receptivity to change, assuming control of various work aspects, striving to achieve, taking action for self-benefit (proactivity), creative approaches to work assignments, priority for quality and actively seeking professional development. Faced with constrained choices within one's occupational area, would an individual with a high resilience profile opt for the equivalent of a downward or lateral move or a change in career? It seems likely that for people changing organizations under such conditions, career resilience and its sub-domains should discriminate between career changers and non-changers.

H.1. Career resilience is positively related to career change.

H.2. The self-efficacy sub-domain of career resilience is positively related to career change.

Risk-taking, the second career resilience sub-domain is concerned with behaviors related to the individual's willingness to take risks and tolerance for uncertainty while being negatively related to need for security and fear of failure. These relationships are expected to hold for career changers.

H.3. The risk-taking sub-domain of career resilience is

positively related to career change.

The dependency sub-domain and its associated correlates and behaviors are expected to be negatively related to career change. Highly dependent, less competitive individuals are expected to be less comfortable with the prospects of changing careers.

H.4. The dependency sub-domain of career resilience is negatively related to career change.

An additional factor, originally identified as a career resilience correlate (London, 1983) is development orientation. As presented earlier, development orientation and its associated behaviors represent such an important aspect of career change that a relationship for this correlate will be investigated independently of resilience and its three sub-domains.

H.5. Development orientation is positively related to career change.

Some subjects, particularly those still in outplacement at the time the questionnaire is completed, may have not yet arrived at a career decision and successfully found a new job. In such cases, the research will investigate career change intentions and preparations. According to Rhodes and Doering (1983), actual career change is preceded by intentions and preparatory actions. Differences in intentions and preparatory actions should be evident among those who will choose to change careers in the future versus those who will choose to persist in their present careers. Consequently, there should be a relationship between intentions and preparatory actions and each of the resilience related factors.

H.6. Career resilience is positively related to career change intentions and preparatory actions.

H.7. The self-efficacy sub-domain of career resilience is positively related to career change intentions and preparatory actions.

H.8. The risk taking sub-domain of career resilience is positively related to career change intentions and preparatory actions.

H.9. The dependency sub-domain of career resilience is negatively related to career change intentions and preparatory actions.

H.10. Development orientation is positively related to career change intentions and preparatory actions.

Of the three career motivation dimensions, career insight is the most difficult to apply. Career insight is associated with career planning behaviors (London, 1983) and while arguments can be developed linking career planning (and consequently career insight) to career change (London & Bassman, 1989), equally forceful arguments could be articulated in support of a positive relationship between career planning and persistence in the prior career. After all, it may not be unreasonable to conclude that both career changers as well as non-changers are acting on the basis of realistic perceptions of personal strengths and abilities, and organizational limitations on career goals.

The reasons for this apparent contradiction in the relationship between career insight and career change are likely rooted in the original AT&T research serving as the basis for the theory of career motivation. The theory was developed from research conducted in a single organization, with subjects who were followed over an extended period of time (Bray & Howard, 1988) during a period of relatively high environmental stability; consequently, the career motivation dimensions were not derived from investigations of subjects who left the organization and experienced career change. As originally conceived, career motivation is a theory of career development and persistence, not a theory of career change.

Regarding career insight, it is possible that both career changers and non-changers could have high levels of those characteristics associated with knowledge of personal strengths and weaknesses; consequently there should not be any variance between career changers and non-changers with respect to this sub-domain of career insight.

With respect to goal flexibility, London (1983) described this correlate as being negatively related to career insight which appears to be contradictory with the flexibility and adaptability successful career changers are expected to have. To reconcile the present research with London's original formulation requires a clarification of the type of goals to which reference is made.

The first type of goal would concern outcomes such as standard of living, prestige, or status. These would be considered end or ultimate goals corresponding to second level outcomes in expectancy theory terms. The second type of goal would

concern the actual choice of career or instrumentalities (borrowing further from expectancy theory), that permit achievement of second level outcomes. In other words, an individual following a career in marketing (instrumentality) would aspire to certain goals related to standard of living, prestige, or status (second level outcomes).

These second level outcomes would not necessarily be modified with the realization that the first career is no longer a viable path for their achievement. Consequently, the career changer may in fact manifest low flexibility with respect to second level outcomes. For example, the operations or production middle manager whose standard of living or status goals required upward advancement would not modify these objectives upon having his position eliminated. Consideration would be given to finding a new career, for example, in sales or self-employment, which would allow these goals to be achieved. In other words, goals related to means or instrumentalities would be modified to permit consideration of new paths.

The last correlate of career insight, need for change is expected to be higher for career changers than for non-changers. Individuals who find themselves in the position of making a career decision may be more likely to consider a change when they manifest strong needs in this direction.

H.11. Career insight is not positively or negatively related to career change.

H.12. Instrumental goal flexibility is positively related to career change.

H.13. Outcome goal flexibility is negatively related to

career change.

H.14. Need for change is positively related to career change.

H.15. Career insight is not positively or negatively related to career change intentions and preparatory actions.

H.16. Instrumental goal flexibility is positively related to career change intentions and preparatory actions.

H.17. Outcome goal flexibility is negatively related to career change intentions and preparatory actions.

H.18. Need for change is positively related to career change intentions and preparatory actions.

The notion of two types of goals is also consistent with the original formulations about the reciprocal relationship between career insight and career identity (London, 1983). As applied to career change, career identity is the degree to which the previous career is central to the individual's identity. Higher degrees of centrality should be related to more outcome goal flexibility, i.e. since the individual is so closely identified with the career, goals which can no longer be achieved must be modified to permit maintaining the career by considering downward or lateral moves. Extending the earlier example, the operations or production manager whose job had been eliminated would be more likely to consider a career change if the previous work was not highly central to his identity, if he demonstrated flexibility about the types of career paths he would be prepared to consider, and if he manifested a high need for

change. In other words, low levels of career identity would be accompanied by higher levels of instrumental goal flexibility and high levels of need for change, conditions conducive to career change. Consequently, career identity is expected to have a negative relationship with career change.

Considering the two sub-domains of career identity, work involvement and desire for upward mobility, highlights the need to specify the career with which the subject is identifying. Low levels of work involvement and desire for upward mobility refer to the prior career. For the prospective career, high levels of work involvement and desire for upward mobility would be manifested.

H.19. Career identity associated with the prior career is negatively related to career change.

H.20. The work involvement sub-domain of the career identity dimension associated with the prior career is negatively related to career change.

H.21. The desire for upward mobility sub-domain of the career identity dimension associated with the prior career is negatively related to career change.

H.22. Career identity associated with the prior career is negatively related to career change intentions and preparatory actions.

H.23. The work involvement sub-domain of the career identity dimension associated with the prior career is



negatively related to career change intentions and preparatory actions.

H.24. The desire for upward mobility sub-domain of the career identity dimension associated with the prior career is negatively related to career change intentions and preparatory actions.

The model also addresses the relationship between career planning and career management and career change. Participation in career planning activities appears to be related to adaptability (Pazy, 1988), which can be considered to encompass career change. According to London (1983), participation in career planning and career management activities are expected to affect levels of career resilience, career insight, and career identity. Although London (1983) claims that career resilience is the most stable of the three dimensions, some of its elements are subject to change and are considered to contribute to career insight and career identity, dimensions which develop later as a result of organizational experiences.

In addition to the relationships between the three career motivation dimensions, the contributions of career planning and career management activities to each of the dimensions also needs to be considered. As described by London and Bassman (1989), participation in various training experiences supports the dimensions of career motivation. Resilience in particular is influenced by professional development while career planning has a more direct impact on career insight. Identity can be influenced by experiences which permit exposure to new careers.

Career motivation theory predicts that participation in career planning and career management activities will contribute to career resilience, career insight and career identity (London, 1983; London & Bassman, 1989; London, 1991). However, the aim of the present research is not to investigate these relationships nor to clarify the relationships between the three career motivation dimensions. Fundamentally, the basic research question addressed in the current investigation is whether there is a relationship between the degree of career change and prior career experiences as measured by career motivation.

The present research also recognizes that if career motivation theory holds, it suggests a relationship between career change and past career experiences as measured by participation in career planning / career management activities. A secondary objective of the current investigation is to assess this relationship. Extending Pazy's (1988) findings to the present research, participation in career planning activities are expected to result in greater adaptability. Assuming career change is a form of adaptability, then career changers and non-changers should differ in terms of their participation in career planning activities. Pazy (1988) also found evidence to support a positive relationship between career management and career planning but not between career management and adaptability. Given the lack of consistency in these findings, and because there is generally a close relationship between career planning and career management (Gutteridge, 1986), it is worthwhile investigating the relationship between career management and career change.

Anticipating that some subjects, particularly those still in outplacement, may

not yet have reached a career decision at the time the questionnaire is completed, the research will investigate their intention and preparations for change.

H.25. Participation in career planning is positively related to career change.

H.26. Participation in career management is positively related to career change.

H.27. Participation in career planning is positively related to career change intentions and preparatory actions.

H.28. Participation in career management is positively related to career change intentions and preparatory actions.

### CHAPTER 3: METHODOLOGY

This chapter presents the methodology used to test the research hypotheses. The hypotheses are divided into two major groups, the first examining the relationships between career motivation dimensions, sub-domains, their correlates and career change, and the second investigating the relationship between participation in career development activities and career change.

#### Overall Research Design

In chapter two, the research evidence indicated that career change has been treated as the outcome of psychological processes. A career development perspective is a new approach, having received limited research attention (Pazy, 1988); consequently the focus of this aspect of the research implies a more exploratory orientation.

The link between psychological explanations of career change and the career development approach is provided by the theory of career motivation. Although the theory is a relatively new addition to the careers literature, it has received some research attention, and measures of the various constructs have been developed (London, 1991; Noe et al., 1990). Nevertheless, the theory has been subjected to limited testing and validation and has not been evaluated specifically in relation to career change.

One of the criteria for theory evaluation is utility (Bacharach, 1989), in other words, can the theory of career motivation explain career change? Chapter 2 concerned itself with the reasons why career motivation is a more useful approach to

understanding career change processes in a turbulent environment. The research design is concerned with designing a test of the relationship between career motivation and career change under turbulent environmental conditions.

### Sampling Strategy

Given ideal conditions, a random sample of career changers and non-changers would have been selected and compared on measures of career motivation before and after the job transition. Various constraints required application of a different sampling strategy. A true experimental design would not have been feasible or ethical given the organizational setting and the conditions which such designs require.

In fact, as is the case with the vast majority of organizational research (Bryman, 1989), reliance on a convenience sample was appropriate. Economic conditions at the time the research project was being developed resulted in a number of companies announcing large reductions in their workforces. Two of these companies, both involved in the transportation industry, stated that large numbers of managers would be affected by the downsizing plans.

Nevertheless, a convenience sample presented several advantages. It became clear that studying this group of managers would be a useful way of evaluating how the theory of career motivation applies to career change in a highly turbulent environment. The sample offered an opportunity to record another facet of the impact of restructuring and downsizing practices. According to Nicholson (1984), conditions of uncertainty offer an opportunity to observe social dynamics which are less apparent otherwise. The research strategy, accessing sample participants in transition within a

turbulent environment was intended to reveal some of these social dynamics. Consequently, a convenience sample of managers whose positions had been eliminated was the chosen sampling strategy.

Limiting the sample to former managers in two large organizations avoided duplication of problems related to gaining access and cooperation. This is usually a factor in the use of convenience samples (Bryman, 1989) and would have been an even more serious problem for the present project. Since the sample participants did not leave voluntarily, companies would not have been motivated to do anything which might have appeared to prolong their relationship with these former employees.

Despite limitations, reliance on a convenience sample is typical of organizational research and has the potential to contribute positively. "For even though the results of any particular study may not allow the researcher to generalize beyond the study's sample, the cumulative results of many different studies of some phenomenon may provide some basis for assessing the merits of any given hypothesis or set of hypotheses" (Stone, 1978, p. 83). Generalizations beyond the sample may be possible given certain assumptions about the representativeness of the sample compared to similar classes of employees in other organizations, and similarities between the transportation industry and other industries. These points will be addressed in the final chapter.

### Research Process

The present research can be described as a cross-sectional study since scores for the independent and dependent variables were gathered at the same time (Stone,

1978). A fundamental assumption in this research project is the relative stability of many of these personality-related correlates of career motivation. This assumption is necessary to support the logic in arguing that states of career motivation precede the career change decision or intention, an assumption which is quite consistent with career motivation theory (London; 1991).

To support these arguments, sample participants were asked specifically to respond based on their pre-transition careers. One might argue that post-transition experiences, particularly attention and assistance received in outplacement, could contribute to higher levels of career motivation. These could distort recollections of pre-transition attitudes or values leading to inflated scores. An equally valid and perhaps more plausible scenario could be that feelings of resentment, anger at former employers, and a loss of self-confidence would negatively affect scores. Where these tendencies might exist, it is assumed that the effects would either cancel each other out or be relatively minor.

#### Research Sites

The cooperation of the two organizations selected for participation in the research was necessary in order to obtain lists of affected managers and their addresses. However, since some managers had already left the organization, the collaboration of outplacement consultants, a third source of data was also important. Representatives of the two firms handling the most clients from the transportation companies agreed to meet with the researcher and although both recognized the value of the research project, only one was willing to cooperate.

The approval process at the two transportation companies was complex and required a number of meetings with various members of each Human Resources department. In the case of one of the organizations, even after support for the project had been received from various levels, the contact was unable to directly provide the researcher with names and addresses of the sample since this contravened company policy. Instead the researcher was directed to the outplacement consultants who were encouraged by the employer to cooperate with the project. Fortunately the firm which had already agreed to cooperate had been awarded a substantial contract and was able to provide access to a large number of clients.

#### Sample

This section describes how sample participants were identified, the rate of questionnaire returns, and various sample characteristics. As discussed, the sample consisted primarily of managers in two transportation organizations whose positions had been eliminated. The names and addresses were provided either by the organization or by the outplacement firm. In one case, due to its policies of confidentiality, the outplacement firm distributed the questionnaire on behalf of the researcher to 2 individuals who were among its clients. A total of 424 questionnaires were distributed of which 406 were sent to former employees of the two main organizations, and the balance were distributed by hand to outplacement clients, formerly employed by 9 other organizations. The sections which follow discuss the rate of questionnaire returns and various sample characteristics.



### Response Rate

The initial response rate, approximately 13.5%, was unexpectedly low and a reminder card was sent to all sample participants excluding those who had voluntarily identified themselves in completed questionnaires. While this second mailing resulted in some improvement, the total number of respondents was still considered to be low. Consequently, an additional 18 questionnaires were distributed by hand to clients at one of the outplacement firms, of which 16 were returned. Although these additional sample participants were not drawn from the transportation industry, including them made it possible to have a sufficiently large sample for conducting the desired statistical analyses. It is also reasonable to assume that environmental conditions in the industries represented by the additional sample participants were not significantly different from transportation since the 18 sample participants had been working primarily in the service sector, and had been referred to outplacement because their previous jobs had been eliminated as a result of restructuring.

Table 3-1

Number of Questionnaires Distributed and Response Rate

	Distributed	Returned completed	Undelivered /unusable
Organization A			
Consultant 1	54		
Consultant 2	6		
Consultant 3	6		
Consultant 4	2		
Sub-total	68	21	18
Organization B	344	55	19
Sub-total	412		
Other (Consultant 1)	18	16	0
Returned without organization identification		2	
Returned incomplete			6
	<hr/>	<hr/>	<hr/>
Total	430	94	43

The 68 managers from organization A had been referred to four outplacement consultants, of which the first and second provided names and addresses of sample participants directly to the researcher while the third and fourth offered to distribute the questionnaires to their respective clients. An additional 18 questionnaires were distributed by hand to clients of the first consultant.

Excluding undelivered questionnaires, the response rate for organization A was 42% while the rate for organization B was 17%. The highest response rate, 88.8% was for questionnaires distributed by hand at one of the outplacement firms where the researcher was able to personally solicit the collaboration. The combined rate for the

total sample excluding questionnaires returned completely blank and undeliverable was 24.3%, on a base of 387 questionnaires.

When the questionnaires were mailed, all the employees targeted for job elimination had already left their respective organizations. Within organizations A and B, contact had been initiated with a member of the human resource staff responsible for some aspect of the downsizing / outplacement process. These individuals had assessed the extent to which they could cooperate and provided either the names and addresses of possible sample participants or the names of contacts at the outplacement firms. In the case of outplacement consultants 1, contact had already been initiated with a professional in the outplacement service.

#### Description of the Sample

The sample consisted primarily of managerial and professional employees who worked for one of two companies (N=78) in the transportation industry with an additional sub-group of managers and professionals working for other organizations (N=16). Although the two primary organizations had been asked to supply the names of individuals in management positions only, defined as being responsible for work carried out by subordinates, some non-management and technical/professional positions were represented in the sample. These sample participants were retained for a number of reasons, the foremost being to maintain gender representation. Since a majority of women fell into the non-management and technical/professional categories, to have eliminated these categories would have removed most female sample participants from consideration. Table 3-2, a frequency count of the sample by gender and former

company indicates that men outnumbered women by approximately 2.5 to 1.

However, closer inspection reveals that almost all the women were former employees of company B.

Table 3-2

Frequency Count by Gender and Former Company

	Male	Female	Total
Company			
"A"	19	2	21
"B"	34	23	57
Other	13	0	13
Total	66	25	91

Notes:

Missing females = 3

All companies made use of outplacement services for former employees and of 41 sample participants who responded to the outplacement questions, all were or had been clients of an outplacement service.

Eighteen sample participants who indicated they had found other employment responded and the job level and function changes are presented in Table 3-3.

Table 3-3

Comparison of Job Levels for Current and Former Positions

(a) Males

New job type							
	Manager	Non-management	Technical/professional	Consulting	Retired	Self-employed	Total
Pre Transition job type							
Senior manager	0	0	0	1	1	0	2
Manager	0	0	1	0	1	2	4
Junior manager	1	0	0	0	0	0	1
Non-management	0	3	0	0	1	1	5
Technical/professional	0	0	1	2	0	0	3
Total	1	3	2	3	3	3	15

(b) Females

New job type			
	Technical/professional	Consulting	Total
Pre-transition job type			
Junior manager	1	0	1
Non-management	1	0	1
Technical/professional	0	1	1
Total	2	1	3

Among the male sample participants, there seems to have been some movement between pre- and post-transition job types. Of two former senior managers, one moved into consulting while a second retired. No sample participants moved into a senior managerial position. Of 4 former middle managers, 1 moved into a technical professional field, a second retired, and the remaining 2 indicated they were self employed. No one moved into a middle management position. Only 1 sample participant reported a junior management job title and he found employment in a middle management position. Three of the 5 non-management employees remained in similar job types with 1 retiring and another becoming self-employed. Of the 3 technical/professional sample participants, 1 remained in this capacity while the other 2 became consultants.

Among the 3 women who reported job changes, 2 moved into technical / professional job types from junior management and non-management positions. The third moved from technical professional to consulting.

Job titles for those sample participants who had not yet found new employment were classified by level and function and the frequencies for males and females are provided in Table 3-4 (a) and (b) respectively.

Table 3-4

Frequencies of Job Function by Job Type for Sample participants Not Yet Employed(N=73)a) Males

	Job Function						Total
	Accounting /finance	Line	Planning	Human resources	Information systems	Marketing	
Job type							
Senior manager	1	1	0	0	0	0	2
Manager	2	7	0	1	0	3	13 <sup>a</sup>
Junior manager	1	11	1	1	1	0	15
Non- management	0	4	0	1	1	0	6
Technical/ professional	1	6	1	1	3	0	12 <sup>a</sup>
Total	5	29	2 <sup>b</sup>	4	5	3	48

table 3-4 continues

## (b) Females

	Job Function					
	Accounting /finance	Line	Human resources	Information systems	Not indicated	Total
Job type						
Senior manager	1	0	1	0	0	2
Manager	0	2	0	0	0	2
Junior manager	0	2	0	0	0	2
Non- management	1	2	3	0	2	8
Technical/ professional	1	2	2	2	1	8
Total	3	8	6	2	3	22

Notes. a) excludes one middle manager who did not indicate job function  
b) excludes one planner who did not indicate management level  
c) excludes one engineering technical/professional  
Missing male and female cases = 3

Among male sample participants, slightly over 60% had held management positions compared to only 27.3% of women. Males were relatively evenly divided among middle management, junior management and technical professional functions. Slightly lower frequencies were recorded for the senior management and non-management ranks. The largest group of males had been employed in service / production line functions with the next largest group fairly evenly divided between accounting / finance, planning, human resources, and information systems. Most women reported technical / professional or non-management designations ranks in either line or human resources functions.



### Data Collection Method

As mentioned earlier, questionnaire data were gathered with an instrument assessing the respondent's score on various measures of personality traits and work-related attitudes and values. The data consisted of responses on seven-point Likert-type scales which recorded the extent to which a particular trait, attitude or value was manifested.

The first section of the questionnaire (see Appendix A) was divided into two subsections, the first containing 34 items drawn from the career resilience sections of the Noe et al. (1990) and London (1991) career motivation scales, as well as sections of the Career Orientations Inventory (DeLong, 1988). The second subsection consisted of 44 items drawn from the career insight and career identity sections of the Noe et al. (1990) and London (1991) career motivation scales. In addition, it included items from scales covering career identity [adapted from Mael & Ashforth, (1992)], upward mobility (Prince, 1979), as well as sections of the Career Orientations Inventory (DeLong, 1988). The third subsection consisted of items drawn from a work involvement scale (Kanungo, 1982), and a self-efficacy scale (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982).

Two career motivation scales (London, 1991; Noe et al., 1990) were found and are reproduce in Appendices B and C. Of the London (1991) items, only item L12 was eliminated. This item refers to how hard a respondent worked and implies, as a standard, working long days or weekends. Since these sample participants were drawn from the transportation industry, they were responsible for delivering round-the-clock

services which might entail evening or weekend shift work. In addition, some sample participants at the supervisor or lower managerial level might be covered by work conventions limiting their choice in remaining after hours or coming in on weekends. An item from the Noe et al. scale tapped the same perceptions of work but referred to working during free time on job related activities. This item seemed to be much more suited for the selected sample.

Item N13 from the Noe et al. (1990) scale was also excluded from the questionnaire. This item tapped the extent to which sample participants kept up-to-date on company affairs. It appeared to be intended as a measure job involvement since it loaded on the career identity factor. However, in a highly uncertain environment, it is reasonable to expect that employees might be inclined to read about or otherwise inquire about company affairs more as an expression of anxiety or uncertainty than as an indicator of a sense of identification. Due to this possibility, the item was not retained for the questionnaire.

Background information was gathered on sample participants' age, sex, language, current employment status, length of employment, time elapsed since departure, pre- and post transition job title, and outplacement experiences.

#### Analysis of Data

The data were analyzed with SPSS-X version 4.1, and LISREL 7. A principal components factor analysis with varimax rotation was conducted on related sets of items to identify the common factors and determine their reliability as measured by standardized Cronbach alpha; for example, all London career resilience items were

entered in one principal components factor analysis. The extracted factors became the indicator variables in the confirmatory factor analyses and structural equation analyses using the LISREL version 7 software. Correlations were examined to see if there was support for the hypotheses related to sub-domains and correlates.

#### Operationalization of Constructs

Items drawn from published career motivation scales (London, 1991; Noe et al., 1990), already classified according to dimension, were compared to the list of career motivation sub-domains and related correlates which appeared with the original theory (London, 1983). London (1991) reported the following reliabilities for items associated with each dimension were: career identity: .83; career resilience: .80; career insight: .85. Average item-scale correlations for the Noe et al. (1990) scales were: career resilience .74; career insight: .76; career identity: .64.

In addition to the items from the London (1991) and Noe et al. (1990) career motivation scales, a number of other scales were used to measure many of the same dimensions and sub-domains. Both the London (1991) and Noe et al. (1990) as well as the other scales are described below and the latter are referred to as convergent measures in the summary provided in Table 3-5.

Table 3-5

Summary of Career Motivation Dimensions, Sub-Domains, Correlates and Measures

	London Items	Noc. et al. Items	Convergent Measures
<b>CAREER RESILIENCE</b>			
<u>Self-efficacy Sub-domain</u>	3	7	Sherer et al. (1982)
<u>Correlates</u>			
i) Development Orientation <sup>a</sup>	-	-	-
ii) Creativity	-	-	DeLong (1988)
iii) Autonomy	-	-	DeLong (1988)
<u>Risk-taking Sub-domain</u>	2	9	
<u>Correlates</u>			
i) Security			DeLong (1988)
<u>Dependency Sub-domain</u>	-	5	
<b>CAREER INSIGHT</b>	5	5	-
<u>Correlates</u>			
i) Path Goal Flexibility	-	2	-
ii) Outcome Goal Flexibility	-	1	-
iii) Need for Change <sup>a</sup>	-	-	-
<b>CAREER IDENTITY</b>	-	-	Mael & Ashforth (1992)
<u>Work Involvement Sub-domain</u>	6	4	Kanungo (1982)
<u>Upward Mobility Sub-domain</u>	3	-	Prince (1979) DeLong (1988)
<u>Note. a</u> original items			

Career Resilience

Career resilience items from both career motivation measures appeared to tap domains associated with the three sub-domains: a) self-efficacy, b) risk-taking, and c) dependency.

### Self-Efficacy

The self-efficacy sub-domain included measures of self-efficacy, creativity, autonomy and development orientation. Self-efficacy was measured by three items from the London (1991) scale, seven items from the Noe et al. (1990) scale and eight items from the Sherer et al. (1982) scale.

Correlates of the self-efficacy sub-domain were a) creativity, measured with the five-item creativity sub-scale of the Career Orientations Inventory (DeLong, 1988); and b) autonomy, measured with the five-item autonomy sub-scale of the Career Orientations Inventory. Although there were no specific hypotheses stated for these correlates, the measures were included to evaluate convergent validity, as these were expected to behave in a parallel fashion with items drawn from the London (1991) and Noe et al. (1990) scales. Three original development orientation items were included to permit evaluation of the hypothesis related to this correlate.

### Risk-taking

The risk-taking sub-domain included risk-taking tendency and dependency. Risk-taking tendency was measured with two items from London (1991), four items from Noe et al. (1990), and the three item security (future stability) sub-scale of the Career Orientations questionnaire.

### Dependency

The London (1991) career motivation questionnaire did not contain any items which appeared to measure dependency directly. Dependency was measured with five items from the Noe et al. (1991) questionnaire.

### Insight

Insight, the second dimension of career motivation, was not comprised of any sub-domains. It was measured with five items from the London (1991) scale, and five items from the Noe et al. (1990) scale.

Correlates of insight consisted of a) need for change, measured with three original items; b) path (instrumental) goal flexibility, measured by two of the eight items from Noe et al. (1990), and c) (outcome) goal flexibility, measured by one of the eight items from Noe et al. (1990). Three correlates were measured specifically because they were expected to relate differently to career motivation and career change for this population. It was expected that the principal components factor analysis would evaluate the extent to which these correlates could be extracted from the eight Noe et al. (1990) items.

### Career Identity

Career identity, the third career motivation dimension, comprises two sub-domains, a) work involvement, and b) upward mobility.

#### Work involvement

The work involvement sub-domain was measured using six items from the London (1991) scale, and four items from Noe et al. (1990) scale. In addition, ten items from the Kanungo (1982) job involvement questionnaire were also included.

#### Upward mobility

The upward mobility sub-domain was measured using three items from the Prince (1979) questionnaire and three items from the London (1991) scale. In

addition, the managerial competence sub-scale of the Career Orientations Inventory (DeLong, 1988) was used as a convergent measure of upward mobility.

### Career change

Sample participants in this study were expected to either have already made a career decision or to possess varying intentions for changing career. Intentions had already been previously introduced as a variable in the career change decision-making process (Rhodes & Doering, 1983).

Examples of previous measures of career change centered for the most part on comparing the pre- and post-transition careers using a standard set of criteria such as the Dictionary of Occupational Titles to assess the degree of difference. The scales developed for the present research tapped the sample participants' perceptions of the degree of career change based on defined dimensions of field, function, occupation, career area, as well as duties and skills. Sample participants were asked to indicate the extent to which they thought about finding a new job during the pre-transition period, the extent to which they now intended to search for a new job, and the extent to which they felt attracted to a new job. In addition, they were asked to compare the pre-transition job with their ideal job along the same dimensions. Those sample participants who had already found permanent employment were asked to compare their pre- and post-transition jobs on the same dimensions, i.e. field, function, occupation, career area, as well as duties and skills.

The dimensions were selected on the basis of previous work (Latack, 1984) which indicated that the degree of change between two jobs could be described by

different combinations of job dimensions. The scales developed for the present research allowed career change to be measured as a continuous variable.

#### Career planning.

Career planning was viewed as comprising activities and behaviors under the individual's control. A comprehensive list of career planning activities based on the work of Gutteridge (1986) (see Chapter 2) was used to identify activities to be included in the scale. The questionnaire included a total of 19 items (see Appendix A) referring to activities such as participation in career planning workshops, meetings with supervisors or consultants specifically to discuss career, or using a career resource centre. Respondents were asked to indicate their initial feelings about having participated in these types of activities, and whether they felt the activity was beneficial. In the case of activities which involved making inquiries for information, e.g., job postings or replacement plans, respondents were simply asked to indicate the frequency of these activities.

#### Career management

The same list of career planning activities (Gutteridge, 1986) was used to develop a career management scale consisting of 17 items (see Appendix A). Sample participants were asked to consider each of the career planning activities referred to in the career planning section, and to evaluate the extent of organizational support for participation in each of the activities. This approach was deemed to capture the respondent's perceptions of the degree of organizational support for career planning. These perceptions were expected to be more closely associated with the respondent's



level of participation in and awareness of organizational career management activities.

### Volition

Four items were developed to control for volition by exploring environmental constraints on career change (see Appendix A). Constraints included financial resources, spouse's career, family obligations, and perceived job market conditions. For example, it was possible that participants' career decisions would be influenced more by whether a spouse had a career which limited consideration of opportunities involving relocation. Consequently, respondents were asked to consider the extent to which the spouse's career as well as the other elements mentioned above were factors in their decision-making process.

### Summary

A sample of individuals who had lost their jobs due to organizational restructuring was deemed to be the best suited for investigating relationships between career change and various career motivation and career development dimensions. The sample included managers and professionals as well as a very small number who neglected to identify themselves in either category. The sample participants had all formerly worked for two major transportation companies and nine other service organizations faced with similar environmental conditions. The final response rate, 24.3% was sufficiently high to meet the minimum requirements of the intended statistical analysis.

An extensive questionnaire (see Appendix A) was distributed, measuring the various dimensions sub-domains and correlates using a variety of existing scales. The

primary instruments from which items were drawn were the London (1991) and Noe et al. (1990) career motivation scales, as well as a series of other scales which measured many of the same elements. The various dimensions sub-domains, correlates and measures are summarized in Table 3-5.

New scales to measure career change, career change intentions, career planning and career management were constructed for the research. These scales were based on recent theoretical formulations particularly with respect to career change (Latack, 1984), and career development (Gutteridge, 1986).

## CHAPTER 4: CONSTRUCT VALIDITY ANALYSIS AND RESULTS

This chapter, the presentation and discussion of the results related to construct validity, describes a series of principal components factor analyses identifying common factors, and a set of confirmatory factor analyses evaluating the relationships between these factors and the latent career motivation dimensions. The results of the structural equations and evaluation of the correlations testing the hypotheses are presented in Chapter Five.

### Exploratory Factor Analysis

The questionnaire consisted of items drawn from a number of different sources measuring career motivation, related indices, career change intentions, actual career change, participation in career planning activities, and perceptions of organizational support for career management. As noted, career motivation was measured by items drawn from two existing scales, one by London (1991) and a second by Noe et al. (1990).

Principal components factor analysis with varimax rotation identified common factors among the items in the questionnaire. The final sample size guided the number of items which were entered in the principal components factor analysis at any one time. Items were selected for each factor analysis on the basis of two criteria: a) the items were thought to be related to only one career motivation dimension, and b) the items were drawn from one of the two original questionnaires (London, 1991; Noe et al., 1990).

In addition, independent factor analyses were carried out on items from each

sub-scale of the Career Orientations Inventory (DeLong, 1988) as well as on items drawn from existing measures of self-efficacy (Sherer et al., 1982), job involvement (Kanungo, 1982), career identity (Mael & Ashforth, 1992), upward mobility (Prince, 1979), and a number of original items formulated specifically for this study.

### Career Motivation

Career motivation theory defines three dimensions, career resilience, career insight, and career identity, each of which were hypothesized to have unique relationships to career change. The principal components factor analysis results for each of these dimensions will be presented in turn. All principal components factor analyses of career motivation dimensions, sub-domains and correlates were based on a sample size of N=94. Sample item ratios for most of the principal components analyses were in the range of 18.8:1 and did not exceed 5.5:1, comparing favourably with ratios appearing elsewhere in the literature (Snell & Dean, 1992).

### Career Resilience

Five items in the London (1991) questionnaire were devoted to career resilience. The results of the principal components factor analysis are shown in Table 4-1.

Table 4-1

Principal Components Factor Analysis of London Resilience Items

	Item	Factor 1
L3.*	Did you welcome job and organizational changes?	.70
L2.	Were you willing to take risks (actions with uncertain outcomes)?	.69
L4	Could you have handled any work problem that came your way?	.68
L5.	Did you look forward to working with new and different people?	.61
L1.	Were you able to adapt to changing circumstances?	.61
	Eigenvalue	2.18
	Standardized Cronbach Alpha	.69

Notes. \* Corresponds to the full questionnaire listing in Appendix A.

The results indicate that all the London (1991) resilience items loaded on one factor and that the scale comprising these items had a reliability of .69. In this and all subsequent tables, reliability was measured by standardized Cronbach alpha.

Resilience was determined to be the common factor shared by these items.

According to the theory of career motivation, career resilience is one of three dimensions (London, 1991). Consequently, having found all of London's resilience items to load on one factor appears to be consistent with the theory. It would also appear that the sub-domains of resilience, risk-taking tendency, self-efficacy, and dependency are not sufficiently distinct to be identified by London's career resilience items.

The results of the principal components analysis on the 13 Noe et al. (1990) resilience items are contained in Table 4-2.

Table 4-2

Initial Principal Components Analysis of Noe et al. Resilience Items

Item		Factor 1	Factor 2	Factor 3	Factor 4
N24	Did you make and maintain friendships with people in different departments?	.71	.13	.18	-.17
N21	Have you made suggestions to others even though they may disagree?	.70	.13	.05	-.01
N19	Did you design better ways of doing your work?	.64	.29	.17	.16
N25	Have you outlined ways of accomplishing jobs without waiting for your boss?	.62	-.10	.10	.03
N23	Did you help co-workers with projects?	.51	.50	-.06	.08
N18	Did you set difficult but not impossible work goals?	.50	.23	.21	.26
N26	Have you evaluated your job performance against personal standards rather than comparing it with what others do?	-.02	.80	.10	.18
N17	Did you take the time to do the best possible job on a task?	.20	.68	.21	-.35
N22	Did you look for opportunities to interact with influential people?	.37	.50	.06	.32
N14	Did you accept compliments rather than discount them?	.07	.01	.89	.05
N15	Did you believe other people when they told you that you had done a good job?	.26	.12	.80	-.27
N16	Did you reward yourself when you completed a project?	.18	.33	.48	.26
N20	Would you have accepted a job assignment for which you had little or no expertise?	.05	.09	-.03	.87
Eigenvalues		3.90	1.50	1.17	1.00
Standardized Cronbach Alpha		.74	.57	.67	

In order to extract conceptually clear factors, it was necessary to delete certain items. Guidelines were applied in the following order to evaluate each factor: a) single item factors were dropped; b) items were deleted if this resulted in an improved standardized Cronbach alpha; c) items were retained if they loaded above .5 on a single factor and below .3 on other factors; and d) factors with standardized Cronbach alpha reliabilities below .6 were dropped. To proceed as conservatively as possible in this process, only one of these guidelines was applied in any given iteration, given that

deletion of any one item was expected to affect the analysis of the remaining items.

In Table 4-2, item N20 was the only item loading on factor 4, and consequently it was dropped for the second iteration which produced three factors. These were examined for loadings above .5 on the primary factor and below .3 on other factors. Since more than one item violated this guideline, the item which ranked lowest on its factor and had the least difference between its primary and secondary factor loadings was selected for deletion. Item N18 ranked lowest on factor one and had a difference of .04 (.44 - .40) in its loadings on factors 1 and 2 respectively. The comparative figure for item N16 was .14. Consequently, item N18 was deleted for the third iteration, which also produced three factors.

These results of the fourth iteration were again examined for loadings above .5 and below .3. Items N19 and N16 were the two ranking lowest on their respective factors and the differences between their primary and secondary loading values were .22 and .14 respectively. Consequently, item N16 was deleted for the fourth iteration which produced three factors.

Finally, item N23, loading .56 and .44 on two factors was deleted for the fifth and final iteration listed in Table 4-3.

Table 4-3

Final Principal Components Factor Analysis of Noe et al. Resilience Items

Item		Factor 1	Factor 2	Factor 3
N21	Have you made suggestions to others even though they may disagree?	.71	.07	.11
N24	Did you make and maintain friendships with people in different departments?	.68	.28	.03
N19	Did you design better ways of doing your work?	.67	.08	.34
N25	Have you outlined ways of accomplishing jobs without waiting for your boss?	.65	.03	.05
N14	Did you accept compliments rather than discount them?	.05	.88	.07
N15	Did you believe other people when they told you that you had done a good job?	.23	.86	.11
N26	Have you evaluated your job performance against personal standards rather than comparing it with what others do?	-.03	.01	.87
N17	Did you take the time to do the best possible job on a task?	.20	.34	.64
N22	Did you look for opportunities to interact with influential people?	.43	.00	.57
	Eigenvalues	3.09	1.29	1.11
	Standardized Cronbach Alpha	.67	.78	.57

Given the low standardized Cronbach alpha for factor three, these three items were dropped. The remaining item with a loading above .3 on a secondary factor was N19. However, deletion of this item would have resulted in a standardized Cronbach alpha of .55, necessitating the deletion of all factor one items. Retention of N19 permitted the extraction of two factors from the Noe et al. resilience items.

To be consistent with career motivation theory, it is necessary to consider whether the Noe et al. (1990) items tap career resilience sub-domains more effectively than do the London (1991) items. The first Noe factor includes four items, all of which appear to tap the risk-taking sub-domain to some degree. Item N21, having made suggestions to others even though they may disagree can certainly be interpreted as a reflection of the tendency to risk oneself in social situations. Item N24, making



and maintaining friendships with people in different departments may imply a level of risking oneself in initiating friendships, particularly with others who may not share very much in common regarding the type of work done, the discipline, or the function. The two remaining items, designing better ways of doing your work and outlining ways of accomplishing jobs without waiting for your boss also suggest a capacity to risk oneself in working more independently. Although there is an underlying social dimension with three of these items (N21, N24, N25), in the sense that they involve interacting with others, they appear to share a common reference to risk-taking as well. Factor 1 appears to represent the risk-taking sub-domain consistent with career motivation theory.

The second factor includes two items, N14, whether compliments were accepted rather than discounted, and N15, whether others were believed when they said the respondent had done a good job. These also appear to reflect a social dimension but it is a fair assumption to say that the absence of self-efficacy would make it very difficult for either of these questions to generate a positive response.

By comparison, the items deleted during the various iterations do not appear to tap these sub-domains as reliably. Item N20, the likelihood of accepting a job assignment for which the respondent had little or no expertise, is not a purely risk-taking or self-efficacy measure. Because, it loaded purely on a fourth factor it appears that this item may have a particular meaning to respondents about to face the possibility of job loss and career transition. Item N18, the tendency to set difficult but not impossible work goals, N16, tendency to reward oneself after completing a project

and N23, tendency to help co-workers with projects, also appear to have elements of risk-taking or self-efficacy, but do not adequately tap either of these factors.

The factor loadings of these items on career resilience in the original research (Noe et al., 1990) were far from strong. Specifically, the loadings of deleted items were as follows: Item N20 = .41; Item N18 = .54; Item N16 = .43; Item N23 = .48. In some cases, these low values were accompanied by loadings above .3 on at least one other factor. Thus, the loadings of these items in the original research is consistent with the results obtained in this research and provides additional support for their deletion.

The items loading on the third factor were all eliminated because they produced a low standardized Cronbach alpha (.57). Item N26, the tendency to evaluate performance against personal standards rather than making comparisons to others, item N17, taking the time to do the best possible job, and item N22, looking for opportunities to interact with influential people do not appear to share very much in common. These items also had low factor loadings in the original Noe et al. (1990) research, (i.e., N26=.49, N17=.35, N22=.56, and all had loadings above .3 on at least one additional factor).

To summarize, the two factors retained for further analysis appear to measure two of the sub-domains associated with career resilience, risk-taking tendency and self-efficacy. Because of the evident face validity of these items, the fact that they load purely on their respective factors, and the related standardized Cronbach alphas are acceptable (.67 and .78), two scales, risk-taking (Items N21, N24, N19 and N25) and

self-efficacy (Items N14 and N15) were retained for use as measurement variables in the confirmatory factor analysis.

To assure that the elimination of items was accomplished as accurately as possible, a second set of iterations successively deleting items was carried out, using the same guidelines but in a different order, i.e., deleting items with loadings above .3 on multiple factors preceded deleting single item factors. This led to identical results.

One additional principal components analysis, combining all London and Noe et al. items from Tables 4-1 and 4-3, produced three factors. The London items did not load purely on either of the two Noe et al. factors. However, two of the London items, L2 and L4, loaded partially on both the London resilience factor and on the Noe risk-taking factor. The Noe et al. self-efficacy factor remained intact. These results are consistent with the theory. The reason for the lack of distinctiveness between two of the factors is probably due to fundamental difference in the nature of the London (1991) and Noe et al. (1990) scales. For example, in the London scale, respondents are asked, for the most part, to report on beliefs and attitudes about themselves in relation to work, whereas the Noe et al. (1990) scale requires respondents to report on actual behaviors.

Rather than continue with further iterations and elimination of items, it appeared that there was sufficient justification for concluding that while the two scales partially measure the same sub-domain, risk-taking, they do so in different ways. Consequently, both the London (1991) resilience scale and the Noe et al. (1990) risk-taking and self-efficacy scales were retained.

### Career Insight

The London (1991) career motivation scale included five items related to career insight. These were entered in a principal components factor analysis and the results can be found in Table 4-4.

Table 4-4

#### Principal Components Factor Analysis of London Insight Items

Item	Factor 1
L9 Did you know your weaknesses (the things you are not good at)?	.86
L10 Did you recognize what you could do well and could not do well?	.84
L8 Did you know your strengths (the things you do well)?	.82
L6 Did you have clear specific goals?	.62
L7 Did you have realistic goals?	.60
Eigenvalue	2.86
Standardized Cronbach Alpha	.80

All five items loaded on one factor and the scale comprising these items had a standardized Cronbach alpha of .8. According to the theory of career motivation, career insight is not associated with any sub-domains, consequently, one factor is to be expected. The first three items dealing with awareness of personal strengths and weaknesses all loaded at .82 and higher while the two items dealing with personal goals loaded at .62 and .60. Despite the discrepancy in factor loading values, the items evidently share enough in common to be considered one factor. Consequently, this five-item insight scale was retained for use as a measurement variable in the confirmatory factor analysis.

The eight Noe et al. (1990) insight items were entered in a principal

components factor analysis and these results can be found in Table 4-5.

Table 4-5

Initial Principle Components Factor Analysis of Noe et al. Insight Items

Item		Factor 1	Factor 2	Factor 3
N1	Did you have clear specific career goals?	.83	.23	.06
N3	Did you know your strengths (the things you do well)?	.69	-.03	.05
N7	Did you take the initiative to discuss your career goals with your boss?	.63	.19	.50
N6	Did you seek job assignments that you expected would help you attain your career goal?	.03	.88	.06
N2	Did you have a specific plan for achieving your career goal?	.53	.71	.14
N5	Did you change or revise your career goals based on new information you received regarding yourself or your situation?	.06	.62	.43
N4	Did you ask co workers you respect for feedback on your performance?	.03	.11	.83
N8	Did you ask your boss to discuss your specific skill strengths and weaknesses?	.16	.14	.72
	Eigenvalues	3.21	1.15	1.00
	Standardized Cronbach Alpha	.64	.72	.53

Applying the same guidelines used in the analysis of resilience items, items N7 and N5 were each found to load above .5 on one factor and above .3 on a second.

The differences between the two highest loadings, .13 for item N7 and .19 for item N5 meant that N7 was eliminated from the second iteration which produced two factors.

Items N4, N5, N8 and N6 loaded above .5 on factor 1 and below .3 on factor 2. The remaining items all loaded above .5 on factor two and with the exception of item N2, loaded below .3 on factor one. Although the guidelines for eliminating items called for deleting item N2, this would have reduced the standardized Cronbach alpha reliability from .67 to .48. Alternatively, deleting item N3 would have improved standardized Cronbach alpha reliability from .67 to .76; consequently, N3 was eliminated from the third iteration which produced two factors. Because the same

item was also included in the insight factor based on the London (1991) questionnaire, there was no loss of data.

Deleting item N3 caused N6 to shift from factor 2 to factor 1 and reduced the standardized Cronbach alpha of factor two items from .76 to .71. Deleting item N6 increased standardized Cronbach alpha to .77 and this was the basis for the fourth iteration.

Table 4-6

Final Principal Components Factor Analysis of Noe et al. Insight Items

Item		Factor 1	Factor 2
N1	Did you have clear specific career goals?	.90	.04
N2	Did you have a specific plan for achieving your career goal?	.86	.28
N4	Did you ask co-workers you respect for feedback on your performance?	.07	.84
N8	Did you ask your boss to discuss your specific skill strengths and weaknesses?	.07	.69
N5	Did you change or revise your career goals based on new information you received regarding yourself or your situation?	.35	.64
Eigenvalues		2.28	1.06
Standardized Cronbach Alpha		.77	.60

According to the final results in Table 4-6, items N1 and N2 loaded on one factor with standardized Cronbach alpha for this two-item scale of .77, while items N5, N4 and N8 loaded above .5 on factor 2. Since item N5 also loaded above .3 on factor 1, consideration was given to deleting it in the next iteration. However, the content of items N5, N4 and N8 appeared quite close and the improvement in standardized Cronbach alpha by dropping N5 was only .02; consequently there did not seem to be sufficient improvement in either factor conceptual content or standardized Cronbach alpha to warrant deleting item N5.

Unlike the London (1991) insight items, the Noe et al. (1990) insight items loaded on two factors, implying that there were two sub-domains, contrary to career motivation theory. Items N1 and N2 concerned the presence of specific career goals and the existence of a plan for achieving career goals. These items appeared to share common content in relation to goal clarity and achievement. With a standardized Cronbach alpha of .77, it appears reasonable to conclude that these items share a common factor, outcome goal clarity, which, in fact, was earlier identified as a correlate of career insight. Because the content of these questions refer to specific goals or outcomes and a particular plan related to these goals, they appear to concern outcomes rather than instrumentalities.

Item N4, seeking feedback on performance, N8, asking a superior to discuss one's skill strengths and weaknesses and N5, changing or revising career goals based on feedback about oneself or one's situation all load on factor two. These items appear to cover a wider range of content than the outcome goal clarity items, and they also suggest a predisposition for social interaction, a characteristic which is related to social perceptiveness, a career insight correlate (London, 1983). Consequently, since all the items appear to be conceptually related and produce a marginally acceptable standardized Cronbach alpha of .6, the items were retained as a scale measuring reliance on feedback.

One additional principal components analysis with all London insight items and the Noe et al. insight items from Table 4-6 was carried out. As with the combined factor analysis on the resilience items, some items shifted factors while others did not

load purely. As expected, based on the content of the items in question, two London (1991) items, L6 and L7, shifted to load on a common factor with the outcome goal clarity items from Table 4-6. However, item L7 loaded above .3 on the reliance on feedback factor. The reliance on feedback items as reported in Table 4-6 remained intact; however N5 now loaded above .3 on the Noe outcome goal clarity factor. Deleting item N5 would have resulted a standardized Cronbach alpha of .53 for the remaining two items, N4 and N8, thus leading to their elimination. Since there did not seem to be any advantage in the loss of data that would have resulted, the one London insight factor and the two Noe et al. factors, outcome goal clarity and reliance on feedback were retained.

#### Career Identity

Nine career identity items from London's (1991) scale were entered in a principal components factor analysis. The results are found in Table 4-7.



Table 4-7

Initial Principal Components Factor Analysis of London Identity Items

Item	Factor 1	Factor 2	Factor 3	Factor 4
L18 Did you want to be recognized for your accomplishments?	.96	-.05	.05	.16
L19 Did you want your boss to recognize your accomplishments?	.95	.00	.07	.13
L15 Did you believe that your success depended on the success of your organization?	.13	.80	-.13	.13
L14 Were you proud to work for your organization?	-.21	.80	.32	.00
L11 Did you define yourself by your work?	.15	-.05	.81	-.02
L13 Were you involved in your job?	-.04	.10	.77	.23
L16 Were you loyal to your employer?	.05	.44	.52	-.41
L17 Did you see yourself as a professional and / or technical expert?	.31	.23	-.08	.70
L12 Did you spend your free time on activities that related to your job?	-.03	-.37	.32	.64
L20 Did you want to be in a leadership position?	.44	.31	.12	.59
Eigenvalues	2.75	1.99	1.45	1.06
Standardized Cronbach Alpha	.97	.69	.59	.54

Based on the same guidelines used to evaluate the resilience and insight items, two items L16 and L20 were found to load above .5 on one factor and above .3 on a second factor. Since the differences between the primary and secondary factor loadings were .08 and .15 respectively, item L16 was dropped in the second iteration which produced three factors.

Items loading on factor 1 and factor 2 produced acceptable standardized Cronbach alphas of .81 and .69 respectively. The items loading on factor 3 exhibited an unacceptably low standardized Cronbach alpha of .53 and it was not possible to delete any of the factor 3 items to produce an improvement. Consequently all factor 3 items, L13, L11 and L12, were deleted for the third iteration.

As presented in Table 4-8 the results indicate that the remaining London items

loaded on two factors and the scales comprising these items were found to have acceptable standardized Cronbach alphas of .81 and .69 respectively. Despite loading marginally above .3 on factor 2, item L20 was retained to avoid loss of data and a lower standardized Cronbach alpha.

To reconcile these two factors with the theory of career motivation, it is necessary to consider whether the factors correspond to the two career identity sub-domains, work involvement and upward mobility. Of the items loading on factor 1, L18 and L19 concern desire for recognition, while L20 concerns the desire to assume a leadership position. These items appear to tap the desire for upward mobility.

Table 4-8

Final Principal Components Factor Analysis of London Identity Items

Item		Factor 1	Factor 2
L18	Did you want to be recognized for your accomplishments?	.92	-.17
L19	Did you want your boss to recognize your accomplishments?	.90	-.12
L20	Did you want to be in a leadership position?	.69	.31
L17	Did you see yourself as a professional and / or technical expert?	.63	.22
L14	Were you proud to work for your organization?	-.13	.87
L15	Did you believe that your success depended on the success of your organization?	.22	.81
Eigenvalues		2.62	1.57
Standardized Cronbach Alpha		.81	.69

Item L17 asks whether respondents see themselves as technical or professional experts, evidently tapping professional identity much more than desire for upward mobility. Deleting this item to improve conceptual consistency among the factor 1 items only marginally reduced standardized Cronbach alpha from .81 to .80.

Consequently, the three items, L18, L19 and L20 from the first factor called recognition, will be retained for the confirmatory factor analysis.

Item L14 concerned pride in working for one's organization, and item L15 asked respondents whether they believed their success was dependent on the success of their organization. Conceptually, both of these items appear to tap organizational identification, which can be considered an element of the work involvement sub-domain. As a result, and given the standardized Cronbach alpha of .69, this second factor, organizational identification was retained as a measurement variable in the confirmatory factor analysis.

The four Noe et al. career identity items were entered in a principal components factor analysis. The results are listed in Table 4-9.

Table 4-9

Principal Components Factor Analysis of Noe et al. Identity Items

Item		Factor 1	Factor 2
N11	Were you involved in professional organizations related to your career goal?	.79	.23
N10	Did you take courses toward a job-related degree?	.73	-.49
N9	Did you spend your free time on activities that related to your job?	.66	.32
N13	Did you stay abreast of developments in your line of work?	.21	.85
	Eigenvalues	1.70	1.06
	Standardized Cronbach Alpha	.56	-

Based on the guidelines used to evaluate the previous analyses, the single-item factor was deleted and the remaining three items loaded on one factor with a standardized Cronbach alpha of .56. Item N11 examined involvement in professional

organizations related to one's career goal, item N10 asked about taking courses toward a job-related degree, and item N9 inquired whether free time was spent on job related activities. Because the items loaded on one factor, it appeared that they did not tap individual sub-domains but rather the overall career identity dimension itself. Consequently, there was a basis for retaining this factor.

Examination of standardized Cronbach alpha revealed that it was .04 below the specified cut-off for retaining factors. Given the proximity to the cut-off, and that the factor was the only remaining one of Noe et al. (1990) career identity items, this factor, identity, was retained for use in the confirmatory factor analysis.

An additional factor analysis on the combined items from Tables 4-8 and 4-9 was carried out. The items loaded on the same three factors identified in these tables, desire for recognition, organizational identification, and career identity, thereby confirming the previous results. However, the organizational identification items displayed an unacceptably low standardized Cronbach alpha which would have required deletion of these items in order to maintain consistency with the guidelines. The disadvantages of the resulting loss of data did not appear to warrant deleting these items.

In addition, although it is possible to argue that the third factor, organizational identification is conceptually related to the work involvement sub-domain, there is a possibility that it may be a distinct factor. Despite the low standardized Cronbach alpha which predicts that a confirmatory factor analysis will not support retaining them, deleting these items at this stage of the analysis seemed premature.

Consequently, all three factors were retained for the confirmatory factor analysis.

#### Career Motivation Sub-domains, Correlates, and Other Measures

The questionnaire included items tapping career motivation dimensions and sub-domains. Career motivation theory defines risk-taking tendency, self-efficacy and dependency as career resilience sub-domains, while work involvement and upward mobility are career identity sub-domains (London, 1983). In addition, the theory states that various correlates, characteristics such as development orientation, autonomy, and need for change, will also be related to specific dimensions.

The items tapping these sub-domains and correlates were drawn from existing scales and entered into separate principal components factor analyses with varimax rotation. Extracted factors were intended to demonstrate convergent validity with the London and Noe et al. factors in a confirmatory factor analysis.

In addition, the questionnaire contained a number of items developed specifically for this research tapping need for change and development orientation correlates. These items were included because the original London and Noe et al. scales did not appear to adequately tap these correlates. These items were also entered into separate principal components factor analyses with varimax rotation.

#### Career Orientations Inventory Scales

The Career Orientation Inventory (DeLong, 1988) items for creativity, autonomy, security, and managerial competence were each examined independently using principal components factor analysis. The need for autonomy is specifically referred to as a correlate within the self-efficacy sub-domain, as is the need for

creativity. The need for security is a negative correlate of risk-taking while managerial competence items were expected to tap the same domain as job-involvement correlates such as commitment to managerial work and professional orientation (London, 1983).

The results are presented in Tables 4-10 to 4-13.

Table 4-10

Principal Components Factor Analysis of Creativity Scale

Item	Factor 1
CA32 Was it true that inventing something on your own or creating a new idea were important elements of your career?	.84
CA24 Was it true that you were motivated throughout your career by the number of ideas or products which you were directly involved in creating?	.80
CA16 Was it important to use your skills in building a new business enterprise?	.76
CA8 Was it important to be able to create or build something that was entirely your own product or idea?	.66
CA40 Was it true that you always wanted to start and build up a business of your own?	.48
Eigenvalue	2.59
Standardized Cronbach Alpha	.76

Table 4-11

Principal Components Factor Analysis of Autonomy Scale

Item	Factor 1
CA27 Was it true that during your career you were mainly concerned with your own sense of freedom and autonomy?	.85
CA11 Was it important to have a career which was free from organizational restrictions?	.82
CA19 Was it important to have a career which permitted a maximum of freedom and autonomy to choose your own work, hours, etc.?	.81
CA35 Was it true that you did not want to be constrained by either an organization or the business world?	.78
CA3 Was it important to pursue your own lifestyle and not be constrained by the rules of an organization?	.71
Eigenvalue	3.15
Standardized Cronbach Alpha	.83

Table 4-12

Principal Components Factor Analysis of Security Scale

Item	Factor 1
CA4      Was it important to work in an organization which would provide security through guaranteed work, benefits, a good retirement program, etc.?	.96
CA12     Was it important to work in an organization which would have given you long term stability?	.95
CA36     Was it true that you preferred to work in an organization which provides tenure (life-time employment)?	.92
Eigenvalue	2.68
Standardized Cronbach Alpha	.94

Table 4-13

Principal Components Factor Analysis of Managerial Competence Scale

Item	Factor 1
CA10     Was it important for you to be in a position of influence and leadership?	.90
CA26     Was it true that you would have liked rising to a level of responsibility in an organization where your decisions really make a difference?	.88
CA2      Was it important for you to supervise, influence, lead and control people at all levels of the organization?	.87
CA34     Was it true that you would have liked to achieve a position which gave you the opportunity to combine analytical competence with supervision of people?	.85
CA18     Was it important to rise to a position of general management?	.84
Eigenvalue	3.76
Standardized Cronbach Alpha	.91

Each factor analysis produced one factor with acceptable standardized Cronbach alphas for each set of items. These scales were retained as measurement variables for entry in a confirmatory factor analysis and were respectively labelled as follows: Creativity, Autonomy, Security, and Managerial Competence.

Development Orientation

Three items tapping development orientation were developed specifically for

this research. These items were entered in a principal components factor analysis and the results are listed in Table 4-14.

Table 4-14

Principal Components Factor Analysis of Development Orientation Items

Item	Factor 1
DO1 Have you taken courses or workshops to expand your job related skills and expertise?	.80
DO2 Have you actively read books, periodicals, or other material to keep pace with advances in your profession or field?	.78
DO3 Was developing your job skills extremely important?	.73
Eigenvalue	1.77
Standardized Cronbach Alpha	.64

All items loaded on one factor and the standardized Cronbach alpha reliability for these items was acceptable. Development orientation was retained as a factor for entry in a confirmatory factor analysis.

Need for Change

Three items tapping need for change were developed specifically for this research. These items were included in a principal components factor analysis and the results can be found in Table 4-15.



Table 4-15

Principal Components Analysis of Need for Change Items

Item	Factor 1
NC3 Did you believe that you needed to have regular job changes to advance your overall career prospects?	.86
NC4 Did you actively seek changes in job responsibilities when you sensed a degree of boredom with your job?	.76
NC2 Were you aware of your feelings towards your job (e.g. fatigue, boredom, enthusiasm)?	.62
Eigenvalue	1.70
Standardized Cronbach Alpha	.61

These three items all loaded on one factor with an acceptable standardized Cronbach alpha. By dropping item NC3, standardized Cronbach alpha could be improved to .68; consequently, this item was deleted from the need for change scale entered in the confirmatory factor analysis.

Upward Mobility

Two upward mobility items drawn from Prince (1979) were included in the questionnaire and the results of the principal components analysis are listed in Table 4-16.

Table 4-16

Principal Components Analysis of Prince (1979) Upward Mobility Items

Item	Factor 1
P25 Was it important for you to move up in the organization in the next few years?	.96
P24 Did you want a promotion to a higher position at some point in the future?	.96
Eigenvalue	1.84
Standardized Item Alpha	.91

Both items loaded on one factor, upward mobility, with an acceptable standardized Cronbach alpha. This factor was retained for the confirmatory factor

analysis.

### Career Identity

Four items from the Mael & Ashforth (1992) organizational identification scale, adapted to apply to career, were entered in a principal components factor analysis. A fifth and sixth item from this scale would have pertained only to respondents with a recognized professional designation. Since the resulting focus on professional identity would not have applied to the entire sample, these items were not included in the questionnaire. The results can be found in Table 4-17.

Table 4-17

### Principal Components Factor Analysis of Mael & Ashforth (1992) Career Identity

#### Items

Item	Factor 1
MA4 Did it feel like a personal compliment when someone praised your profession or career area?	.84
MA5 Did you feel embarrassed if a story in the media criticized your profession or career area?	.81
MA2 Were you very interested in what others thought about your profession or career area?	.77
MA1 Did it feel like a personal insult when someone criticized your career area?	.75
Eigenvalue	2.50
Standardized Cronbach Alpha	.82

All items loaded on one factor, career identity, and the scale comprising these items had an acceptable standardized Cronbach alpha. This scale was retained for entry in the confirmatory factor analysis.

### Job Involvement

Ten items from the Kanungo (1982) job involvement scale were included in the questionnaire and entered in a principal components factor analysis. Because the

questionnaire was rather lengthy, filler items from this the Kanungo scale were not included. The results of the principal components factor analysis are provided in Table 4-18.

Table 4-18

Initial Principal Components Factor Analysis of Kanungo (1982) Job Involvement

Items

Item		Factor 1	Factor 2
K9	I consider my job to be very central to my existence.	.84	-.05
K4	I live, eat, and breathe my job.	.83	.23
K8	Most of my personal life goals are job oriented	.83	.12
K5	Most of my interests are centered around my job.	.82	.24
K10	I like to be absorbed in my job most of the time.	.79	.09
K1	The most important things that happen to me involve my job.	.77	.03
K6	I have very strong ties with my job which would be very difficult to break.	.75	.34
K3	I am very much involved personally in my job	.55	.46
K2	To me, my job is only a small part of who I am. (R)*	.51	.08
K7	Usually I feel detached from my job (R)	.01	.95
Eigenvalue		5.3	1.08
Standardized Cronbach Alpha		.91	-

Notes \*Reverse scored.

Applying the same guidelines as those used to evaluate the London and Noe et al. items, it was necessary to delete item K7 since it represented a single-item factor. The remaining items were entered in a second principal components factor analysis and the results can be found in Table 4-19.

Table 4-19

Final Principal Components Factor Analysis of Kanungo (1982) Job InvolvementItems

Item		Factor 1	Factor 2
K4	I live, eat, and breathe my job.	.86	
K5	Most of my interests are centered around my job.	.85	
K8	Most of my personal life goals are job oriented.	.83	
K9	I consider my job to be very central to my existence.	.81	
K6	I have very strong ties with my job which would be very difficult to break.	.80	
K10	I like to be absorbed in my job most of the time.	.79	
K1	The most important things that happen to me involve my job.	.75	
K3	I am very much involved personally in my job.	.63	
K2	To me, my job is only a small part of who I am. (R)	.51	
	Eigenvalue	5.3	
	Standardized Cronbach Alpha	.91	

Note. (R) reverse scored

These nine items all loaded on one factor, job involvement, and the standardized Cronbach alpha for the scale comprising these items was acceptable. The deleted item K7 concerned the extent one feels detached from one's job. This item was reversed scored and based on its content should have loaded on the same factor as several other items dealing with centrality of one's job. Although it was not immediately clear why item K7 loaded by itself on a second factor, the item was dropped on the assumption that it did not represent centrality of one's job as reliably as items such as K9, K5 or K10. Consequently, a scale consisting of all Kanungo items with the exception of K7 was retained for the confirmatory factor analysis.

### Self-efficacy

Eight items from a self-efficacy scale (Sherer et al., 1982) were included in the questionnaire. To avoid lengthening the questionnaire further, only those items which had the highest loadings on the self-efficacy factor in the original research were selected. It was expected that these items would produce a self-efficacy scale which could be used to evaluate the convergent validity of the other factors with career resilience. Table 4-20 lists the results of a principal components factor analysis on these items.

Table 4-20

#### Principal Components Factor Analysis of Sherer et al. (1982) Self-Efficacy Items

Item	Factor 1	Factor 2
SH10 When trying to learn something new, I soon give up if I am not initially successful. (R)	.85	.08
SH5 I give up on things before completing them. (R)	.79	-.01
SH6 I avoid facing difficulties. (R)	.79	.22
SH7 If something looks too complicated, I will not even bother to try it. (R)	.78	.34
SH16 I give up easily. (R)	.63	.21
SH13 Failure just makes me try harder.	.28	.80
SH3 If I can't do a job the first time, I keep trying until I can.	.01	.78
SH15 I am a self-reliant person.	.19	.75
Eigenvalues	3.71	1.41
Standardized Item Alpha	.85	.72

Note. (R) reverse scored

Item SH7 loaded marginally above .3 on a second factor, but it was retained because eliminating it would have reduced standardized Cronbach alpha from .85 to .78. The items loading on the first factor all concerned the tendency to give up while

the items loading on the second factor, for the most part concerned trying again. Two conceptually-similar factors, perseverance, consisting of factor 1 items and persistence, consisting of factor 2 items were retained as scales for the confirmatory factor analysis. It was expected that these two factors would demonstrate convergent validity with the resilience scale and self-efficacy scale extracted from the London (1991) and the Noe et al. (1990) questionnaires. The main distinction between these two scales may simply be that all factor 1 items are negatively worded and all factor 2 items are positively worded.

### Volition

Four items tapping volition were developed for the questionnaire. These items were intended as measures of the extent to which respondents felt constraints in their career decision-making. The results of the principal components factor analysis are listed in Table 4-21.

Table 4-21

### Principal Components Analysis of Volition Items

Item		Factor 1
V3	Did personal finances prevent you from considering a career in an occupation other than your own?	.87
V1	Did your spouse's or significant other's (or mate's) work / career prevent you from considering a career in an occupation other than your own?	.77
V2	Did family responsibilities prevent you from considering a career in a field other than your own?	.75
V4	Did the job market prevent you from continuing with your present career?	.50
	Eigenvalue	2.18
	Standardized Cronbach Alpha	.71

All four items loaded on one factor, volition, with acceptable standardized Cronbach alpha. The volition scale was retained for further confirmatory factor

analysis.

### Career Development

Two sets of items tapped career development activities: career planning items touched on activities engaged in by respondents and career management items asked about respondents' perceptions of the extent to which the organization engaged in activities supporting individual career planning and organizational career management. The career planning activities are based on an inventory compiled by Gutteridge (1986). Each set of items was examined independently and the results are described in the following sections.

All principal components factor analyses of career development were based on a sample size of  $N=94$ . The maximum number of items, entered in the first iteration, resulted in a sample-item ratio which did not exceed 5.5:1, marginally beyond other ratios (6.5:1) found recently in the literature (Snell & Dean, 1992). Given the iterative data reduction process, subsequent analyses had better sample-item ratios. The final analyses used to determine the resulting measurement variables for the confirmatory factor analysis had sample-item ratios ranging from 13.1:1 to 9.4:1.

### Career Planning

Seventeen career planning items were included in the questionnaire and the results of the principal components factor analysis with varimax rotation can be found the following table.

Table 4-22

Initial Principal Components Factor Analysis of Career Planning Items

Item		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
CP4.	Participating in meetings with a representative from personnel or human resources to discuss your career development.	.81	.15	-.02	-.06	.08	.01
CP7.	Participating in a discussion with personnel or human resource staff to establish a career path for yourself?	.79	.04	.04	.17	.11	.11
CP8.	Consulting information available in a career resource center maintained by your organization?	.58	.04	.08	-.05	-.06	.09
CP2.	Completing a career workbook provided by your organization.	.58	-.07	.18	.01	.10	.13
CP18.	Did you inquire whether your name was included in the organization's promotability forecasts?	.09	.90	.11	.02	.04	.11
CP19.	Did you inquire whether your name was included in replacement / succession plans?	.04	.89	.20	-.01	-.02	.16
CP14&15*	Did you consult posted job vacancies or did you request this information from your employer?	.12	.16	.76	.15	.04	-.01
CP16&17*	Did you provide your organization with a listing of your job skills which could be used to identify your suitability for job openings or did you offer this information to your (former) employer?	.09	.38	.63	.13	.07	-.15
CP3.	Participating in a company sponsored pre-retirement workshops.	.17	-.01	.58	-.26	-.31	.26
CP10.	Completing a psychological test.	-.09	-.11	-.04	.78	-.08	.22
CP9.	Participating in a management assessment center?	.08	.16	.19	.68	.23	-.11
CP6.	Participating in meetings with your immediate supervisor to discuss your career development.	.22	.20	-.25	.05	.70	.05
CP12.	Following educational courses for which you received tuition reimbursement from your organization.	.10	-.15	.35	.13	.66	.22
CP5.	Participating in meetings with an outside counsellor, hired by your organization, to discuss your career development.	.34	.06	.05	.48	-.52	-.09
CP13.	Developing a working relationship with a mentor, (i.e., a more senior individual who takes an active personal interest in your career and gives you advice)?	.09	.02	-.12	-.00	.22	.78

table continues



Item		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
CP11	Participating in a job rotation program.	.32	.32	.18	.16	.07	.56
CP1.	Participating in a career planning workshop sponsored by your organization.	.50	.14	.11	.02	-.12	.52
	Eigenvalues	3.74	1.88	1.52	1.44	1.13	1.01
	Standardized Cronbach Alpha	.70	.89	.56	.44	-.03	.60

Note. \*The score for the first question of the pair was used if the response was 1 or greater; otherwise, the response for the second question was used.

The same guidelines as in the evaluation of previous principal components factor analyses were applied here. As indicated in Table 4-22, of the six factors extracted, factor 5 items were the least desirable both in terms of the factor loadings and standardized Cronbach alpha. To exercise the greatest possible caution in deleting items, rather than removing all factor 5 items from the next iteration, only item CP5, the one with the lowest loading on this factor, was dropped.

The second iteration extracted six factors again and the standardized Cronbach alpha for the scale comprising factor 5 items remained the least acceptable. Consequently, item CP3, the lowest ranking was deleted for the third iteration.

In this iteration, five factors were extracted and the standardized Cronbach alpha for the scale comprising factor 5 items was the least acceptable. Item CP9, with the lowest factor loading, was deleted in the next iteration which still extracted five factors. Successive iterations resulted in the deletion of Item CP10, completing a psychological test, item CP12, following educational courses with employer tuition reimbursement, item CP6, participating in meetings with one's immediate supervisor to discuss career development, item CP13, developing a relationship with a mentor, item CP11, participating in job rotation, item CP14&15, consulting posted job vacancies,

and item CP16&17, providing the organization with a listing of one's job skills. The remaining items loaded on two factors as shown in Table 4-23.

Table 4-23

Final Principal Components Factor Analysis of Career Planning Items

Item		Factor 1	Factor 2
CP7.	Participating in a discussion with personnel or human resource staff to establish a career path for yourself?	.80	.06
CP4.	Participating in meetings with a representative from personnel or human resources to discuss your career development.	.74	.11
CP2.	Completing a career workbook provided by your organization.	.66	.01
CP1.	Participating in a career planning workshop sponsored by your organization.	.65	.19
CP8.	Consulting information available in a career resource center maintained by your organization?	.61	.01
CP19.	Did you inquire whether your name was included in replacement / succession plans?	.07	.95
CP18.	Did you inquire whether your name was included in the organization's promotability forecasts?	.11	.93
	Eigenvalues	2.67	1.59
	Standardized Cronbach Alpha	.73	.89

Factor 1 items appeared to share a common emphasis on participation in career development activities organized by the employer. Factor 2 items reflected the tendency of the respondents to inquire about career-related information. Factor 1 activities appear to depend more on the employer's initiative, whereas factor 2 items can be initiated by the respondent. These two factors, career path activities and opportunities assessment were retained for the confirmatory factor analyses.

Career Management

Seventeen items tapped respondents' perceptions of organizational career management practices. These items were entered in a principal components factor analysis and the results can be found in Table 4-24.

Table 4-24

Initial Principal Components Factor Analysis of Career Management Items

Item	Factor 1	Factor 2	Factor 3	Factor 4
CM12. Maintain information about employee promotability?	.82	.15	.20	.07
CM14. Collect this type of information on employees?	.79	-.02	.25	.05
CM13. Maintain written replacement / succession plans?	.79	.06	.12	.10
CM9. Maintain information about employee career paths?	.78	.20	-.08	.00
CM8. Maintain up-to-date information about employee skills?	.76	.25	.02	-.06
CM17. Encourage employees to develop working relationships with a mentor?	-.05	.74	.05	-.09
CM16. Promote participation in educational courses for which employees' costs were reimbursed?	.11	.66	-.08	.13
CM4. Encourage employees to meet about their careers with personnel or human resources representatives?	.30	.64	.35	.03
CM15. Encourage job rotation as a way of preparing employees for possible future job changes?	.19	.62	-.14	.31
CM6. Encourage employees to discuss their careers with their immediate supervisor?	.12	.61	.11	-.01
CM1. Encourage participation in career planning workshops?	.20	.59	.49	.19
CM10. Encourage employees to use a career resource center?	.29	.58	.35	-.07
CM2. Encourage completing a career workbook?	.03	.55	.39	.40
CM3. Encourage participation in company sponsored pre-retirement workshops?	.03	-.00	.78	-.09
CM7. Provide information about job opportunities by posting notices of job vacancies?	.31	.15	.56	.27
CM11. Rely on management assessment centers to assist in making decisions about employees' careers?	.14	.24	.15	.81
CM5. Encourage employees to discuss their careers with outside counsellors hired by the company?	.21	.40	.43	-.58
Eigenvalues	5.67	2.18	1.38	1.16
Standardized Cronbach Alpha	.85	.85	.52	-.27

Applying the same guidelines as used previously for item elimination, a series of iterations resulted in deletion of items due to loadings above .3 on second factors, and the elimination of single-item factors. The items were deleted in the following order: a) item CM5, the extent to which employees were encouraged to discuss their

careers with outside counsellors hired by the company; b) item CM7, the extent to which the company posted job vacancies; c) item CM3, encouraging participation in company sponsored pre-retirement workshops; d) item CM4, encouraging meetings for employees to discuss their careers with human resources staff; e) item CM10, encouraging employees to use a career resource center; and f) item CM11, relying on management assessment centers to assist in making decisions affecting employees' careers. The final results are listed in Table 4-25.

Table 4-25

Final Principal Components Factor Analysis of Career Management Items

Item		Factor 1	Factor 2
CM12.	Maintain information about employee promotability?	.83	.17
CM14.	Collect this type of information on employees?	.83	.03
CM13.	Maintain written replacement / succession plans?	.80	.09
CM9.	Maintain information about employee career paths?	.76	.16
CM8.	Maintain up-to-date information about employee skills?	.75	.21
CM2.	Encourage completing a career workbook?	.10	.74
CM17.	Encourage employees to develop working relationships with a mentor?	-.04	.72
CM1.	Encourage participation in career planning workshops?	.27	.71
CM16.	Promote participation in educational courses for which employees' costs were reimbursed?	.09	.65
CM6.	Encourage employees to discuss their careers with their immediate supervisor?	.13	.62
CM15.	Encourage job rotation as a way of preparing employees for possible future job changes?	.18	.62
Eigenvalues		4.13	2.05
Standardized Cronbach Alpha		.87	.78

The results in Table 4-25 indicated that two factors were extracted. Factor 1 items shared a common emphasis on collecting and maintaining career-related information about employees and displayed an acceptable standardized Cronbach alpha

of .87. These items were retained as an information-gathering scale for use in the confirmatory factor analysis. Items loading on the second factor concerned encouraging participation in career-related activities and with a standardized Cronbach alpha of .78, these items were retained as a career path development scale for use in the confirmatory factor analysis.

### Career Change

With only 18 respondents indicating that they had actually found new employment, it was not possible to include this sub-group in the analysis of career change. The questionnaire items answered by this group covered differences between former and present jobs. This data could not be included in the analysis. Consequently, career change intentions measured from questionnaire items answered by respondents still in the process of finding new employment are used in the analysis of career change.

Four sets of questions asked respondents to indicate the extent to which they intended to find jobs with differences along a number of dimensions. Each set of questions was independently entered in a principal components factor analysis since the total group consisted of 24 questions, exceeding the limits imposed by the sample size which was  $N=76$  for all career change intentions principal components factor analysis. The results of each factor analysis are listed in Tables 4-26 to 4-29.

Table 4-26

Principal Components Factor Analysis of Pre-Transition Career Change IntentionsItems

Item	Factor 1
Pre-transition thoughts of a new job...	
PTIN5 in a different functional area.	.91
PTIN6 in a different career area.	.88
PTIN4 in a different occupational area.	.88
PTIN3 in a different field.	.87
PTIN2 requiring different skills.	.85
PTIN1 with different duties.	.80
Eigenvalue	4.48
Standardized Cronbach Alpha	.93

Table 4-27

Principal Components Factor Analysis of Present Career Change Intentions Items

Item	Factor 1
Present intentions of searching for a new job...	
PRIN4 in a different occupational area.	.88
PRIN5 in a different functional area.	.87
PRIN1 with different duties.	.87
PRIN2 requiring different skills.	.87
PRIN3 in a different field.	.86
PRIN6 in a different career area.	.83
Eigenvalue	4.47
Standardized Cronbach Alpha	.93

Table 4-28

Principal Components Factor Analysis of Attractiveness of Career Change Items

Item		Factor 1
AT1	Attractiveness of a new job... with different duties.	.91
AT5	in a different functional area.	.91
AT3	in a different field.	.89
AT6	in a different career area.	.89
AT2	requiring different skills.	.88
AT4	in a different occupational area.	.88
Eigenvalue		4.78
Standardized Cronbach Alpha		.95

Table 4-29

Principal Components Factor Analysis of Pre-Transition vs. Ideal Job Difference Items

Item		Factor 1
DI6	Pre-transition vs. ideal job differences... in function.	.90
DI4	in profession	.89
DI1	in duties.	.87
DI5	in field.	.85
DI2	in skills.	.85
DI3	in occupation.	.84
Eigenvalue		4.49
Standardized Cronbach Alpha		.93

As indicated by the results in Tables 4-26 to 4-29, one factor was extracted for each set of items. The first six items PTIN1 to PTIN6 examined pre-job-elimination intentions. The Pre-Transition Intentions scale consisting of these items has a standardized Cronbach alpha of .93 and was retained for use in the confirmatory factor

analysis. The next set of items, PRIN1 to PRIN5 covered present intentions which became the six-item Present Intentions scale with a standardized Cronbach alpha of .93. The third set of questions, items AT1 to AT6 questioned respondents about the extent to which they were attracted to jobs with various degrees of difference in the same dimensions as the Pre-transition and Present intentions. The six-item Attractiveness of Career Change scale has a standardized Cronbach alpha of .95. The last set of questions, items DI1 to DI6 concerned the degree of difference respondents desired in an ideal job compared to the former job. The six-item Ideal Differences scale has a standardized Cronbach alpha of .93.

#### Summary

The principal components factor analysis extracted a set of common factors which were retained for use in the confirmatory factor analysis. The scales measuring these factors are summarized in Table 4-30.



Table 4-30

Means, Standard Deviations, and Standardized Cronbach Alphas for Scales Derivedfrom Principal Components Factor Analysis (N=94, unless otherwise noted)

Scale	Mean	S D.	Standardized Cronbach alpha
Resilience	5.19	.84	.69
Risk taking	5.37	.94	.67
Self efficacy	4.92	1.26	.78
Insight	5.14	.92	.80
Outcome goal clarity	3.94	1.43	.77
Reliance on feedback	3.51	1.20	.60
Recognition	5.30	1.35	.81
Organizational Identification	5.37	1.45	.69
Career Identity*	3.00	1.34	.56
Creativity	3.72	1.30	.76
Autonomy	3.29	1.47	.83
Security	4.95	1.66	.94
Managerial competence*	4.27	1.63	.91
Development Orientation	5.12	1.15	.64
Need for change*	4.87	1.21	.61
Upward Mobility	4.77	1.79	.91
Career Identity	3.51	1.38	.82
Perseverance*	6.54	.91	.85
Persistence*	5.33	1.09	.72
Job involvement*	3.67	1.23	.91
Individual career path activities (N=80)	1.22	1.43	.73
Opportunities assessment (N=89)	2.07	1.82	.89
Organizational information gathering activities (N=91)	2.96	1.41	.87
Organizational career path development (N=91)	2.23	1.01	.78

table continues

Scale	Mean	S.D.	Standardized Cronbach alpha
Present intentions (N=75)	3.84	1.67	.93
Pre-elimination intentions (N=76)	3.31	1.52	.93
Attractiveness of change (N=74)	3.86	1.56	.95
Ideal differences (N=75)	3.74	1.48	.93
Volition (N=74)	2.74	1.37	.71

Note. \* N=93

### Confirmatory Factor Analysis

Confirmatory factor analysis allows the evaluation of factor structures describing the relationships between measurement variables and latent variables. The data were suited to confirmatory factor analyses of career motivation dimensions addressing the validity of those constructs, and confirming the career motivation model structure described by London (1983). In the case of career development as well as career change intentions, the analyses were entirely exploratory.

In confirmatory factor analysis, a number of different measurement models can be evaluated, varying with respect to the number of latent variables and the relationships between them. In the present case, the measurement model evaluates the relationships between a set of independent, observed measurement variables and one latent variable which cannot be measured directly.

The general form of the model is

$$X = \Lambda_x \xi + \delta$$

where variables are represented as follows:

observed variables:  $x = (x_1, x_2, \dots, x_q)$

latent variables:  $\xi = (\xi_1, \xi_2, \dots, \xi_n)$

error variables:  $\delta = (\delta_1, \delta_2, \dots, \delta_q)$ .

The model assumes that  $\xi$ 's and  $\delta$ 's are random variables with zero means and that the  $\xi$ 's and  $\delta$ 's, the latent variables and error terms, are uncorrelated (Jöreskog & Sörbom, 1989). No restrictions on the correlations of observed variables with each other are assumed.

The data analyzed in the confirmatory factor analyses consisted of correlation matrices. The choice of correlation or covariance matrices as input for LISREL 7 is determined by the type of model being analyzed and the purpose of the analysis. The correlation matrix is regularly analyzed for convenience and interpretational purposes but should be avoided under three conditions: a) where the model contains equality constraints, b) where the model is not scale invariant, or c) where the diagonal elements of theta epsilon and theta delta and the joint covariance matrix of the dependent and independent latent variables are constrained (Jöreskog & Sörbom, 1989). None of these conditions are imposed on the present model. In addition, "...the decision to analyze the covariance matrix as opposed to the correlation matrix, or to set the metric by fixing loadings as opposed to fixing variances, makes no substantive difference when a scale-free estimator (such as ML [maximum likelihood] or GLS [generalized least squares]) is used." (Long, 1983, p.77). Since the subsequent confirmatory factor analyses and structural equations in the next section rely exclusively on the ML (maximum likelihood) estimator, there is no reason to prefer the covariance matrix as input.

The scales formed from items loading on the factors extracted through principal

components factor analysis were used to compute indices which were entered as the measurement variables in the confirmatory factor analysis. Three sets of latent constructs were evaluated: a) career motivation dimensions, b) career development dimensions, and c) career change intentions.

The results of the confirmatory factor analyses include the values for lambda, t-values, squared multiple correlations, the coefficient of determination, and various goodness of fit indices for the entire model. Evaluating how well the model fits the data begins with an examination of the solutions. Lambda values should have the expected sign, and should be significant as indicated by the corresponding t-values (Jöreskog & Sörbom, 1989). Thus, values above 1.64 are considered acceptable.

The squared-multiple correlation is a measure of the strength of the linear relationship between the observed and the latent variable (Jöreskog & Sörbom, 1989). Values range from 0 to 1.00 with those closer to 1.00 representative of better models. The squared multiple correlation is also an indication of the reliability of each observed variable (Byrne, 1989). The coefficient of determination, indicating how well the combination of observed variables serves as a measuring instrument of the latent variable, also ranges from 0 to 1.00, with larger values reflecting better models.

Evaluation of the model continues with examination of four measures of overall fit. Large chi-square values relative to the degrees of freedom correspond to a bad fit (Jöreskog & Sörbom, 1989). When chi-square values approximate a one-to-one ratio with the degrees of freedom, a relatively good fit has been obtained. In addition, the higher the probability of chi-square, the better the fit of the model (Bollen, 1989).

The goodness of fit index (GFI) indicates the amount of variance and covariance explained by the model, while the adjusted goodness of fit index (AGFI) takes into account the degrees of freedom in the model (Byrne, 1989). The fit is considered to be acceptable when AGFI is .9 and improves as the values for both of these indices approach 1.00.

A final index, the root mean square residual (RMR) evaluates "... the average discrepancy between the elements in the sample and hypothesized covariance matrices..." (Byrne, 1989, p.54). Typically values below .05 represent a good fit of the model, although published research has sometimes used values of .06 as acceptable, e.g. Heide & Miner (1992). As is the convention in reporting LISREL results, the confirmatory factor analyses and structural equations are presented in standardized form "...in which the latent variables are scaled to have variances equal to one and the observed variables are still in the original metric..." (Jöreskog & Sörbom, 1989, p. 38).

#### Career Motivation Dimensions

The confirmatory factor analyses evaluated models in which each career motivation dimension was considered to be a latent variable measured by a set of related composite indices. To remain within the limits imposed by the degrees of freedom for a sample of 94, an independent confirmatory factor analysis was carried out for each dimension. The number of values which must be estimated (i.e., the links between the observed and unobserved variables as well as the error terms ) should not

exceed the sample size less 50 (Bagozzi, 1980) and this rule of thumb was respected in each of the measurement models analyzed.

### Career Resilience

The exploratory factor analysis of the London (1991) and Noe et al. (1990) career resilience items extracted one factor, resilience, and two factors, risk-taking and self-efficacy respectively. Career motivation theory proposes a positive relationship between career resilience and two sub-domains, self-efficacy and risk-taking, as well as a negative relationship with dependency. Since the London items produced only one factor, it is not possible to investigate the sub-domain relationships. However, the Noe items appear to represent self-efficacy and risk taking, consequently, a partial examination of the sub-domain relationships is possible.

The additional seven measurement variables correspond to other factors derived from the principal components factor analysis. These were expected to demonstrate convergent validity with the factors derived from the London (1991) and Noe et al. (1990) questionnaires as well as yield latent variable measures which more completely sample the entire domain of the resilience construct. These additional constructs and their expected relationships to career resilience reflect various propositions of career motivation theory (London, 1991).

Two factors, perseverance and persistence were derived from a self-efficacy scale (Sherer et al, 1982) and were expected to be positively related to career resilience. The autonomy, security and creativity anchors were taken from the Career Orientations Inventory (DeLong, 1988). Autonomy was expected to be positively

related to career resilience since it appeared to be the opposite of dependency, a sub-domain which London (1983) predicted would be negatively related to career resilience. Therefore, introducing this additional factor permitted a partial evaluation of the dependency sub-domain. In addition, London predicted that autonomy was also a correlate of the self-efficacy sub-domain; consequently, there are additional arguments in support of a predicted positive relationship between autonomy and career resilience.

Since risk-taking is expected to be positively related to career resilience (London, 1983) and was assumed to be the inverse of security, the latter was expected to be negatively related to career resilience. Career development orientation was a correlate which was predicted to be positively related to career resilience (London, 1983). A factor extracted from a principal components analysis of three development orientation items designed for this study was included in the confirmatory factor analysis.

The need for creativity was identified as a correlate of the self-efficacy sub-domain. The creativity factor, derived from the Career Orientations Inventory (DeLong, 1988), was also added to the confirmatory factor model. Finally, to evaluate the convergent validity of self-efficacy, the perseverance and persistence factors extracted from the Sherer et al. (1982) were also examined.

Including all the measurement variables in the model allows simultaneous evaluation of the convergent validity of factors derived from the London (1991) and Noe et al. (1990) career motivation scales and theoretically relevant correlates. A

correlation matrix of the factors (see Appendix D) was entered to evaluate the measurement model in Figure 4-1.

Figure 4-1. Career resilience measurement model.

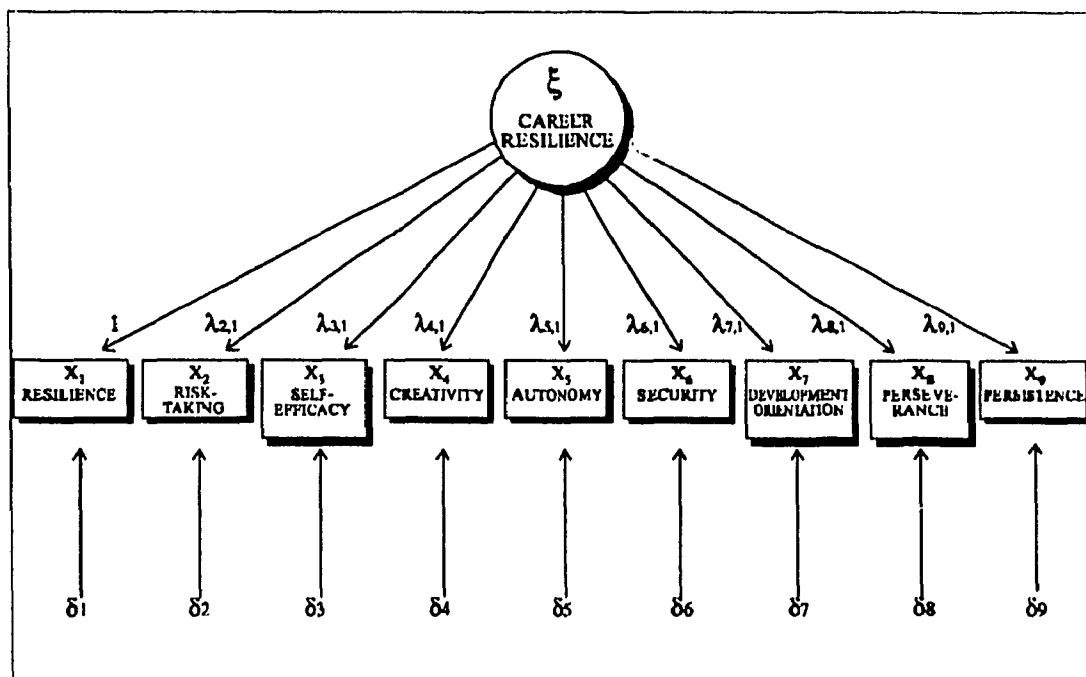




Table 4-31

Resilience Confirmatory Factor Analysis

Measurement Variable	Lambda	T Value	SMC*
Resilience $\lambda_{1,1}$	.685	(-)	.469
Risk-taking $\lambda_{2,1}$	.741	5.854	.549
Self efficacy $\lambda_{3,1}$	.317	2.727	.100
Creativity $\lambda_{4,1}$	.710	5.674	.504
Autonomy $\lambda_{5,1}$	.288	2.488	.083
Security $\lambda_{6,1}$	-.080	-.699	.006
Development orientation $\lambda_{7,1}$	.577	4.779	.333
Perseverance $\lambda_{8,1}$	.284	2.452	.081
Persistence $\lambda_{9,1}$	.651	5.298	.424
Coefficient of Determination	.82		
<u>Goodness of Fit Measures</u>			
$X^2$ (27 df)	56.80 (p=.001)		
Goodness of Fit Index (GFI)	.887		
Adjusted GFI	.812		
Root Mean Square Residual (RMR)	.090		

Note. \*Squared multiple correlation

The results in Table 4-31 indicate that the model described in Figure 4-1 did not fit the data. An evaluation of the individual parameters revealed that all lambdas were in the expected direction but the t-value for one of the measurement variables, security, was not significant. In addition, squared multiple correlations for autonomy and perseverance were unacceptably low, indicating that these were not particularly reliable measures of the latent variable. The probability for the  $X^2$  goodness of fit index was below .05, the cut-off for an acceptably fitting model. The AGFI was

below the desired level of .9 and the RMR was above the .05 cut off level.

To improve the model fit, the three measurement variables with low squared multiple correlations or non-significant t-values were deleted, i.e., security, autonomy, and perseverance. The revised career resilience model can be found in Figure 4-2.

**Figure 4-2.** Re-specified career resilience measurement model.

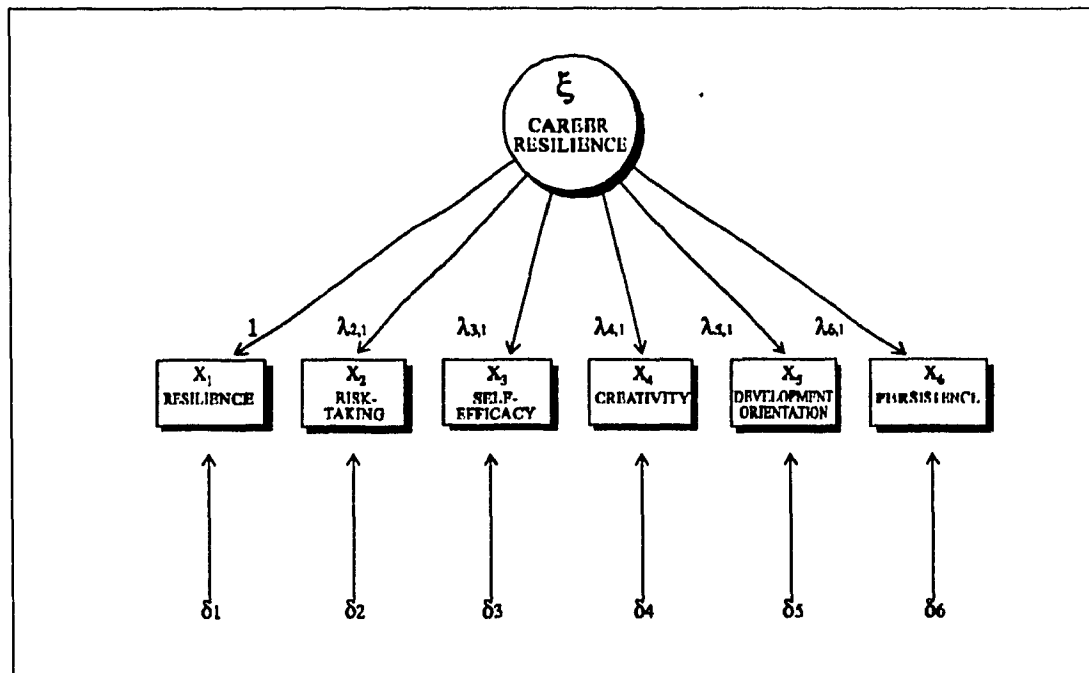


Table 4-32

Re-specified Career Resilience Confirmatory Factor Analysis

Measurement Variable	Lambda	T Value	SMC
Resilience $\lambda_{1,1}$	.699	(-)	.489
Risk-taking $\lambda_{2,1}$	.731	5.832	.534
Self-efficacy $\lambda_{3,1}$	.316	2.713	.100
Creativity $\lambda_{4,1}$	.719	5.768	.517
Development orientation $\lambda_{5,1}$	.570	4.747	.325
Persistence $\lambda_{6,1}$	.636	5.223	.404
Coefficient of Determination	.82		
Goodness of Fit Measures			
$\chi^2$ (9 df)	10.48 (p=.313)		
Goodness of Fit Index (GFI)	.962		
Adjusted GFI	.912		
Root Mean Square Residual (RMR)	.050		

A second confirmatory factor analysis produced the results in Table 4-32.

Based on the goodness of fit indices, the reduced model fit the data; consequently, the measurement variables listed in Figure 4-2 were retained for structural equation hypothesis testing. Reduction of the model by eliminating three measurement variables improved the overall ability of the remaining variables to measure career resilience. Because the model was a good fit, there was no need to eliminate additional variables with low mean squared correlations (e.g., self-efficacy).

The results suggest that the autonomy and security anchors are not particularly effective indicators of career resilience. In addition, since development orientation and creativity manifest the expected relationships with career resilience, these measurement

variables support the convergent validity of the factors derived from the London (1991) and Noe et al. (1990) items. With respect to self-efficacy, the persistence factor, derived from the Sherer et al.(1982) scale, performs as expected and provides additional convergent validity support.

### Career Insight

A total of four career insight factors were extracted in the principal components factor analysis. A correlation matrix of these factors (see Appendix D) was entered in a confirmatory factor analysis of career insight. The London (1991) career insight items had all loaded on one factor, insight. The Noe et al. (1990) career insight items had loaded on two factors, outcome goal clarity, and reliance on feedback. One additional factor consisting of items developed for this research measured the need for change. While the London items had loaded on one factor measuring insight, consistent with career motivation theory, the outcome goal clarity, need for change, and reliance on feedback factors measure career insight correlates. The model is specified in Figure 4-3.

Figure 4-3. Career insight measurement model.

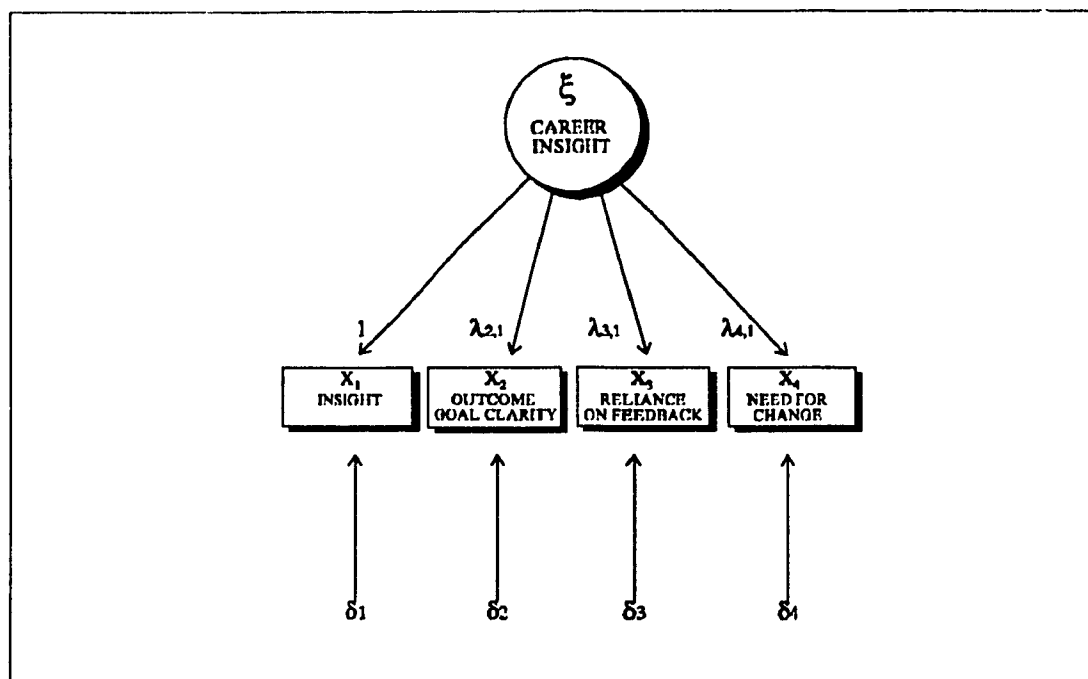


Table 4-33

Career Insight Confirmatory Factor Analysis

Measurement Variable	Lambda	T Value	SMC
Insight $\lambda_{1,1}$	.887	-	.786
Outcome goal clarity $\lambda_{2,1}$	.792	5.141	.628
Reliance on feedback $\lambda_{3,1}$	.462	3.925	.213
Need for change $\lambda_{4,1}$	.225	1.980	.051
Coefficient of Determination	.851	-	-
Goodness of Fit Measures			
$X^2$ (2 df)	4.26 (p=.119)		
GFI	.979		
Adjusted GFI	.895		
RMR	.048		

The results of the confirmatory factor analysis are listed in Table 4-33. Despite the fact the only the insight and outcome goal clarity factors appear to be adequately reliable indicators of career insight, the goodness of fit indices indicate that the model fits the data quite well. The lambda values indicate that all measurement variables loaded in the expected direction and were significant according to their respective t-values.

Because the various measurement variables loaded on the career insight latent variable as expected, there is support for the convergent validity of the measures. However, since there were no additional measures of career insight or its correlates (as was the case with career resilience and the additional measures of self-efficacy, job involvement, autonomy, and security) further consideration of validity may be warranted. Bollen (1989) has defined a standardized validity coefficient,

corresponding to the standardized coefficient for lambda, which can be used to determine the relative validity of an observed variable. Although Bollen (1989) does not mention any necessary conditions for the use of this coefficient, it should be noted that the conditions applicable for the use of the unstandardized coefficient of validity, namely the presence of a direct structural relationship between the measurement and latent variables, have been met. A direct relationship means that there are no intervening variables present while a structural relationship refers to an invariant and stable link between the measurement and latent variables. There are no apparent arguments to indicate that either of these conditions is being violated. The results demonstrate that insight, outcome goal clarity, and reliance on feedback factors are relatively more valid indicators than the need for change factor. Nevertheless, because the full model fits the data rather well, all factors will be retained for use in structural equations hypothesis testing.

### Career Identity

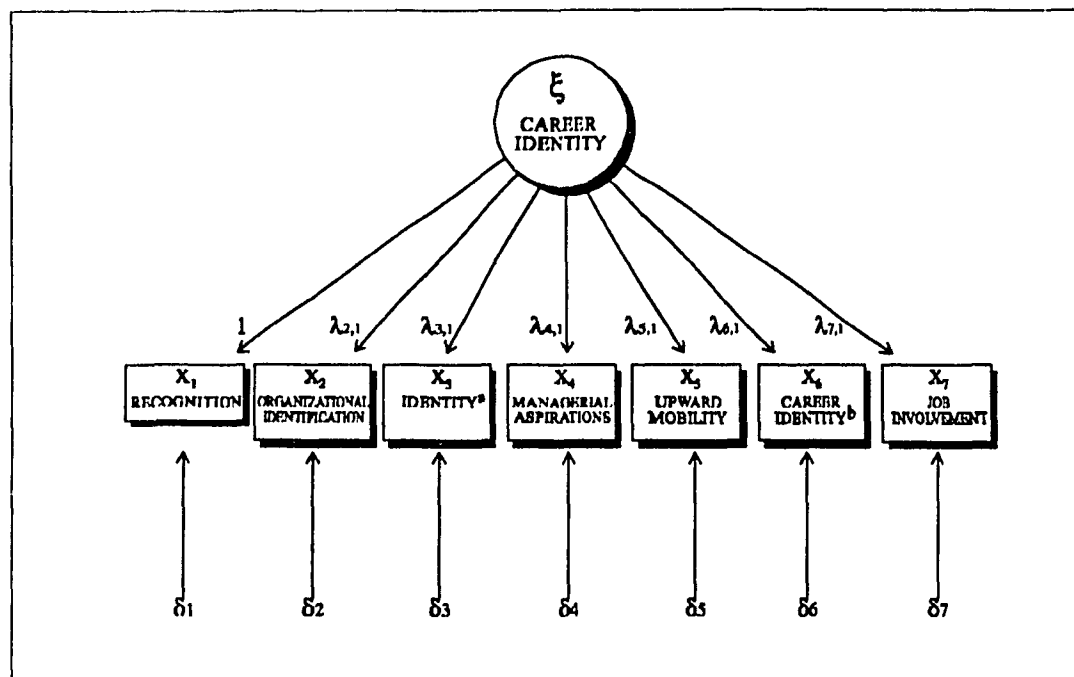
The principal components factor analysis of the London (1991) career identity items extracted two factors, recognition and organizational identification. These are related to the two career identity sub-domains, with recognition a correlate of the upward mobility sub-domain, and organizational identification a correlate of the work involvement sub-domain. The identity factor extracted from the Noe et al. (1990) items did not relate to individual sub-domains but rather to career identity overall.

For the purpose of demonstrating convergent validity, a number of other factors derived from existing scales were included. A managerial competence factor

corresponding to the managerial competence anchor of the Career Orientations Inventory was expected to be positively related to the upward mobility sub-domain and consequently to career identity. The two-item upward mobility scale (Prince, 1979) was entered as a factor expected to be positively related to career identity. The career identity scale, adapted from Mael & Ashforth (1992), was also entered as a factor with an expected positive relationship to career identity. The job involvement factor extracted from Kanungo's (1982) job involvement scale, was entered in the confirmatory factor analysis and was expected to be positively related to career identity. A correlation matrix (see Appendix D) of these factors was entered to test the model specified in Figure 4-4.



Figure 4-4. Career identity measurement model.



Notes. a) Noe et al. (1990)

b) Mael & Ashforth (1992)

Table 4-34

Career Identity Confirmatory Factor Analysis

Measurement Variable	Lambda	T Value	SMC <sup>c</sup>
Recognition $\lambda_{1,1}$	.783	-	.613
Organizational Identification $\lambda_{2,1}$	.135	1.293	.018
Identity <sup>a</sup> $\lambda_{3,1}$	.451	4.270	.203
Managerial Competence $\lambda_{4,1}$	.931	8.233	.867
Upward Mobility $\lambda_{5,1}$	.620	6.053	.384
Career Identity <sup>b</sup> $\lambda_{6,1}$	.222	2.047	.049
Job Involvement $\lambda_{7,1}$	.465	4.409	.216
Coefficient of Determination	.903		
Goodness of Fit Measures			
$\chi^2$ (14 df)	35.00		
	(p=.001)		
GFI	.910		
Adjusted GFI	.820		
RMR	.084		

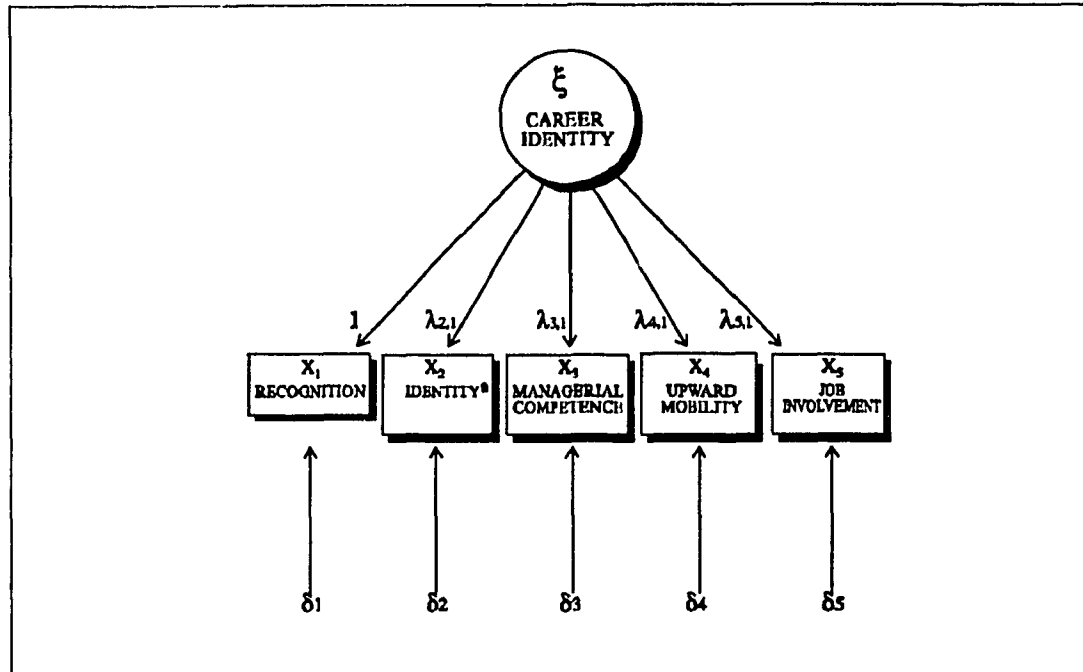
Notes. a) Noc et al. (1990)  
b) Mael & Ashforth (1992)

The results of the confirmatory factor analysis are listed in Table 4-34. The goodness of fit indices indicated that this model was not a particularly good fit of the data. Closer examination of the squared multiple correlations and t-values revealed that organizational identification had unacceptably low reliability and was not significant. Since this index comprised only two items from the London (1991) questionnaire, dropping it did not appear to result in a serious loss of data.

The Mael & Ashforth (1992) career identity factor consisted of four items adapted for the career orientations questionnaire. It is possible that the modifications

resulted in reduced reliability and, consequently, this measurement variable was also dropped. The reduced model is specified in Figure 4-5 and the results of the confirmatory factor analysis of the reduced model can be found in Table 4-35.

Figure 4-5. Re-specified career identity measurement model.



Note. a) Noe et al. (1990)

Table 4-35

Re-specified Career Identity Confirmatory Factor Analysis

Measurement Variable	Lambda	T Value	SMC
Recognition $\lambda_{1,1}$	.769	-	.592
Identity $\lambda_{2,1}$	.446	4.233	.199
Managerial competence $\lambda_{3,1}$	.946	8.023	.884
Upward Mobility $\lambda_{3,1}$	.618	6.021	.381
Job Involvement $\lambda_{4,1}$	.463	4.404	.214
Coefficient of Determination	.917		
Goodness of Fit Measures			
$\chi^2$ (5 df)	7.01 (p=.220)		
GFI	.969		
Adjusted GFI	.906		
RMR	.041		

The results in Table 4-35 indicate that the reduced model was an acceptable fit of the data. The measurement variables produced lambda values in the expected direction and were all significant based on t-values. The results indicate that there was support for the convergent validity of the retained factors, recognition and career identity [extracted from Noe et al. (1990)].

Despite low squared multiple correlations for career identity (Noe et al., 1990) and job involvement, the model produced acceptable goodness of fit indices, and consequently was retained for the structural equations hypothesis testing.

Career Motivation

Having examined the various measurement models associated with each career motivation dimension, their respective sub-domains, correlates and additional factors

expected to demonstrate convergent validity, it is also necessary to evaluate the career motivation measurement model. In this model, only the factors extracted from the London (1991) and Noe et al. (1990) career motivation scales were evaluated. The organizational identification factor, previously eliminated from the career identity measurement model was not included.

The decision to use these factors is based on two considerations. First, since the London (1991) and Noe et al. (1990) questionnaires were developed specifically to measure career motivation, evaluating the career motivation model by using factors derived from those questionnaires contributes to their validation. Secondly, given the sample size, it is necessary to limit the number of parameters which must be estimated. The number of parameters which have to be estimated using all the factors identified in the preceding measurement models far exceed 45, the rule of thumb limit for a sample of this size (Bagozzi, 1980).

Whereas the previous confirmatory factor analyses were able to demonstrate convergent validity, this analysis of the career motivation model is expected to demonstrate discriminant validity for the measurement variables. A correlation matrix (see Appendix D) for the factors was entered in the confirmatory factor analysis corresponding to the model described in Figure 4-6.

Figure 4-6. Career motivation dimensions measurement model.

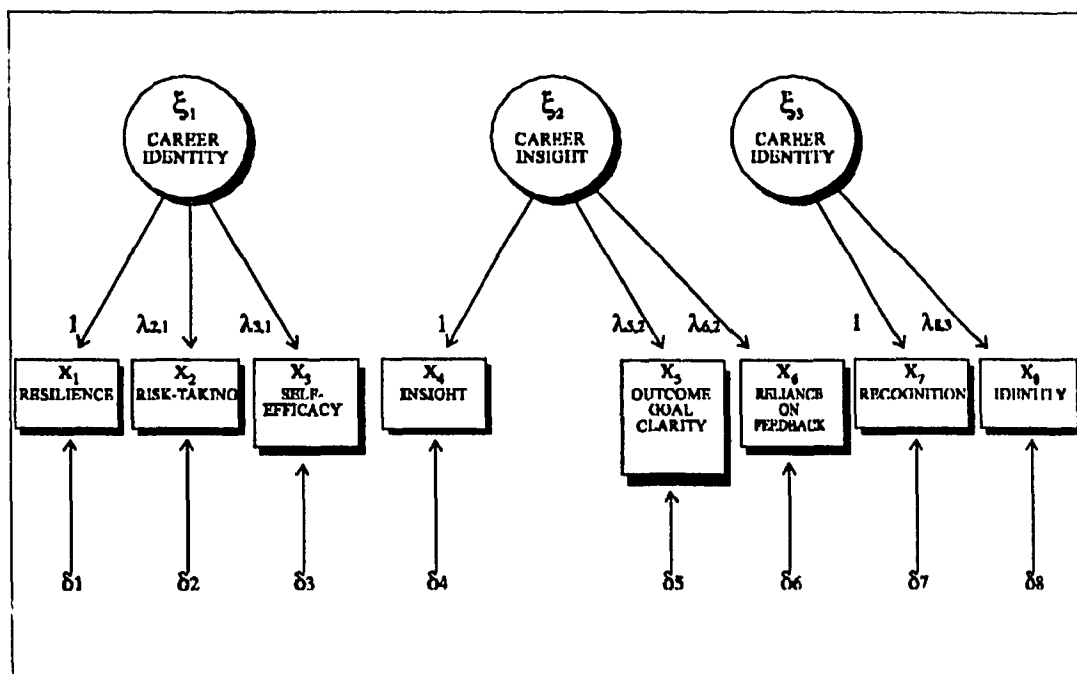


Table 4-36

Career Motivation Dimensions Confirmatory Factor Analysis

Measurement Variable	Lambda	T Value	SMC
Resilience $\lambda_{1,1}$	.734		.508
Risk taking $\lambda_{2,1}$	.681	5.261	.497
Self-efficacy $\lambda_{3,1}$	.310	2.611	.098
Insight $\lambda_{4,2}$	.844		.699
Outcome Goal Clarity $\lambda_{5,2}$	.835	6.423	.677
Reliance on Feedback $\lambda_{6,2}$	.183	4.561	.257
Recognition $\lambda_{7,3}$	.514		.575
Identity $\lambda_{8,3}$	.719	3.217	.165
Coefficient of Determination	.440		
Goodness of Fit Measures			
$X^2$ (17 df)	39.04 ( $p=.002$ )		
GFI	.910		
Adjusted GFI	.809		
RMR	.089		

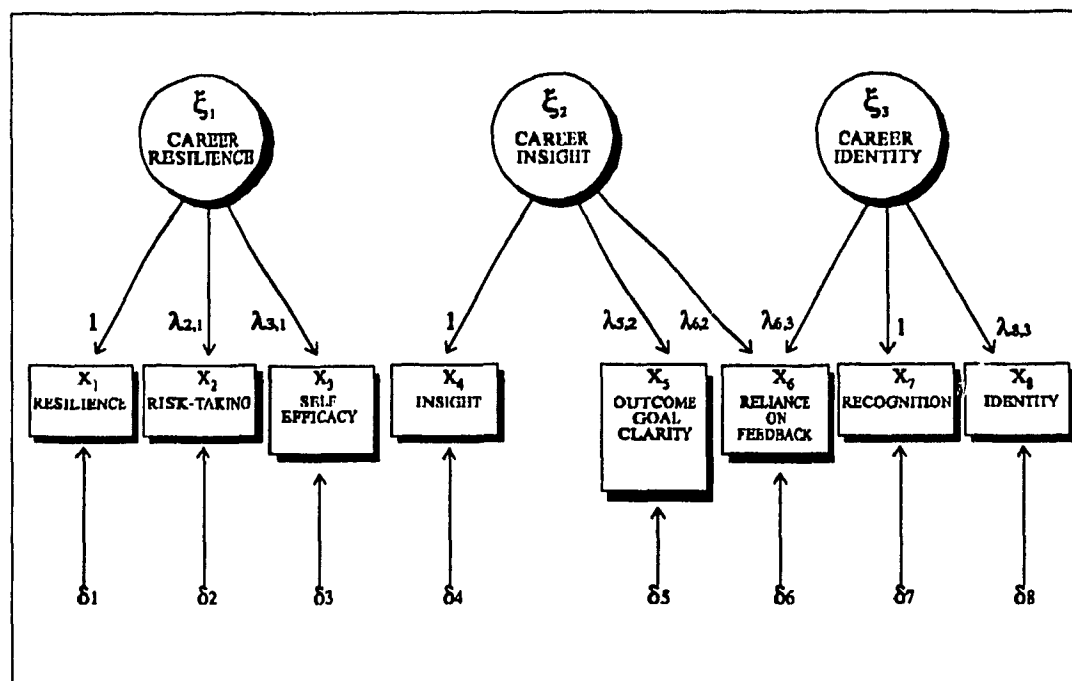
The results of the career motivation confirmatory factor analysis can be found in Table 4-36. Although the measurement variables loaded as expected on the latent variables and were significant, the model does not fit the data particularly well based on the various goodness of fit indices. Whereas in the previous confirmatory factor analyses, the strategy for improving the model's fit was to eliminate measurement variables with low reliabilities, there is another option available here which allows for a maximum of data retention. When two or more latent variables are included in the model, improvements are often possible by re-specifying the latent variable on which a particular measurement variable loads. As with other model re-specifications, this is

an example of post-hoc model fitting, more suitable for exploratory model investigation (Byrne, 1989), as is required for much of the present analysis.

The LISREL 7 software supplies modification indices to serve as a guide for determining which parameters should be relaxed. The output for the career motivation confirmatory factor analysis indicated that loading reliance on feedback on identity in addition to insight would improve the fit of the model. There appeared to be conceptual support for modifying the model in this way since many of the Noe et al. (1990) items did not load purely on one career motivation dimension in their original research. It is entirely possible that within a sample which is in the process of changing career or intends to change career to some degree, reliance on feedback shares more with other career identity indicators and less with indicators of career insight than was the case in the original research. In addition, a link between reliance on feedback and career identity may indicate that respondents in transition have a greater propensity to rely on feedback to help them evaluate aspects of their career. The re-specified model is shown in Figure 4-7.



Figure 4-7. Re-specified career motivation dimensions measurement model.



The results for the re-specified model are listed in Table 4-37. Two parameter values are provided for reliance on feedback one for each of the latent variables.

Table 4-37

Re-specified Career Motivation Confirmatory Factor Analysis

Measurement Variable	Lambda	T Value	SMC
Resilience $\lambda_{1,1}$	.734		.539
Risk-taking $\lambda_{2,1}$	.681	5.361	.464
Self-efficacy $\lambda_{3,1}$	.310	2.617	.096
Insight $\lambda_{4,2}$	.844		.712
Outcome Goal Clarity $\lambda_{5,2}$	.835	5.512	.697
Reliance on Feedback (on Career Insight) $\lambda_{6,2}$	.183	1.342	.400
Reliance on Feedback (on Career Identity) $\lambda_{6,3}$	.514	3.455	.400*
Recognition $\lambda_{7,3}$	.719		.517
Identity $\lambda_{8,3}$	.612	3.669	.194
Coefficient of Determination	.960		
<u>Goodness of Fit Measures</u>			
$X^2$ (16 df)	24.55		
	(p=.078)		
GFI	.938		
Adjusted GFI	.862		
RMR	.050		

Note. a) The squared multiple correlation is attributed to the measurement variable and not the parameter; consequently, SMC for reliance on feedback = .400 is one value, reproduced a second time in the table.

This model represents an improvement over the first model on a number of dimensions. The reliability of the insight measurement variables, in particular has been improved along with the various goodness of fit indices. Examining the parameters more closely, all measurement variables load on the latent variables as expected and all are significant with the exception of the parameter for reliance on feedback and career insight. This is not surprising since it indicates that this link is not as critical for the model as the one between reliance on feedback and career

identity.

In addition, discriminant validity was demonstrated for all measurement variables since none loaded significantly on more than one factor. In the case of reliance on feedback, the results indicate that this measurement variable is a significant indicator of career identity only.

### Discussion

The preceding results section addressed the question of construct validity. Initially, the investigation of construct validity was intended to focus on convergent validity, by demonstrating that the factors derived from the original London (1991) and Noe et al. (1990) items loaded on their respective latent career motivation dimensions as expected along with factors derived from other previously tested scales, e.g., Career Orientations Inventory (DeLong, 1988). The confirmatory factor analyses for career identity, and career resilience followed this procedure and although some modifications were made to the models in post hoc model fitting, the factors in question demonstrated convergent validity with factors from more established scales.

The analyses of career insight, career change intentions and career development models did not incorporate additional factors for convergent validity purposes. Consequently, in these cases, the standardized coefficient of validity (Bollen, 1989) was used to evaluate the relative validity of the measurement variables. As discussed previously, a standardized coefficient of validity, corresponding to the value of  $\lambda$ , can be used to determine the relative validity of an observed variable.

A confirmatory factor analysis of the career motivation model with all three

latent dimensions evaluated simultaneously supported most of the major propositions of career motivation theory. The confirmatory factor analysis revealed that career motivation does indeed comprise three dimensions, career resilience, career insight and career identity. Furthermore, some of the expected relationships between sub-domains and dimensions were supported by the data. Convergent validity of the retained measurement variables was demonstrated while discriminant validity was also confirmed. These results provide support for the theory of career motivation and demonstrate that the theory can be applied to a substantially different type of sample than has been typically used in past research (e.g. London, 1991; Noe et al., 1990).

The reliance on feedback factor was expected to be an indicator of career insight but appeared to be a better indicator of career identity. Of all the expected relationships between measurement and latent variables, this was the only one requiring modification and various reasons explaining this departure from career motivation theory were discussed previously. At this stage of career motivation theory development, it is important to attempt a replication of these findings and to further investigate the relationship between reliance on feedback and career identity. A number of reasons were provided for this apparent departure from the propositions of career motivation theory. However, the development of this theory is still in its initial stages and the present research is a first effort to test the theory with a new population. Therefore, it is not surprising to consider the possibility that reliance on feedback is an important career identity factor for respondents primarily in the process of career transition.

The results of the career motivation confirmatory factor analysis also contribute to refining existing career motivation measures. Among the factors derived from the London (1991) items, it appears that career insight and career resilience factors are valid, reliable measures of their respective dimensions. Problems emerged with London (1991) factors in relation to career identity, specifically with organizational identification, an indicator variable which was dropped in order to improve the fit of the model. The organizational identification factor consisted of two items: a) were you proud to work for your organization; and b) did you believe that your success depended on the success of your organization.

One possible explanation for the difficulties concerning these items has to do with the fact that in answering retrospectively, respondents were unable to fully separate their current feelings for the organization from those felt prior to having their jobs eliminated. What may make this tendency more pronounced here than in relation to other questionnaire items which were answered under identical retrospective conditions is that the organizational identification items elicit feelings about the organization. It is easy to see the organization as a villain and to use it as a target for anger and negative affect fostered by the job elimination experience. Assuming these feelings are not easily put aside in thinking back to pre-job-elimination experiences, they serve to attenuate memories of positive attitudes reflecting pride in the organization or belief in the relationship between personal and organizational success. The net result neutralizes any relationship between organizational identification and career identity.

Other questionnaire items focusing more on attitudes and capacities towards work, or aspects of work related to colleagues and peers, for example, may be less likely to evoke negative feelings. It is difficult to imagine that one would express negative affect towards these more personal as opposed to organizational dimensions of the pre-transition job. In conclusion, with respect the London (1991) career motivation items, there is support for retaining those items related to career resilience, career insight, and the need for recognition.

With respect to the Noe et al. (1990) items, all factors were supported and were entered in the career motivation confirmatory factor analysis. However, what emerged indicated that reliance on feedback, specified as a career insight factor based on career motivation theory, was perhaps a better indicator of career identity. The reliance on feedback factor consisted of three items, did you ask co-workers you respect for feedback on your performance, did you ask your boss to discuss your specific skill strengths and weaknesses, and did you change or revise your career goals based on new information you received regarding yourself or your situation.

Considering why these items are better indicators of career identity than career insight requires comparison to items included in the other career identity factors. The Noe et al. (1990) career identity factor items were: were you involved in professional organizations related to your career goal, did you take courses toward a job-related degree, did you spend your free time on activities that related to your job, and did you stay abreast of developments in your line of work? These items appear to focus more on job involvement rather than upward mobility, or any of the correlates of career

identity. However, the London (1991) items, did you want to be recognized for your accomplishments, did you want your boss to recognize your accomplishments, did you want to be in a leadership position, and did you see yourself as a professional and / or technical expert, appear to have a closer relationship with the reliance on feedback items.

If a question such as asking co-workers for feedback on performance shares some of the same content as wanting to be recognized for your accomplishments or wanting to be in a leadership position, then it may be necessary to specify more clearly the reasons why one might ask co-workers for feedback. Certainly, the confirmatory factor analysis results indicate that for these questions, respondents appear to have inferred that asking for feedback and wanting to be recognized have something in common.

The same line of reasoning can be taken with other reliance on feedback items and need for recognition. For example, asking one's boss to discuss specific skill strengths and weaknesses may be viewed as quite similar to having one's boss recognize one's accomplishments. Naturally, further testing of these items, factors, and models, in other samples, will be required prior to arriving at firm conclusions. However, this analysis reveals that it may be important to tap the intentions behind certain behaviors. Assuming that the behaviors implied in the reliance on feedback factor are intended for insight is not supported by the data.

In conclusion, the results of the career motivation confirmatory factor analysis allow the construction of an integrated career motivation scale which includes items

from both the London (1991) and Noe et al. (1990) scales (See Appendix A).

Additional measures, i.e., creativity, development orientation, persistence, need for change, managerial competence, upward mobility, and job involvement, also proved useful in measuring the construct domain and can supplement the London (1991) and Noe et al. (1990) items. Further testing of this scale will undoubtedly contribute to refinements and subsequent improvements in validity and reliability.

#### Career Change Intentions

Four career change intentions factors were extracted in the principal components factor analysis: pre-transition intentions, present intentions, attractiveness (of various levels of change) and ideal differences (between former job and ideal job). The items which loaded on these factors were all developed for the present research. A correlation matrix of the four factors (see Appendix E) was entered in a confirmatory factor analysis for the model specified in Figure 4-8. The results can be found in Table 4-38.



Figure 4-8. Career change intentions measurement model.

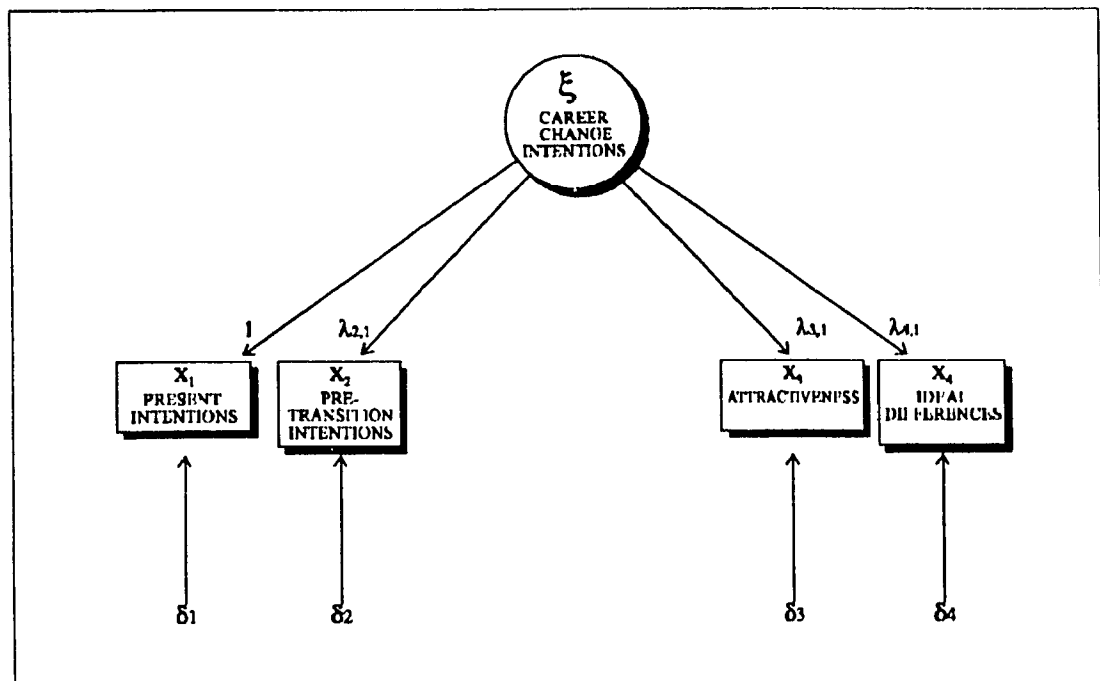


Table 4-38

Career Change Intentions Confirmatory Factor Analysis

Measurement Variable	Lambda	T Value	SMC
Present intentions $\lambda_{1,1}$	.906	-	.822
Pre transition intentions $\lambda_{2,1}$	.689	7.151	.474
Attractiveness $\lambda_{3,1}$	.933	12.038	.870
Ideal Differences $\lambda_{4,1}$	.777	8.731	.603
Coefficient of Determination	.932	-	-
Goodness of Fit Measures			
$X^2$ (2 df)	8.63 (p=.013)		
GFI	.949		
Adjusted GFI	.743		
RMR	.042		

On the basis of chi square and the adjusted goodness of fit index, the model appears to poorly fit the data. Since the measurement variables did not have particularly low squared multiple correlations, and all t-values were significant, there were no apparent criteria for selecting one or more variables to eliminate, as was the case with some of the career motivation models. Analysis of the career change intentions items was much more exploratory since these scales had not been tested in any prior research. Consequently, it seemed advisable to modify the model rather than arbitrarily eliminate items and lose data.

Re-specification of the model meant that the analysis was in fact shifting from confirmatory to post-hoc exploratory factor analysis. The merits of post-hoc model fitting have been debated in the literature and arguments in favour of this method have been succinctly summarized by Byrne (1989). In this case, the lack of theoretical

development means that analysis of career change intentions is purely exploratory; consequently, investigation of alternate models should proceed cautiously, with the realization that further validation is necessary.

Since there appeared to be stronger conceptual links between pairs of measurement variables, a second model with two latent variables was specified. Pre-transition intentions and ideal differences appeared to tap the respondents' intentions under more hypothetical conditions. Present intentions and attractiveness of career change appeared to tap intentions under conditions which were more imminent or real. In the alternate model, outlined in Figure 4-9, present intentions and attractiveness were designated as measuring one latent variable, realistic intentions, while pre-transition intentions and ideal differences were designated as measuring ideal intentions, a second latent variable.

Figure 4-9. Re-specified career change intentions measurement model.

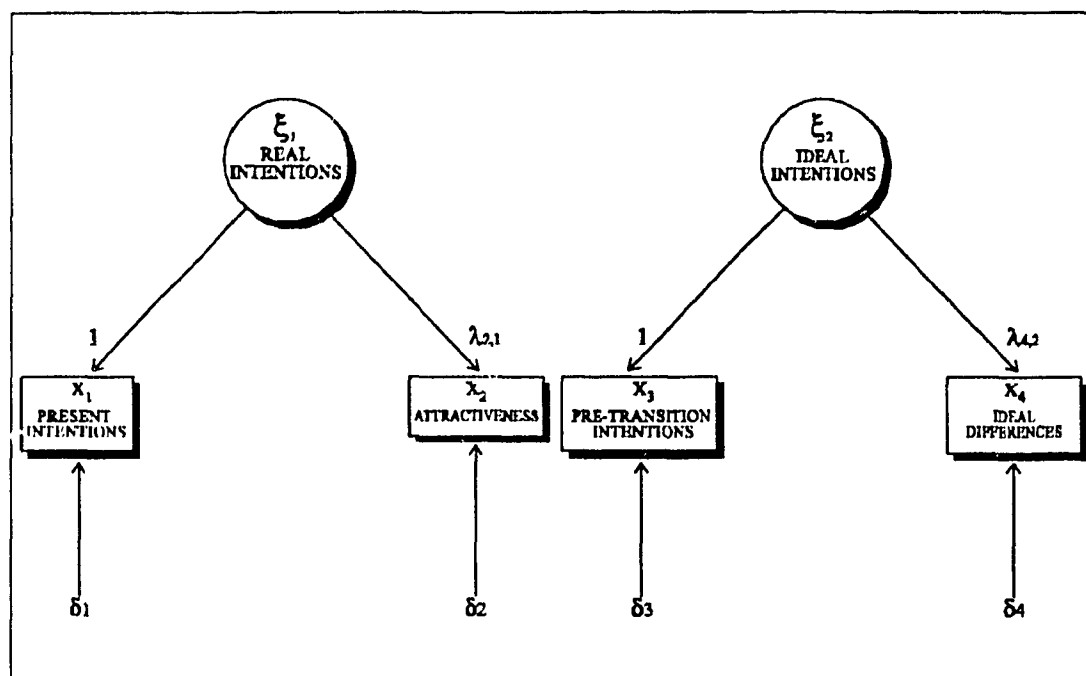


Table 4-39

Re-specified Career Change Intentions Confirmatory Factor Analysis

Measurement Variable	Lambda	T Value	SMC
Present intentions $\lambda_{1,1}$	.910	-	.828
Attractiveness $\lambda_{2,1}$	.939	11.675	.881
Pre-transition intentions $\lambda_{3,2}$	.759	-	.575
Ideal Differences $\lambda_{4,2}$	.865	7.042	.749
Coefficient of Determination	.966		-
Goodness of Fit Measures			
$\chi^2$ (1 df)	2.00 (p=.157)		
GFI	.987		
Adjusted GFI	.870		
RMR	.012		

The results for the confirmatory factor analysis of the alternate model are presented in Table 4-39 and indicate that the alternate model fit the data quite well. All the measurement variables loaded on the latent variables in the expected direction and were significant. The goodness of fit indices were all within desirable ranges with the possible exception of the adjusted GFI which appeared to be marginally below the expected .9 level.

As was the case in the earlier confirmatory analysis of career insight, there were no additional factors representing previously tested scales, available for analysis of convergent validity. An evaluation of the standardized coefficient of validity (Bollen, 1989) reveals that the relative validities are stable in both models, and are sufficiently high to conclude that the measurement variables are valid indicators of the latent variables. Consequently, given the exploratory nature of this portion of the

research, the conceptual arguments in support of two latent career change intentions variables, and the results for the coefficient of validity, this model was retained for structural equations hypothesis testing.

### Discussion

The measurement models which identified the latent career change intentions variables were exploratory in nature. Previous conceptualization of job changes served to guide the development of questionnaire items and subsequent measurement variables (Latack, 1984). The evaluation of measurement models was of necessity left to exploration.

The questionnaire items produced four factors, pairs of which appeared to be conceptually linked on the basis of temporal and situational conditions. Pre-job elimination intentions and ideal intentions were more closely linked as an expression of respondent preferences under hypothetical conditions. Present intentions and attractiveness of various job change differences were found to reflect preferences under more immediate, real conditions.

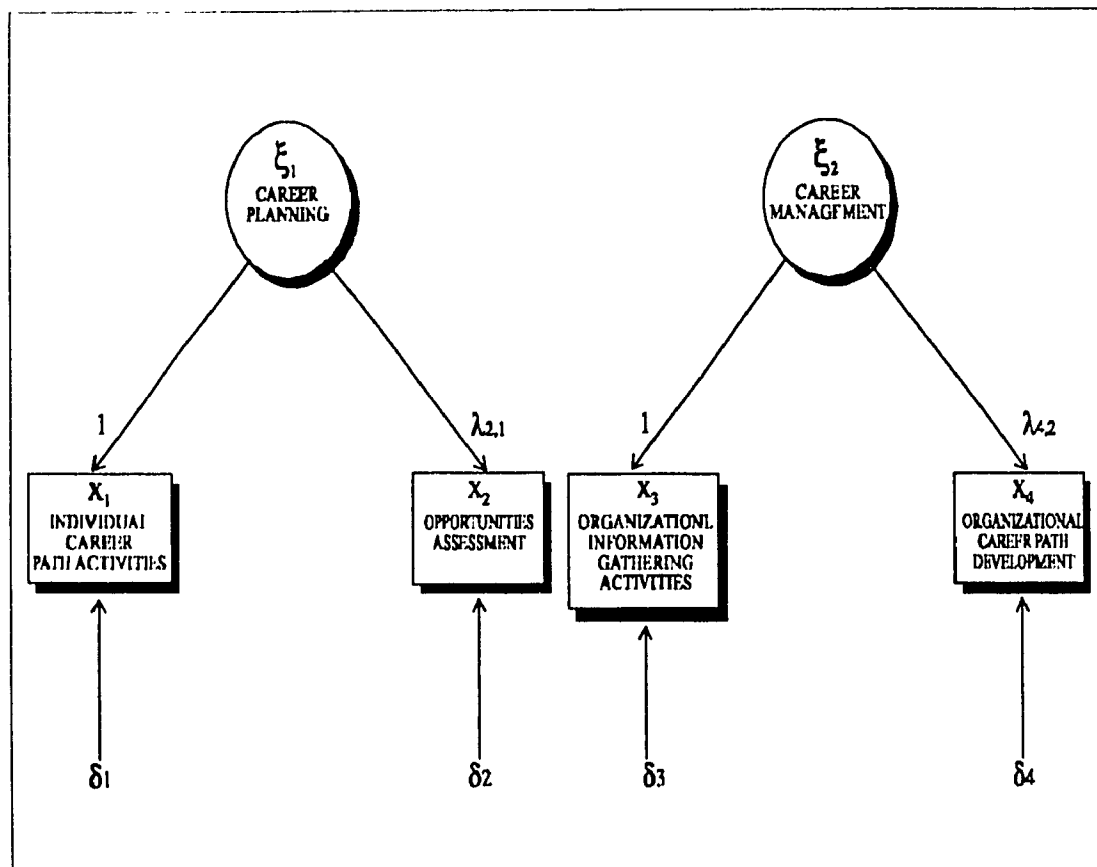
Given the nature of the subject matter, the relatively under-developed state of theory in the area, it is only possible to arrive at tentative conclusions. The results seem to demonstrate a distinctiveness between intentions based on a number of conditions. It is necessary to replicate this model with other samples to see if the same pattern emerges. However, it may be important to recognize that unless respondents are asked to express intentions while they are actually in the job search process, it may be very difficult to capture the element of immediacy.

To summarize, the present research has demonstrated that with the present sample, career change intentions can be described on the basis of temporal and situational dimensions. Two latent intentions variables need to be considered in examining relationships between various independent variables and intentions to change career.

#### Career Planning and Career Management

Principal components factor analysis extracted two career planning factors, career path activities and opportunities assessment, as well as two career management factors, information gathering and career path development. These factors were expected to be positively related to two latent variables, career planning and career management respectively, as specified in Figure 4-10. A correlation matrix for these four factors (see Appendix F) was entered in a confirmatory factor analysis of the data.

Figure 4-10. Career planning and career management measurement model.



The confirmatory factor analysis results are listed in Table 4-40.



Table 4-40

Career Planning and Career Management Confirmatory Factor Analysis

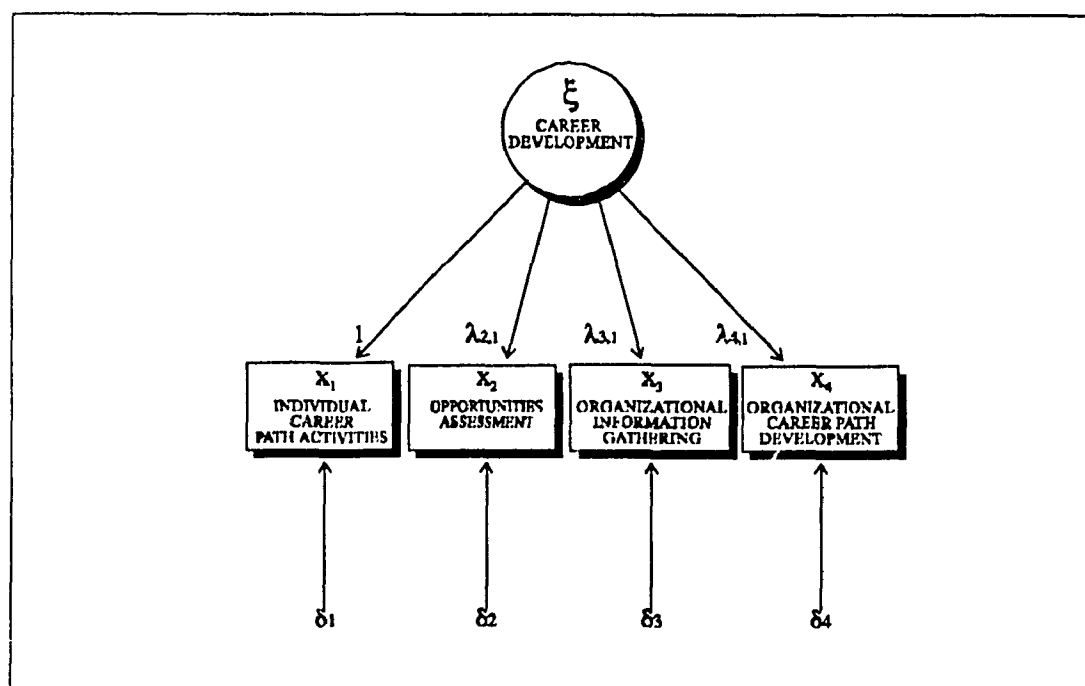
Measurement Variable	Lambda	T Value	SMC
Individual Career Path Activities $\lambda_{1,1}$	.791		.626
Opportunities assessment $\lambda_{2,1}$	.314	2.187	.098
Organizational Information Gathering $\lambda_{3,2}$	.411	-	.169
Organizational Career Path Development $\lambda_{4,2}$	.871	2.727	.759
Coefficient of Determination	.875		
Goodness of Fit Measures			
$X^2$ (1 df)	5.15 (p = .023)		
GFI	.972		
Adjusted GFI	.724		
RMR	.063		

The results in Table 4-40 indicated that the model did not fit the data very well. Although the measurement variables loaded in the expected direction on the latent variables and were significant, the reliabilities for two factors, opportunities assessment and organizational information gathering were low. However, given the exploratory nature of this portion of the research (the career development scales had not been tested elsewhere) it seemed advisable to retain as many of the factors as possible and investigate whether a re-specification of the model would produce a better fit.

Conceptually, it is reasonable to argue that respondents might not make as clear a distinction between the organizational and individual dimensions of career development. Specifically, the distinction between what one did of his or her own initiative versus what opportunities one may have had and related organizational

actions may get clouded with the passage of time. This may be particularly true for people who have faced the ego-threatening trauma of a lay-off notice and review these events through that optic. If this assumption holds, it is likely that a single latent variable, career development would be indicated by the career planning and career management factors. A model corresponding to this re-specification is shown in Figure 4-11.

Figure 4-11. Re-specified career planning and career management measurement model.



The result for the confirmatory factor analysis of the alternate model are listed in Table 4-41.

Table 4-41

Re-specified Career Planning and Career Management Confirmatory Factor Analysis

Measurement Variable	Lambda	T Value	SMC
Individual Career Path Activities $\lambda_{1,1}$	.700	-	.490
Opportunities Assessment $\lambda_{2,2}$	.313	2.484	.098
Organizational Information Gathering $\lambda_{3,1}$	.428	3.306	.184
Organizational Career Path Development $\lambda_{4,1}$	.811	3.768	.657
Coefficient of Determination	.762		
Goodness of Fit Measures			
$\chi^2$ (2 df)	5.59		
	(p=.061)		
GFI	.971		
Adjusted GFI	.857		
RMR	.060		

The results in Table 4-41 indicated that the alternate model was an improvement over the original. Although the adjusted goodness of fit was slightly below the desired level of .9, the other goodness of fit indices indicated that the model fit the data moderately well. In addition, the measurement variables loaded as expected on the latent variable, and were significant. Despite the low reliabilities of the opportunities assessment factor, and the organizational information gathering factor, the exploratory nature of this portion of the research warrants retaining a moderately well-fitting model in order to avoid losing data.

Regarding the validity of the measurement variables, since no other scales were available for use in a test of convergent validity, the standardized coefficient of

validity (Bollen, 1989) was utilized, assuming a direct structural relationship between the observed and latent variables. The variables remained fairly stable with respect to their relative validities between the two models with the exception of opportunities assessment which appears to have improved somewhat in the re-specified model. The coefficients of validity, equivalent to the standardized lambda values, indicated that the observed variables appeared to be valid measures of the latent variables. Consequently, the four factors in the alternate model were retained for use in structural equations hypothesis testing.

### Discussion

In the absence of a strong theoretical basis for the development of measurement models, the evaluation of latent career development variables relied on exploratory investigation. Questionnaire item development and principal components factor analysis were guided by previous conceptual work on career planning and career management (Gutteridge, 1986).

Career planning factors retained for the measurement model included activities related to planning individual career paths and activities related to the assessment of career opportunities within the organization. Respondents perceived organizations to be most supportive of activities designed to gather information on employees and to developing career paths. Given that respondents' perceptions of organizational career management activities were investigated, the resulting latent construct indicates the level of support felt by respondents for their personal career development efforts.

The final model suggests that distinctions between career planning and career

management may be more conceptually appropriate than practical, at least for the present sample. Naturally, as was the case with career change intentions, it is necessary to replicate the results with other samples in order to lend additional support to the present conclusions.

### Conclusion

The results of the confirmatory factor analyses indicated that there was general support for the model suggested by career motivation theory. The various measurement variables demonstrated convergent validity when evaluated in single-latent variable models. An integrated model of the measurement variables derived from London (1991) and Noe et al. (1990) career development items demonstrated discriminant validity as well.

The integrated model which simultaneously tested all three career motivation dimensions supported the major propositions of career development theory with the exception of reliance on feedback which was found to be a better indicator of career identity than career insight, supporting the importance of feedback for career identity development (London, 1985).

The latent career change intentions variables were found to be differentiated on the basis of temporal and situational considerations. With respect to career planning and career management, the measurement model which best fit the data consisted of one latent variable, career development. The career change intentions and career development measurement models were exploratory in nature and any conclusions are tentative pending replication of the results with other samples. The confirmatory

factor models were used to evaluate the structural relationships as specified in the hypotheses. These models are presented in the next chapter.

## CHAPTER 5: HYPOTHESIS TESTING RESULTS

A total of 28 hypotheses were originally proposed to describe the various relationships between career change, career change intentions and the various dimensions, sub-domains and correlates of career motivation. The results of the hypotheses tests are presented in sections corresponding to the respective career motivation dimension and related sub-domains and correlates. Within each section, the results of structural equation analysis evaluating the relationships between career change intentions and the respective career motivation dimension are followed by the analysis of correlation results for the various sub-domains and correlates. The chapter concludes with the structural equations testing the relationships between career planning, career management and career change intentions.

The 28 hypotheses in this study are in fact pairs of propositions predicting the behavior of the variables among samples of respondents who have already found new permanent employment, and respondents who while unemployed express varying intentions to change career. These pairs of propositions were included because it was not possible to predict what proportion of each group would be found in the final sample. By formulating the hypotheses in this fashion, they apply to both groups. The final sample included too few career changers ( $N=18$ ) for suitable hypothesis testing. Therefore, the hypotheses related to career change were dropped and within each of the original 14 pairs, only the one applicable to career change intentions ( $N=76$ ) was evaluated.

### Results of Structural Equations

A series of structural equations corresponding to the hypothesized relationships between the independent and dependent latent variables identified in the confirmatory factor analyses were evaluated. The measurement models which were used to build the structural equations correspond to the career motivation dimensions and the career change intentions models which were evaluated in the preceding section. By analyzing each career motivation dimension independently, norms for sample parameter ratios were not violated (Bagozzi, 1980).

In the previous chapter, a number of factors derived from more extensively tested scales (e.g. DeLong, 1988; Kanungo, 1983; Sherer et al. 1982) were included with indicators derived from the London (1991) and Noe et al. (1990) questionnaires to evaluate a comprehensive model of each career motivation dimension. These additional factors were included in the structural equations.

Much of the present research is exploratory in nature since the theory of career motivation is relatively recent, not broadly tested, and the measurement instruments have not been validated. In such exploratory situations, where it is necessary to engage in a process of model re-specification, questions about the usefulness of LISREL have been raised. Because LISREL does not discriminate effectively between equivalent moderately fitting models, an additional guide is needed for re-specification when substantive theory is weak or not existent and cannot provide a suitable guide for model modification. Regressing every variable on every other variable has been suggested as a technique which should be considered for exploring structural models



(Jöreskog & Sörbom, 1989).

In this research, model re-specification was guided in part by career motivation theory. Additional support for the findings was investigated with the analysis of correlations between the sub-domains, correlates and career change intentions variables. Correlations were considered to be equivalent to the type of simple regression analysis suggested by Jöreskog & Sörbom (1989). Consequently, hypotheses are tested with parallel sets of analyses utilizing a) structural equations to evaluate the relationships between latent career motivation dimensions and latent career change intentions, and b) analysis of sub-domain, correlate and career change intentions correlations to verify the direct relationships between these variables.

The general form of the structural equation is

$$x = \Lambda_x \xi + \delta$$

$$y = \Lambda_y \eta + \epsilon$$

with the following assumptions: a) the expected values of the means of  $\xi$ ,  $\eta$ ,  $\epsilon$  and  $\delta$  all equal zero; b)  $\epsilon$  is uncorrelated with  $\xi$ ,  $\eta$ , and  $\delta$ ; and c)  $\delta$  is uncorrelated with  $\xi$ ,  $\eta$ , and  $\epsilon$  (Bollen, 1989).

The Career Orientations Questionnaire contained four items which tapped volition and loaded on one factor. Volition was expected to serve as a control variable, anticipating that career decisions may be constrained by market or other conditions not related to the independent variables being investigated. Volition was included as a latent independent variable in each structural equation to evaluate whether it was related to either of the career change dimensions.

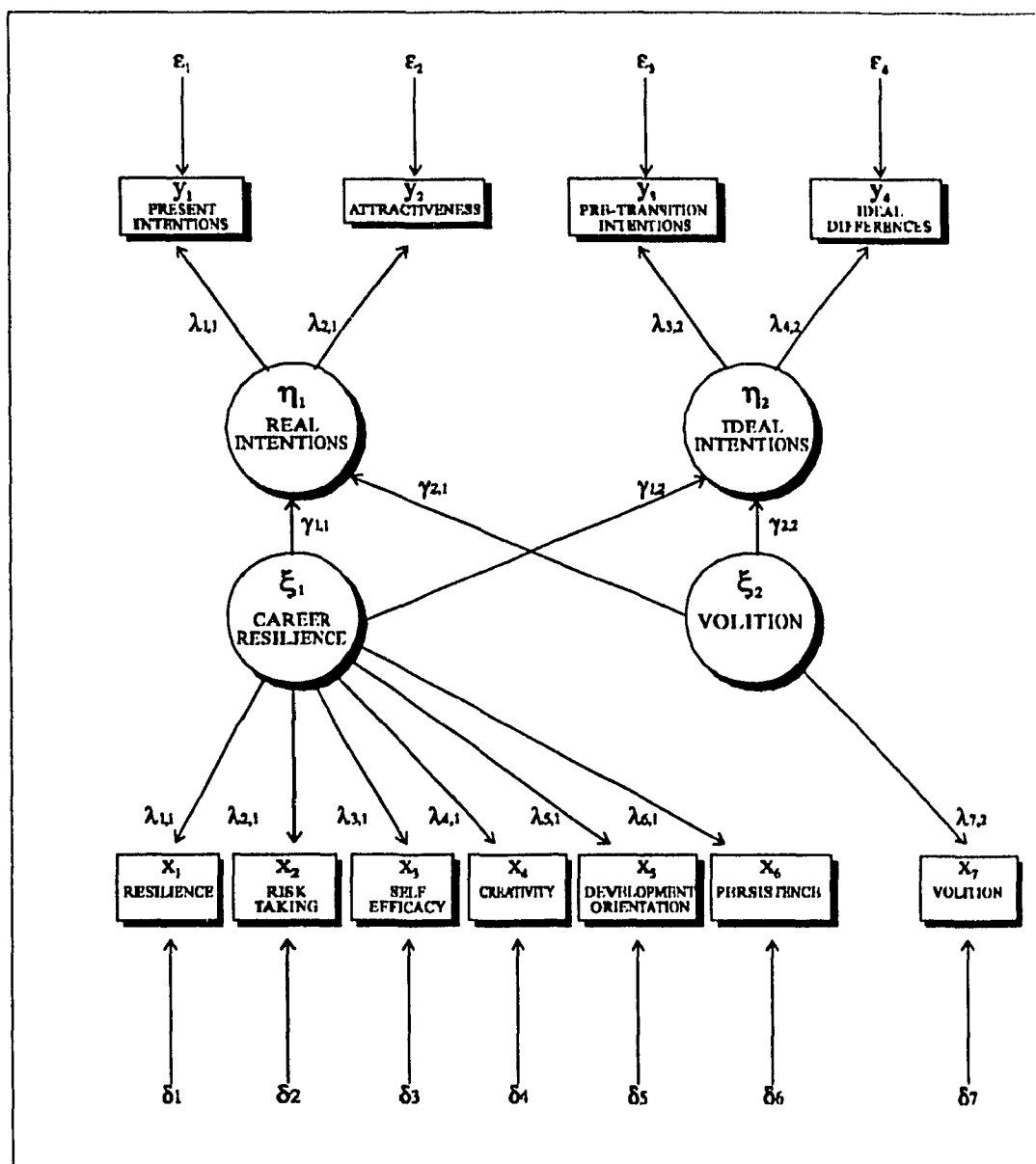
### Intentions and Resilience

Hypotheses H.6 to H.10 address the relationships between career resilience, its sub-domains and correlates, and career change intentions. Evaluation of those hypotheses is followed by a discussion of the results.

#### Structural Equation for Career Resilience

Hypothesis H6 stated that career resilience is positively related to career change intentions and preparatory actions. The structural model testing this hypothesis was based on the career motivation measurement model and the career change intentions measurement model. Three career resilience measurement variables along with four career change intentions measurement variables were entered as the independent and dependent variables, respectively. The career resilience variables were expected to load on one latent variable and the career change intentions variables were expected to load on two. Evidence of a positive relationship (i.e.,  $\gamma_{1,1}$  and  $\gamma_{1,2}$ ) between the latent variables, career resilience and career change intentions, would support the hypothesis. The model is shown in Figure 5-1.

Figure 5-1. Career resilience and career change intentions structural equation.



A correlation matrix (see Appendix G) for the factors included in this model was entered in the structural equation analysis. The results are listed in Table 5-1.

Table 5-1

Career Resilience and Career Change Intentions Structural Equation

Measurement Variable	Lambda	T Value	SMC
<u>X-variables</u>			
Resilience $\lambda_{1,1}$	.651	-	.424
Risk-taking $\lambda_{2,1}$	.685	4.689	.469
Self-efficacy $\lambda_{3,1}$	.340	2.569	.116
Creativity $\lambda_{4,1}$	.736	4.915	.542
Development Orientation $\lambda_{5,1}$	.661	4.569	.437
Persistence $\lambda_{6,1}$	.599	4.234	.359
Volution $\lambda_{7,2}$	.843	-	.710
<u>Y-variables</u>			
Present Intentions $\lambda_{1,1}$	.906	-	.820
Attractiveness (of Change) $\lambda_{2,1}$	.943	11.674	.889
Pre-Transition Intentions $\lambda_{3,2}$	.761	-	.578
Ideal Differences $\lambda_{4,2}$	.863	7.111	.745
<u>Latent Variables</u>			
	Gamma	T-Value	
Resilience - Real Intentions $\gamma_{1,1}$	.152	1.108	
Resilience - Ideal Intentions $\gamma_{1,2}$	.140	.961	
Volution - Real Intentions $\gamma_{2,1}$	-.164	-1.130	
Volution - Ideal Intentions $\gamma_{2,2}$	-.262	-1.675	
<u>Goodness of Fit Measures</u>			
$X^2$ (39 df)	48.93 (p=.132)		
GFI	.896		
Adjusted GFI	.824		
RMR	.078		

The results in Table 5-1 indicated that the model was a reasonable fit of the data although the RMR registered marginally above generally accepted .05, and AGFI was lower than the .9 rule of thumb. Values for the other goodness of fit indices are within acceptable ranges. All measurement variables loaded as expected on the latent variables and were significant based on reported t-values.

Gamma values describe the relationship between the latent variables. Resilience was expected to have a positive relationship with career change intentions. Although the results for both career change latent variables are in the expected direction, examination of the t-values reveals that the relationships between resilience and the career change intentions latent variables are not significant. Consequently, hypothesis H6 was not supported.

The negative relationship for volition, a control variable, and ideal intentions was significant ( $\gamma = -.262$ ,  $t = 1.675$ ). This finding suggests that individuals who feel a greater degree of constraint in their decision making were less likely to express career change intentions as measured by pre-elimination intentions and differences between an ideal job and the pre-elimination job. These career change intentions are more idealized in the sense that individuals were not in a position where they had to search for a new job; they could consider their future career directions in more ideal terms. Under these conditions, which did not impose the family or financial constraints measured by volition, individuals were more likely to express intentions to change career.

The relationship between volition and real intentions is not significant. This

implies that intentions to change career as expressed by present intentions and the attractiveness of change are not constrained by the personal or perceived job market elements.

#### Correlations for Career Resilience

Four hypotheses addressed the relationships between the career resilience sub-domains, correlates and career change intentions. These hypotheses were evaluated using the variables derived from the principal components factor analyses in the previous chapter. The risk-taking sub-domain was measured using the risk-taking indicator variable (Noe et al., 1990), as well as the security anchor (DeLong, 1988). Self efficacy was measured with the self-efficacy indicator variable (Noe et al., 1990), and the persistence variable derived from the Sherer et al. (1982) self-efficacy questionnaire. Development orientation was measured using the development orientation scale constructed for the present study. The relevant correlations are taken from Appendix G, and are reproduced in Table 5-2.

Table 5-2

Correlation Matrix for Career Resilience Sub-domains, Correlates and Career ChangeIntentions

	Present intentions	Attractiveness of change	Pre-elimination intentions	Ideal differences
Risk-taking	.047	.147	.110	.036
Self-efficacy	.185	.201	.120	.277*
Creativity	.035	.003	.092	.057
Development orientation	-.009	.028	.014	-.049
Persistence	-.073	.014	-.027	-.119
Autonomy	-.017	-.070	.124	.066
Security	-.039	-.146	-.067	.025

Note. \*  $p < .05$

Hypotheses H.7, H.8 and H.9 address career resilience sub-domains.

Hypothesis H.7 states that there is a positive relationship between the self-efficacy sub-domain and career change intentions. A significant correlation was found for self-efficacy and ideal differences ( $r=.28$ ), representing partial support for this hypothesis.

Hypothesis H.8 states that there is a positive relationship between risk-taking and career change intentions. None of the correlations for risk-taking and the four career change intentions variables was significant. Hypothesis H.9 states that there is a negative relationship between the dependency sub-domain and career change intentions and preparatory actions. No dependency factors were extracted from the London (1991) and Noe et al. (1990) scales, and consequently, the relationships between the autonomy anchor of the Career Orientations Inventory (DeLong, 1988) and the career change intentions variables were examined. No significant correlations were found

and consequently, Hypothesis H.9 was rejected.

Hypothesis H.10 states that development orientation, a correlate of career resilience is positively related to career change intentions and preparatory actions. The development orientation factor was not significantly correlated with each of the career change intentions variables. As a result, Hypothesis H.10 was rejected.

#### Intentions and Insight

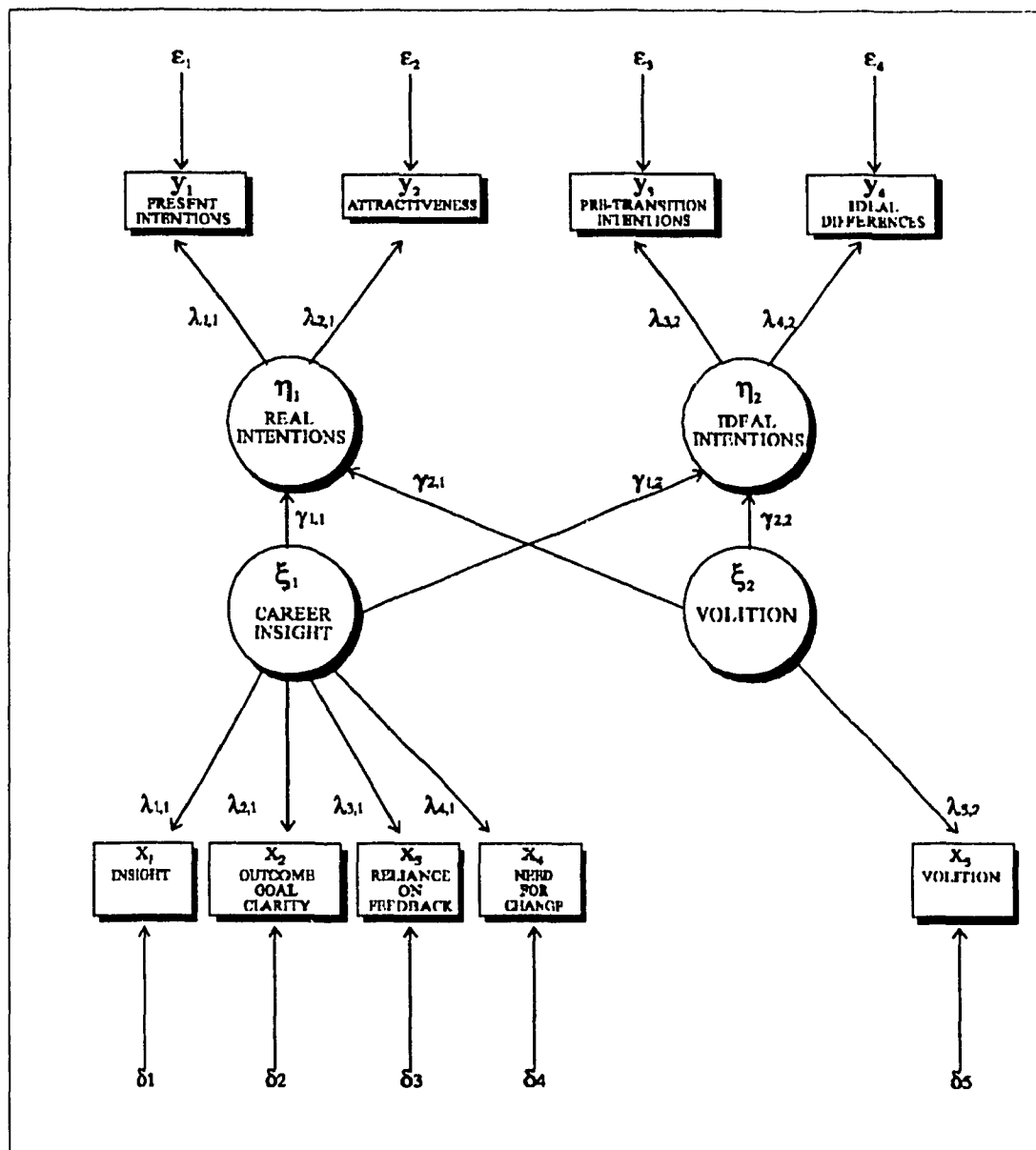
The career insight dimension does not contain any sub-domains, and hypotheses H.15 to H.18 address the relationships between career insight, career insight correlates, and career change intentions. The structural model is based on the career insight and career change intentions measurement models developed in the previous chapter. Volition is included as a latent independent control variable.

#### Structural Equation for Career Insight

Hypothesis H15 stated that career insight was not positively or negatively related to career change intentions. The model in Figure 5-2 specifies the relationships among the measurement and latent variables testing this hypothesis.



Figure 5-2. Career insight and career change intentions structural model.



Because of the exploratory and tentative nature of the models and the theory on which they are based, all three original career insight factors were included in the structural equation analysis. In the re-specified career motivation model, reliance on feedback had loaded on both career insight and career identity, but its parameter for

career insight was not significant. When considering re-specifications of models, even non-significant parameters should be evaluated, especially when indicated by the theory, and if the sample is small (Jöreskog & Sörbom, 1989). Therefore, there was a basis for beginning the evaluation of the structural model with reliance on feedback as an indicator of career insight. As in the preceding section, a correlation matrix (see Appendix G) was entered as input for the evaluation of the structural model. The results can be found in Table 5-3.

Table 5-3

Career Insight and Career Change Intentions Structural Equation

Measurement Variable	Lambda	T Value	SMC
<u>X-variables</u>			
Insight $\lambda_{1,1}$	.825	-	.681
Outcome Goal Clarity $\lambda_{2,1}$	.823	4.983	.677
Reliance on Feedback $\lambda_{3,1}$	.539	4.215	.291
Need for Change $\lambda_{4,1}$	.165	1.301	.027
Volition $\lambda_{3,2}$	.843	-	.710
<u>Y-variables</u>			
Present Intentions $\lambda_{1,1}$	.909	-	.826
Attractiveness $\lambda_{2,1}$	.939	11.678	.882
Pre-Transition Intentions $\lambda_{3,2}$	.759	-	.576
Ideal Differences $\lambda_{4,2}$	.865	7.101	.748
<u>Latent Variables</u>			
	Gamma T-Value		
Insight - Real Intentions $\gamma_{1,1}$	-.053	-.401	
Insight - Ideal Intentions $\gamma_{1,2}$	-.049	-.350	
Volition - Real Intentions $\gamma_{2,1}$	-.131	-.911	
Volition - Ideal Intentions $\gamma_{2,2}$	-.228	-1.483	
<u>Goodness of Fit Measures</u>			
X <sup>2</sup> (22)	35.25		
	(p=.036)		
GFI	.913		
Adjusted GFI	.822		
RMR	.090		

Hypothesis H.15 stated that there is no positive or negative relationship between career insight and career change intentions. Values for gamma are very low, and do not produce significant t-values, suggesting that there is in fact support for the hypothesis. In addition, volition does not appear to have a significant relationship

with career change intentions in this model. However, based on the chi-square, AGFI, and RMR indices, the model does not fit the data well. Although the results support H.15 in that there is no relationship between career insight and career change intentions, the poor model fit suggests that this is at best a qualified conclusion.

#### Correlations for Career Insight

Three hypotheses addressed relationships between career insight correlates and career change intentions. Hypothesis H.18 states that need for change is positively related to career change intentions. This hypothesis was evaluated by examining the correlations between the need for change and the four career change intentions variables.

Hypothesis H. 16 states that instrumental goal flexibility is positively related to career change intentions and hypothesis H.17 states that outcome goal flexibility is negatively related to career change intentions. These two hypotheses could not be tested directly because items from the original questionnaire covering these two constructs were dropped during the principal components factor analysis. One factor derived from the Noe et al. (1990) career insight items was thought to measure outcome goal clarity. The two items which loaded on this factor dealt with having clear goals and specific plans. To the extent that outcome goal clarity implies that the individual will be less flexible about modifying these goals and plans, a positive relationship between outcome goal clarity and career change intentions would support hypothesis H.17. The correlation matrix evaluating hypotheses H.16 and H.17 is drawn from Appendix G and is reproduced in Table 5-4.

Table 5-4

Correlation Matrix for Career Insight Correlates and Career Change Intentions

	Present Intentions	Attractiveness of Change	Pre-elimination Intentions	Ideal Differences
Outcome goal clarity	-.082	.015	-.042	-.076
Need for change	.108	.150	.312*	.175

Note. \*  $p < .05$

Despite the lack of support for Hypothesis H.16, hypothesis H.18 was partially supported as a result of a significant correlation between need for change and pre-elimination intentions ( $r = .31$ ,  $p < .05$ ). Respondents who express a need for change are also more likely to have expressed intentions to change career prior to being notified that they were subject to job elimination. Although any conclusions about longitudinal processes are at best tentative when derived from cross-sectional data, the suggestion that respondents somehow sense that change lies ahead is a proposition that warrants further investigation.

Intentions and Identity

Three hypotheses addressed the relationships between career identity associated with the prior career, career identity sub-domains, and career change intentions. A structural equation was used to evaluate the relationship between career identity and career change intentions latent variables, while correlations were examined for evidence of a relationship between career identity correlates and career change intentions.

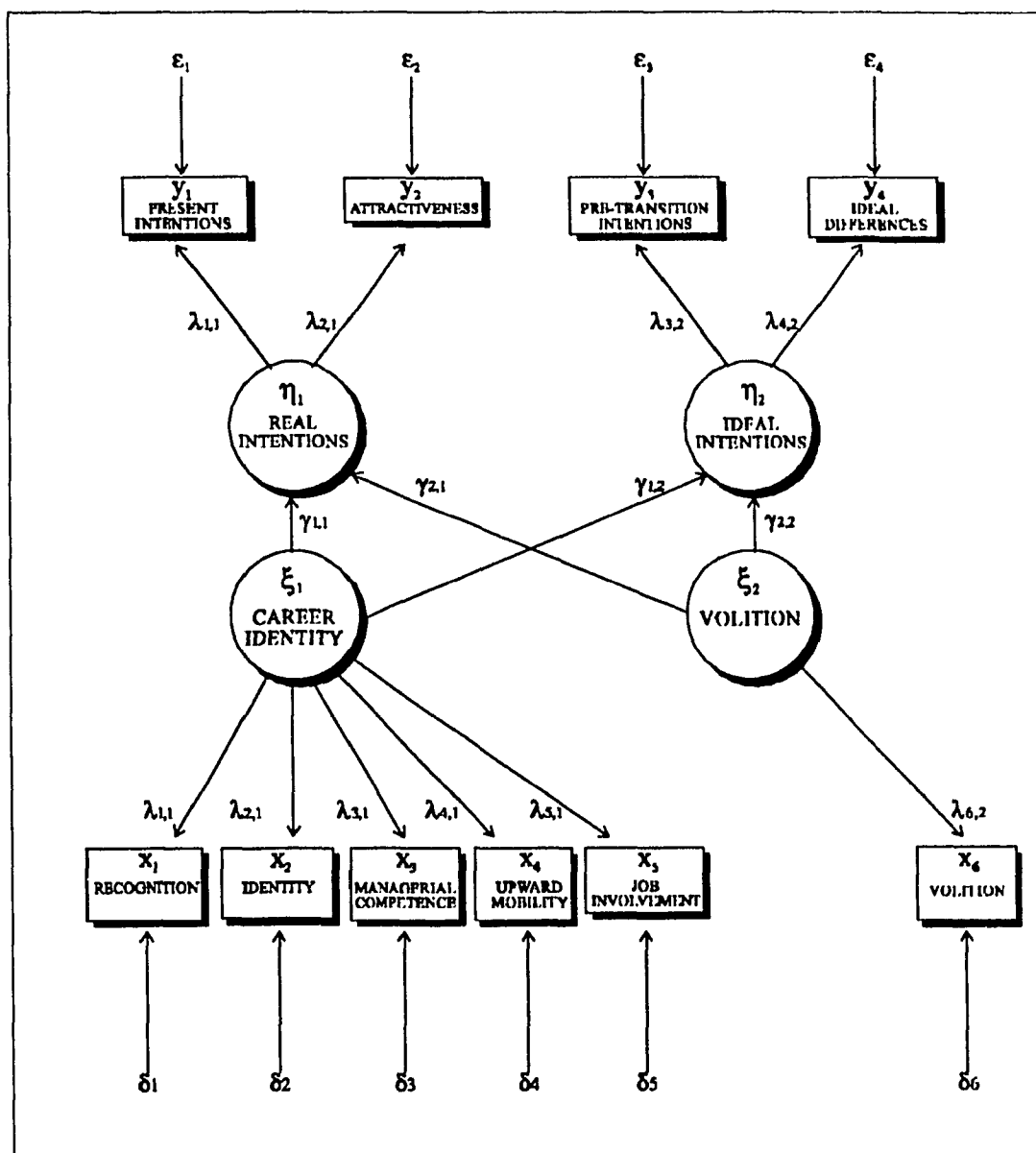
Structural Equation for Career Identity

Hypothesis H22 stated that career identity associated with the prior career was

negatively related to career change intentions and preparatory actions. The model specified to test this hypothesis is described in Figure 5-3, and is based on the measurement models developed in the previous chapter.

Recognition is an indicator derived from London (1991) items and career identity is an indicator consisting of Noe et al. (1990) items. The Career Orientations Inventory (DeLong, 1988) provided the managerial competence indicator while upward mobility was based on two items from Prince (1979). The job involvement indicator consists of items taken from Kanungo (1982). Volition was again included as a latent independent variable.

Figure 5-3. Career identity and career change intentions structural model.



A correlation matrix (see Appendix G) was entered for the structural equation and the results are listed in Table 5-5.

Table 5-5

Career Identity and Career Change Intentions Structural Equation

Measurement Variable	Lambda	T Value	SMC
<u>X variables</u>			
Recognition $\lambda_{1,1}$	.783	-	.614
Identity $\lambda_{2,1}$	.421	3.556	.177
Managerial Competence $\lambda_{3,1}$	.932	7.022	.869
Upward Mobility $\lambda_{4,1}$	.596	5.193	.355
Job Involvement $\lambda_{5,1}$	.415	3.507	.172
Volution $\lambda_{6,2}$	.843	-	.710
<u>Y-variables</u>			
Present Intentions $\lambda_{1,1}$	.908	-	.824
Attractiveness $\lambda_{2,1}$	.941	11.668	.885
Pre-Transition Intentions $\lambda_{3,2}$	.759	-	.576
Ideal Differences $\lambda_{4,2}$	.865	7.099	.748
<u>Latent Variables</u>			
	Gamma	T-Value	
Career Identity - Real Intentions $\gamma_{1,1}$	-.002	-.016	
Career Identity - Ideal Intentions $\gamma_{1,2}$	-.002	-.018	
Volution - Real Intentions $\gamma_{2,1}$	-.137	-.955	
Volution - Ideal Intentions $\gamma_{2,2}$	-.235	-1.529	
<u>Goodness of Fit Measures</u>			
$X^2$ (30 df)	32.16 (p=.360)		
GFI	.925		
Adjusted GFI	.862		
RMR	.061		

The results indicated that the model fit the data fairly well based on all



goodness of fit indices with the possible exception of RMR and AGFI. All measurement variables loaded as expected on the latent variables and all lambdas were significant based on t-values. The gamma values for the relationships between the latent variables were slightly negative but far from significant based on the reported t-values. Therefore hypothesis H. 22 was not supported.

### Correlations for Career Identity

Two hypotheses dealt with the relationships between career identity sub-domains and career change intentions. Hypothesis H.23. stated that the work involvement sub-domain of the career identity dimension associated with the prior career is negatively related to career change intentions and preparatory actions. Hypothesis H.24 stated that the upward mobility sub-domain of career identity is negatively related to career change intentions and preparatory actions.

Correlations between the directly observed variables, job involvement (Kanungo, 1982), upward mobility (Prince, 1979), and the four indicators of career change intentions were used to evaluate these hypotheses. The correlation matrix is derived from Appendix G and is reproduced in Table 5-6.

Table 5-6

### Correlation Matrix for Career Identity Sub-domains and Career Change Intentions

	Present Intentions	Attractiveness of Change	Pre-elimination Intentions	Ideal Differences
Upward mobility	-.089	.078	.073	.012
Job involvement	-.154	-.088	-.051	.148

None of the relationships between upward mobility, job involvement, and the

four measures of career change intentions was significant. Therefore, hypotheses H.23 and H.24 were not supported.

Despite the absence of support for the hypotheses, some conclusions may still be drawn from the results. Respondents who expressed an intention to change career did not exhibit low career identity associated with their former position; neither did they manifest high career identity. Rather, career identity does not appear to be a factor at all; in other words, how respondents identified with their former career is not a factor in their tendency to consider career change in the future.

The confirmatory factor analysis found upward mobility and job involvement to be significant indicators of career identity. Again where conditions are stable and respondents are not under the threat of job elimination, career identity indicators may behave as predicted by the theory; namely, high career identity may lessen career change intention. However, under more turbulent conditions, as seen in this sample, career identity ceases to be a significant predictor of career change intentions.

### Discussion

The structural equations developed to test hypotheses relating the latent variables did not produce any significant results. Thus, it is not possible to conclude that career resilience or career identity are related to career change intentions. The expected absence of a relationship between career insight and career change was only partially supported. In addition, it appears that when considering the relationship between resilience and career change intentions, volition has a negative significant relationship with the more hypothetical dimension of career change intentions.

However, given the results seen in the career identity and career insight structural equations, volition does not appear to have a stable and strong relationship to career change intentions.

Evidence supporting a relationship between certain sub-domains and correlates of career motivation dimensions was also found. The risk-taking sub-domain was positively related to the expression of career change intentions as ideal differences between past and future jobs. The need for change correlate was positively related to career change intentions prior to job elimination.

In order to explain why the structural equations did not produce any significant results, it is necessary to consider the case of each dimension independently. Career identity was expected to be negatively related to the former career while developing positively as the respondent completes the transition process to the new career. The absence of a relationship between career identity and career change intentions may very likely be due to the unimportance respondents attach to career identity and sub-domain concepts such as upward mobility and work involvement when faced with the uncertainties created by job elimination. While career identity may be a valid component of career motivation as demonstrated by the confirmatory factor model, it may cease to be an important correlate of career change intentions since the environment has become much more uncertain. Perhaps the hypothesized negative relationship between career identity and career change intentions is only likely to be present when environmental conditions are more stable.

Regarding an alternate explanation for the career resilience results, one

possibility concerns the definition of the career identity domain. The confirmatory factor model indicated that the career resilience domain was measured by six variables, resilience, risk-taking, self-efficacy, creativity, development orientation and persistence. This domain contains a number of different facets, and is larger than the domain covered by the original London (1991) and Noe et al. (1990) items.

It is possible that some parts of this domain are more positively related to career change intentions than others. The domain as defined in the original research is best represented by the indicator variables derived from the London (1991) and Noe et al. (1990) questionnaires, namely, resilience, risk-taking and self-efficacy. These variables were found to be valid and reliable indicators of career resilience when the three latent career motivation dimensions were evaluated concurrently in the previous chapter.

If the alternate explanation holds, then a model as shown in Figure 5-4 with volition as a latent control variable related to the career change dimensions should be supported by the data. The structural equation was evaluated with the correlation in Appendix G and the results can be found in Table 5-7.

Figure 5-4. Career resilience and career change intentions alternate structural model.

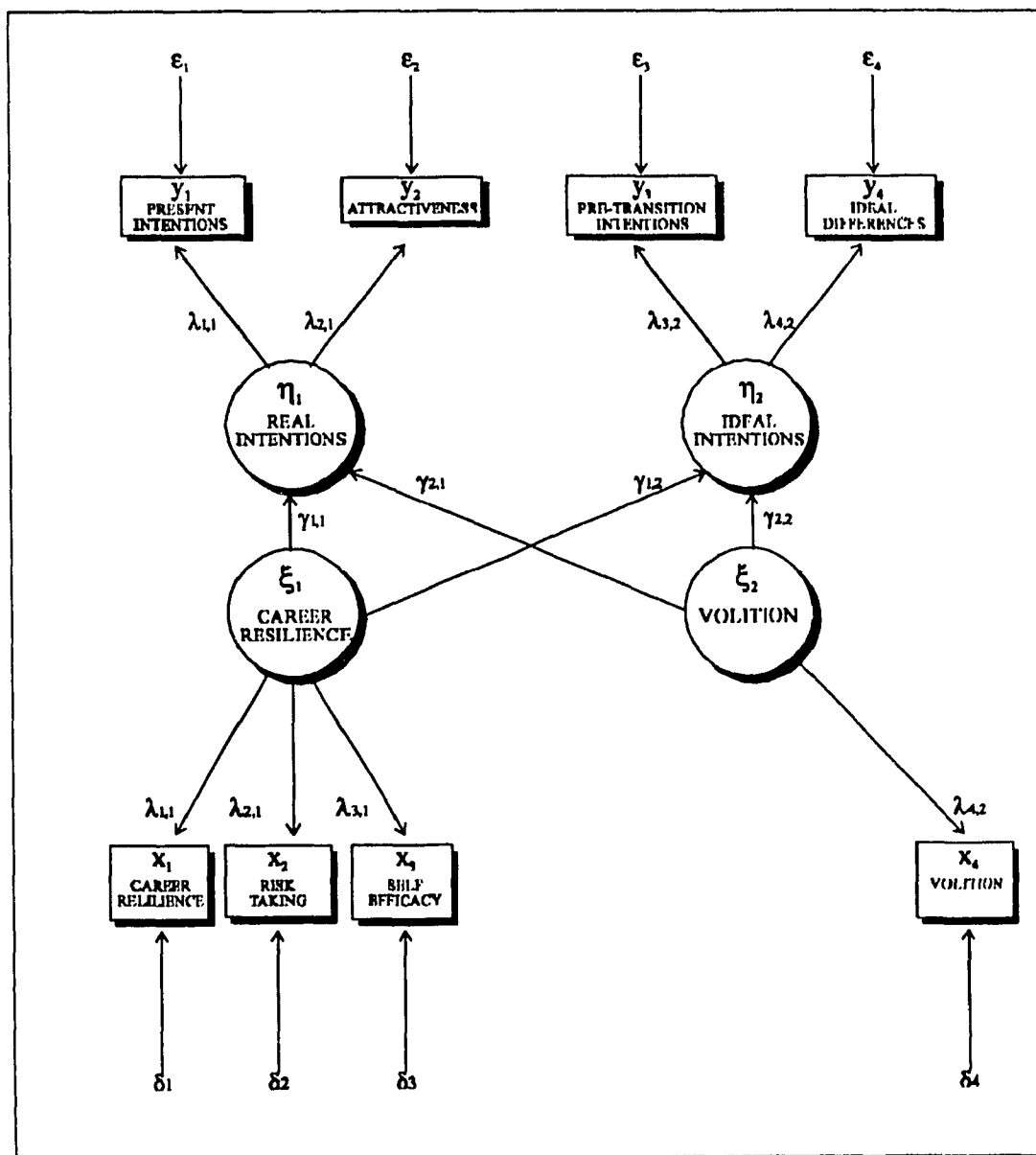


Table 5-7

Career Resilience and Career Change Intentions Alternate Structural Equation

Measurement Variable	Lambda	T Value	SMC
<u>X-variables</u>			
Career Resilience $\lambda_{1,1}$	.563	-	.317
Risk-taking $\lambda_{2,1}$	.725	2.642	.526
Self efficacy $\lambda_{3,1}$	.473	2.708	.224
Volition $\lambda_{4,2}$	.843	-	.710
<u>Y-variables</u>			
Present Intentions $\lambda_{1,1}$	.901	-	.811
Attractiveness $\lambda_{2,1}$	.948	11.684	.899
Pre-Transition Intentions $\lambda_{3,2}$	.762	-	.580
Ideal Differences $\lambda_{4,2}$	.862	7.120	.743
<u>Latent Variables</u>		<u>Gamma T-Value</u>	
Career Resilience - Real Intentions $\gamma_{1,1}$		.294	1.806
Career Resilience - Ideal Intentions $\gamma_{1,2}$		.259	1.527
Volition - Real Intentions $\gamma_{2,1}$		-.169	-1.191
Volition - Ideal Intentions $\gamma_{2,2}$		-.269	-1.750
<u>Goodness of Fit Measures</u>			
$\chi^2$ (15 df)		19.33	(p=.199)
GFI		.939	
Adjusted GFI		.854	
RMR		.061	

The results in Table 5-7 indicate that the model is a fairly good fit although the AGFI and RMR are slightly outside the usual rule of thumb limits. These results indicate that there is a significant relationship between career resilience and real intentions. Furthermore, the relationship between resilience and ideal intentions is only slightly below the minimum level of significance ( $t > 1.64$ ). Volition was also

found to be related to ideal intentions.

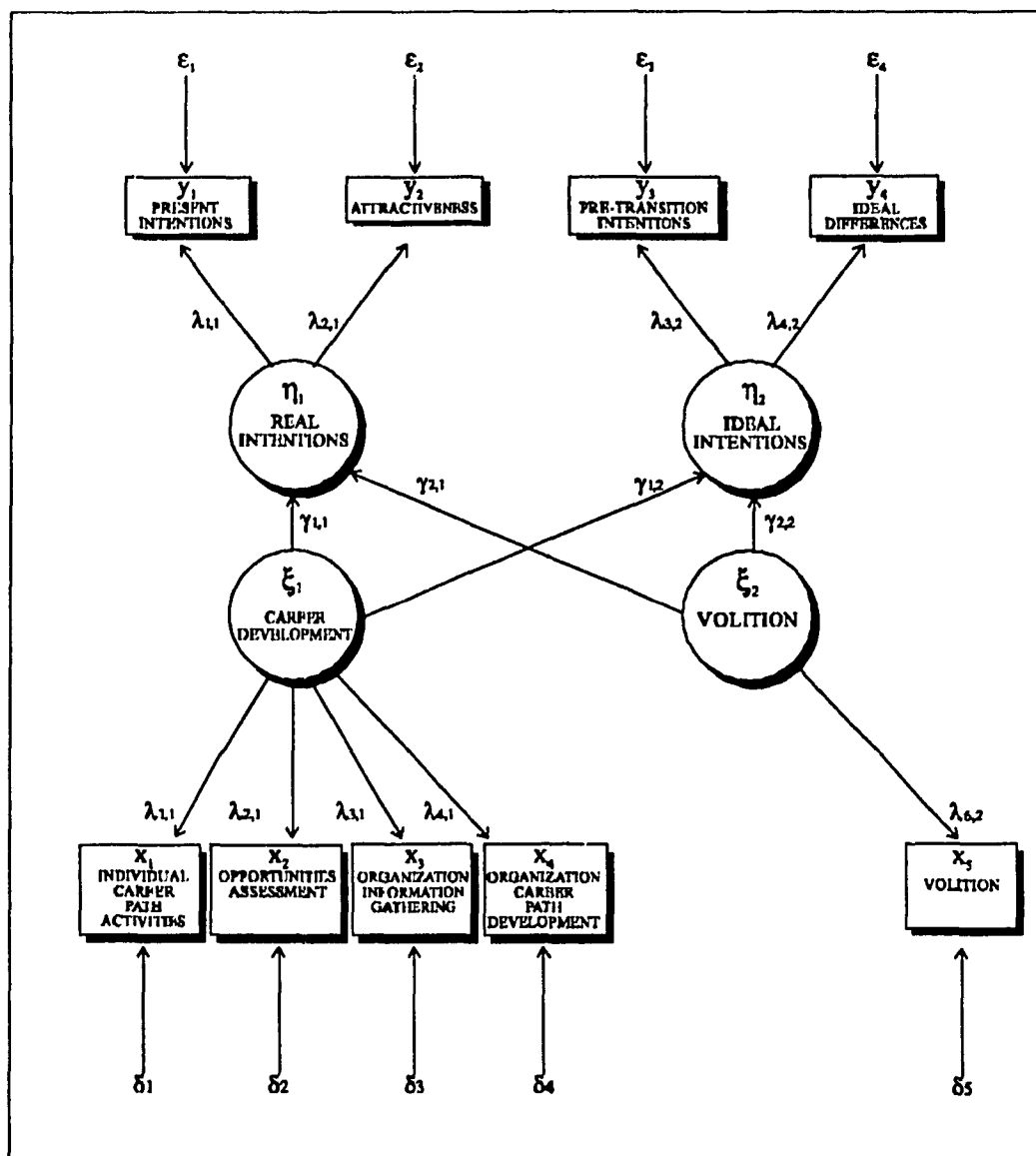
It appears that by narrowing the career resilience domain, a stronger relationship between these facets and real intentions emerges. This suggests that only some facets of career resilience, i.e., those measured by the indicator variables in Fig. 5-4 are more closely related to career change intentions.

This implies that the domain for career resilience requires further definition. Although the measurement model suggested that the domain can be enlarged, when testing structural relationships, only certain facets of the career resilience domain appear to be related to career change intentions. Further investigation with other samples will be necessary to assess and describe the career resilience domain.

#### Intentions and Career Development

Hypotheses H27 and H28 stated that career planning and career management were both positively related to career change intentions and preparatory actions. The model specifying these relationships included both career planning and career management measurement variables, but only one latent variable, career development. Thus testing a structural model with one latent variable related to both career planning and career management is appropriate. Given the absence of substantive theory, there may be more value in testing a model which has already been supported in a confirmatory factor analysis. The structural model is presented in Figure 5-5.

Figure 5-5. Career development and career change intentions structural model.



A correlation matrix (see Appendix G) was entered for the structural equation evaluating this model. The results are listed in Table 5-8.



Table 5-8

Career Development and Career Change Intentions Structural Equation

Measurement Variable	Lambda	T Value	SMC
<u>X-variables</u>			
Individual Career Path Activities $\lambda_{1,1}$	.530	-	.281
Opportunities Assessment $\lambda_{2,1}$	.053	.448	.003
Organizational Information Gathering $\lambda_{3,1}$	.288	2.290	.083
Organizational Career Path Development $\lambda_{4,1}$	.975	1.814	.951
Volition $\lambda_{5,2}$	.843	-	
<u>Y-variables</u>			
Present Intentions $\lambda_{1,1}$	.909	-	.827
Attractiveness $\lambda_{2,1}$	.939	11.679	.882
Pre-Transition Intentions $\lambda_{3,2}$	.757	-	.573
Ideal Differences $\lambda_{4,2}$	.867	7.102	.752
Latent Variables	Gamma	T-Value	
Career Development - Real Intentions $\gamma_{1,1}$	.133	1.065	
Career Development - Ideal Intentions $\gamma_{1,2}$	.159	1.198	
Volition - Real Intentions $\gamma_{2,1}$	-.128	-.901	
Volition - Ideal Intentions $\gamma_{2,2}$	-.222	-1.468	
<u>Goodness of Fit Measures</u>			
$X^2$ (22 df)	19.49 (p=.615)		
GFI	.946		
Adjusted GFI	.890		
RMR	.058		

The results in Table 5-8 indicated that the model was a good fit of the data based on the various goodness of fit indices. The measurement variables all loaded as expected on the latent variables and were significant with the exception of opportunities assessment activities. However, the gamma values representing the

relationships between the latent variables did not achieve the necessary level of significance ( $t > 1.64$ ). Therefore hypotheses H.27 and H.28 were not supported.

These conclusions are supported by the correlations between the dimensions of career planning and career management and the indicators of career change, found in Table 5-9. None of these correlations were significant and only the correlations for individual career path activities and organizational career path development were in the expected direction.

Table 5-9

Correlation Matrix for Career Planning Indicators, Career Management Indicators and Career Change Intentions

	Present Intentions	Attractiveness of Change	Pre-elimination Intentions	Ideal Differences
Individual career path activities	.21	.14	.14	.12
Opportunities assessment	.01	-.001	-.07	-.06
Organizational information gathering	-.08	-.08	.01	.05
Organizational career path development	.17	.10	.10	.16

Discussion

The fact that the latent relationships were in the expected direction suggests that the model may serve as a good basis for testing the relationship between career development and career change intentions with other samples. At early stages of theory development it is more advisable to retain models as a guide for further testing and theory building (Jöreskog & Sörbom, 1989).

Among the reasons for the absence of significant results, the domain of career development and the design of items should probably receive attention in future

research. Examination of the correlation matrix in Table 5-9 reveals that the strongest relationship between directly observed variables involved individual career path activities and present career change intentions. It may be necessary to better define the individual career path domain and investigate whether a sharper definition improves its relationship to career change intentions.

The career planning items were designed to simultaneously tap participation in career planning and the benefit of such participation. It may be that respondents were inclined to attenuate their value ratings because the outcome was job elimination. It might seem inconsistent to evaluate career planning positively and then reconcile those evaluations with job loss. Tapping the skills that respondents learn as a result of career planning activities (assuming these are universal), might be a more effective way of defining the career planning construct and determining whether it has a relationship to career change intentions.

## CHAPTER 6: CONCLUSIONS

This chapter discusses the conclusions of the study and is divided into major sections dealing with the various issues emerging from the results. The first section, a brief overview of the major research concepts is followed by a discussion of the conclusions related to career motivation and career development. It discusses the implications of the findings for career motivation theory, the extent to which the theory can apply to career change, and related measurement issues.

The literature review served as a justification for the development of a new approach to career change which would account more effectively for turbulence in the organizational environment. Yet, career motivation is essentially a theory of motivation, concerning itself with the process of satisfying inner drives and needs. The value of the theory for the study of career change rests on the extent to which it can suggest drives or needs which are activated during periods of environmental turbulence, and characteristics which are important for facing the challenges of environmental uncertainty and instability.

The theory of career motivation is essentially a theory of intra-personal drives, interacting with organizational conditions, to produce behavior. Given its origins, it is not a theory particularly suited to the exploration of inter-organizational phenomena. Career motivation theory was selected because it provided a useful framework for blending traditional, exclusively intra-personal approaches to career change with contemporary conditions of environmental turbulence and uncertainty. By applying the theory to the present sample of managers and professionals in transition, it was

possible to test the limits of career motivation theory and consequently, to contribute to the literature.

The perspective taken in the present research assumes that career change can be viewed as a naturally occurring stage along a career path. By demonstrating that career motivation is partially applicable to career change, it has been found to be more robust and useful as a theory of careers.

Regarding career development the data did not support the hypothesized relationships. The conclusions examine a number of possible explanations for these results.

The next section, an examination of the strengths and limitations of the research, is concerned specifically with design, methodology and sampling issues. The research employed a cross-sectional design, creating both advantages as well as limitations. Limitations such as small sample size were minimized through selection of statistical procedures. Other limitations were offset by a high degree of sample homogeneity which arguably improves internal validity. The relative merits of considering career change intentions as a surrogate for career change is also addressed.

The chapter concludes with an examination of the study's implications for future research and for management practice. The findings have potential impact on human resource management and business practices related to restructuring and outplacement. However, the tentative nature of some conclusions raises the need for further research to investigate aspects of career change from similar perspectives.

### Overview of Research Concepts

The following is a brief overview of the major research concepts. Subsequent sections examine, in detail, the findings related to each of these major concepts. The primary purpose of this research was investigation of the relationships between career change, career motivation and career development. As a result, it was possible to achieve a related objective, the exploration and clarification of the constructs referred to in career motivation theory. A summary of the variables investigated in the research is provided in Tables 6-1, 6-2, and 6-3.

Table 6-1

Summary of Career Motivation Research Concepts: Latent Variables, Measurement  
Model Indicator Variables and Rejected Indicator Variables

Latent variables	Measurement model indicator variables	Rejected indicator variables
<u>Career resilience</u>	Self-efficacy <sup>a,d</sup>	Autonomy <sup>b</sup>
	Risk-taking <sup>a,d</sup>	Security
	Resilience <sup>e</sup>	Perseverance
	Development orientation	
	Creativity	
	Persistence	
<u>Career insight</u>	Insight <sup>e</sup>	
	Outcome goal clarity <sup>d</sup>	
	Need for change <sup>d</sup>	
<u>Career identity</u>	Recognition <sup>e</sup>	Career identity <sup>f</sup>
	Identity <sup>d</sup>	Organizational identification
	Job involvement	
	Reliance on feedback <sup>f</sup>	
	Upward mobility	
	Managerial competence	

- Notes.
- a: These indicator variables corresponds to career resilience sub-domains.
  - b: Since dependency, the third sub-domain predicted by career motivation theory was not extracted as a factor in the principal components factor analysis, autonomy, the inverse of dependency, was entered in the measurement model.
  - c: based on items drawn from Mael & Ashforth (1992).
  - d: based on items drawn from Noe et al. (1990).
  - e: based on items drawn from London (1991).
  - f: shifted to career identity in the integrated model after first being entered as a career insight indicator variable.

Table 6-2

Summary of Career Change Research Concepts: Latent Variables, Measurement ModelIndicator Variables

Latent variables	Measurement model indicator variables
Real intentions	Present intentions
	Attractiveness of change
Ideal intentions	Pre-elimination intentions
	Differences between ideal vs. pre-elimination job

Table 6-3

Summary of Career Development Research Concepts: Latent Variable, MeasurementModel Indicator Variables

Latent variable	Measurement model indicator variables
Career development	Individual career path activities
	Opportunities assessment
	Organizational information gathering
	Organizational career path development

Career Motivation

London (1983) described career motivation as an individual level three-dimensional construct consisting of (a) career resilience, the ability to overcome career setbacks; (b) career insight, the extent to which the individual has realistic career perceptions; and (c) career identity, how central career is to one's identity as reflected by career decisions and behaviors (London, 1983). This theory evolved from research



conducted at AT&T over a relatively long period of organizational stability (Bray et al., 1974). The theory is based on the career patterns observed in what was unquestionably a highly stable organizational environment. By applying the theory of career motivation to career change, a process set in a turbulent environment, new environmental conditions have been imposed. Under these conditions, even partial support for the theory may be considered a reasonable indication that career motivation has the capacity to explain phenomena which were not necessarily included in the theory's original behavioral domain. In spite of the more cautious conclusions which must be derived from post hoc analysis, the present research findings partially confirm a number of elements of the theory of career motivation.

The findings of the confirmatory factor analysis contain evidence supporting the notion of three career motivation dimensions: career resilience, career insight and career identity. As shown in Table 6-1, a number of indicator variables were rejected from the measurement models in order to improve the fit. The remaining indicator variables did confirm the dimensions, as predicted by career motivation theory, with the exception of dependency.

The confirmatory factor analysis also provided support for the convergent validity of most scales drawn from the London (1991) and Noe et al. (1990) items. With the exception of organizational identification which was dropped from the career identity measurement model, and reliance on feedback, which shifted to become an indicator of career identity, the other indicator variables loaded as expected with other previously tested measures such as the Career Orientations Inventory scales (DeLong,

1988).

### Career Change

A major objective of the current research was to examine the relationship between career motivation and career change intentions. This approach departed from traditional psychological or personality development theories and was expected to more effectively account for the types of career changes contemplated as a result of highly uncertain organizational environments. A series of hypotheses describing aspects of the career motivation-career change relationship were tested but were only partially supported. The results suggest that facets of career motivation theory can be useful in understanding environmentally-induced career change. Further research using this theory in the study of career change intentions with other samples is certainly warranted.

Career change was operationalized with four measures, covering the same job dimensions, but differing in relation to the conditions under which respondents were asked to evaluate them. Exploratory and confirmatory factor analyses eventually produced two latent career change variables, ideal change, and real change. Ideal change is a latent variable indicated by pre-elimination intentions and differences between the pre-elimination job and an ideal job. Real change was indicated by present intentions and the attractiveness of change in a number of job dimensions.

Due to the small proportion of respondents who had changed career, only the hypotheses related to career change intentions could be tested. According to Rhodes and Doering (1983), who developed an integrated model of career change, intentions

to change career precede actual change behavior. In addition, Blau (1989), investigating the generalizability of a career commitment measure, found partial support for the proposition that career withdrawal cognitions precede employee turnover. For people actively looking for work either through an outplacement service or on their own, intentions should be an even more certain indicator of eventual career decisions.

Career change and career change intentions were defined and operationalized in relation to the degree of change in the job sequence. This was consistent with commonly accepted definitions of career (Hall, 1976). Since the notion of job is introduced, and since the condition in which the sample participants found themselves was one of job loss, the question arises whether career change or coping with job loss were actually being investigated.

The present research assumed that in the job loss condition, it would be possible to measure career change intentions with greater accuracy. A more detailed discussion of this aspect of the research follows below in the section entitled Strengths and Limitations of the Research. Career change intentions were measured as continuous variables with lower scores reflecting a smaller degree of change, along a number of job, occupational and career dimensions. In fact, a very low score, reflecting little change, could be interpreted as the desire for another job in the same occupational area with requirements highly similar to their past job.

This approach is consistent with previous career change research which has typically investigated differences between career changers and non-changers along

various dimensions (e.g. Hill & Roselle, 1985; Sedge, 1985; Vaitenas & Weiner, 1977). Non-changers were those individuals who either did not change jobs, or changed to a similar job. In the context of the current research, it was necessary to measure career change in relation to the degree of change in one's job.

As defined in the present research, career change is a process that consists of disengagement from one career and entry to a new one. For the present sample, the form of disengagement, job elimination, a form of job loss did not vary, nor were possible relationships between the form of job loss and career change intentions hypothesized or investigated.

As organizations adapt to new environmental realities, and individuals adapt to new patterns of work, career change, as defined in the present research, will continue to manifest a temporal relationship to job change, either voluntary or involuntary. In the present research, job change was brought about by job elimination, a form of job loss. Future research should address whether the dynamics present in this sample will be evident with those who have not gone through the job loss situation.

#### Career Development

Career planning and career management were thought to have a bearing on career change and were constructs closely associated with propositions of career motivation theory. Consequently, a series of hypotheses were tested to evaluate the relationships between career development and career change intentions. Explanations accounting for the lack of support for these hypotheses should be incorporated in future research.

### Career Motivation

The results of this research provide support for the major constructs and theoretical formulations of career motivation theory (London, 1983). Although the results related to the expected relationships between career motivation and career change did not support many of the hypotheses, the career resilience findings were the most promising and warrant further investigation.

### Career Resilience

Career resilience was measured by three factors: resilience, derived from London (1991), as well as risk-taking and self-efficacy, derived from Noe et al. (1990). The London (1991) items tapped perceptions of risk-taking and self-efficacy tendencies but without sufficient discrimination between them; the Noe et al. (1990) items effectively tapped both. The third sub-domain, dependency, while relevant to the theoretical formulation (London, 1983), appears to have been ignored in the London (1991) items. Those Noe et al. (1990) items which appeared to focus on dependency, did not load purely in the exploratory factor analysis and were eliminated. Autonomy, considered to be the inverse of dependency, was inserted in the measurement model but was rejected in order to improve the fit of the model.

Of the three career resilience sub-domains, dependency may be the least stable in its behavior with different samples. Logically, this is to be expected, particularly if the nature of the sub-domains is considered. In a relatively stable environment, such as the one described in the AT&T studies (Bray et al., 1974) on which the theory of career motivation is based, dependency is probably fostered as employees learn to rely

on the organization for future career progress. When environments become more unstable, some individuals consider the possibility of job elimination and unemployment. Under these conditions, dependency on the organization would decline and would cease to be a factor as the individual confronts the realities of finding a new job.

Risk-taking, on the other hand, reflects attitudes and behaviors which imply a readiness to deal with change. While the types of changes may be more dramatic in a turbulent environment compared to a relatively stable one, the propensity to take risks is manifested in individuals who are resilient with respect to their careers.

Self-efficacy, a trait associated with feelings of self-confidence and optimism at mastering one's environment, is also indicative of career resilience. A second measure of self-efficacy, persistence, one of the two factors derived from the Sherer et al. (1982) self-efficacy scale, corroborated this finding when inserted in the measurement model. Consequently, individuals with the ability to bounce back from career setbacks are also characterized by a propensity to take risks and by feelings of self-confidence and optimism.

#### Career Resilience Correlates

A number of career resilience correlates, characteristics expected to be associated with the dimension, were added to the confirmatory factor model to evaluate the convergent validity of the factors derived from London (1991) and Noe et al. (1990), as well as to explore the domain of the career resilience construct. Of the three Career Orientations Inventory (DeLong, 1988) scales thought to be most closely

related to career resilience, autonomy, security and creativity, only the latter proved to be a valid indicator of career resilience. The development orientation scale consisting of original items formulated for the present research also merited retention in the model.

These indicator variables, when added to those derived from the London (1991) and Noe et al. (1990) items, help to clarify the career resilience domain. The results indicate that interest in creativity is one of two characteristics of individuals who are resilient with respect to their careers. The second, development orientation, reflects a commitment to continued professional growth and development. Therefore, individuals who have the ability to bounce back from career setbacks, are likely to manifest an interest in creativity as well as a commitment to professional growth and development.

#### Career Resilience and Career Change

When the re-specified career resilience measurement model was inserted in a structural model with career change intentions, there was a positive relationship between career resilience and both career change intentions dimensions as hypothesized, but this relationship was not significant. It is difficult to argue convincingly that career resilience is unimportant to the potential career changer and consequently, a different explanation for the absence of significant career resilience-career change results was considered. The career resilience measurement model on which the structural model was based contained six indicators of career resilience. While an indicator such as self-efficacy based on the Sherer et al. (1982) items may

be logically isomorphic with self-efficacy items from the Noe et al. (1990), the same cannot be said for indicators such as development orientation or the need for creativity. While there is a theoretical justification for including the latter two in the measurement model, they are not directly measured by items in any of the other indicators, particularly those derived from London (1991) and Noe et al. (1990) items.

This implies that the six-indicator career resilience model has possibly expanded the career resilience domain as defined by the retained Noe et al. (1990) and London (1991) items. Based on this assumption, the six indicators were reduced to three (those derived directly from the London (1991) and Noe et al. (1990) questionnaires) and the analysis of this set produced evidence of the expected career resilience-career change intentions relationship. By focusing on facets of the career resilience domain, i.e., risk-taking and self-efficacy (as measured by Noe et al. (1990) items and the composite London (1991) resilience factor), career resilience was found to be significantly related to one of the two career change intentions dimensions, real intentions.

The importance of the self-efficacy sub-domain is further corroborated by the its significant correlation ( $r = .28, p < .05$ ) with intentions to change as measured by differences between pre-elimination and ideal jobs. Evidently, self-efficacy, one's feelings of mastery over the environment, expectations of future success, and one's sense of self-confidence and self-esteem play a particular role in having greater propensity to express intentions of career change. These conclusions must be qualified given the marginally acceptable goodness of fit indices for the re-specified career



resilience structural model. However, the results of this research should serve as a basis for further testing of the career resilience-career change relationship.

To summarize, individuals who manifest higher levels of self-efficacy, a particularly important element, and risk-taking propensity, are more likely to express an intention to change career as indicated by present intentions and attractiveness of change. This conclusion suggests that the definition and measurement of career resilience requires further investigation and clarification.

### Career Resilience Measurement

Based on the results of the confirmatory factor analyses and the structural equations, it is possible to propose refinements to the existing career motivation measures. Career resilience was found to be a unidimensional construct with a number of different facets. Although all of these facets, reflected by the various indicators of resilience, have value in describing the domain of the career resilience construct, only three of them were included in the structural model which revealed a significant relationship between career resilience and one of the career change intentions dimensions. This line of reasoning implies that tracking the sub-domains and correlates with particular relevance to a theoretical formulation is a more appropriate and effective strategy than relying exclusively on a global construct such as resilience.

Since the more focused model produced a significant structural equation result, and since the self-efficacy sub-domain was significantly correlated with one of the career change intentions scales, the resilience, risk-taking, and self-efficacy factors derived from London (1991) and Noe et al. (1990) should be used as the basis for refinements to the previous measures of the career resilience scale. In addition to retaining all five original London (1991) items, the four risk-taking items and two self-efficacy items from Noe et al. (1990) should also be included in a modified career resilience scale. These items are listed in Appendix H. The content of these items, e.g., taking risks, adaptation to change, and various interactions with peers, taps behaviors frequently associated with self-efficacy and risk-taking.

To summarize, self-efficacy and risk-taking emerged as important facets in the career resilience-career change intentions relationship. However, this should not preclude consideration of additional facets of the career resilience construct domain in future research. That choice should be based on the hypotheses being tested and related theoretical considerations.

### Career Resilience and Contemporary Organizational Theory

As defined by London (1983), career resilience reflects one's ability to bounce back after a career reversal. The present findings demonstrate the importance of self-efficacy and risk-taking tendency in increasing the likelihood of reacting to the prospect of change as an opportunity.

According to Handy (1989), full-time work in organizations will become an option for fewer and fewer people as most "...will find their place outside the organization, selling their time or their services into it, as self-employed, part-time, or temporary workers" (p. 48). As individual's find their organizational work roles changing from internally- to externally-based, self-efficacy and risk-taking are the kinds of characteristics that should enhance this process. Although career resilience is not specifically referred to in Handy's analysis of the changing nature of work and the work environment, it is reasonable to expect that those who possess these characteristics will more effectively face the discontinuous change that will increasingly characterize careers. Individuals must be able to "...look change in the face and see it for what it is -- an opportunity as well as a challenge" (Handy, 1989, p. 161).

With a growing realization that corporate jobs are changing "...in number, in mix, in substance, and in the characteristics of the incumbents, people have to rethink their careers (Kanter, 1989, p. 299). Recognizing that traditional career ladders are being replaced by hopping from one job to the next (Kanter, 1989) individuals must expect increasing long-term uncertainty, an importance on portable skills acquisition, and a growing likelihood of self-employment (Hirsch, 1987). Although not discussed explicitly by Kanter (1989), those individual characteristics which result in improving one's ability to face risks and uncertainties inherent in the boundaryless career (DeFillippi & Arthur, 1993) will become increasingly important.

Undoubtedly, the ability to find opportunities in the face of uncertainty is enhanced with growth in feelings of self-efficacy, and in one's readiness to take risks. The notion of employability security, central to the arguments advanced by Kanter (1989) refers to the investment made in one's future through continuous re-training and career counselling, as opposed to job security, the practice of guaranteeing that people will always remain in their jobs. Certainly, career resilience, in particular, self-efficacy and risk-taking, are the kinds of characteristics that are compatible with facing these types of post-entrepreneurial organizational and career challenges.

In the future, as the traditional managerial career changes to one of free agency, three traits will become increasingly important in minimizing the stress associated with new career patterns: "...continued commitment to work and career; not being immobilized by change, but instead taking temporary setbacks as a challenge; and retaining a sense of control over how you will handle them, rather than letting

outside events drive your every action" (Hirsch, 1987, p. 116). The capacity to overcome setbacks, in other words, career resilience, will become an increasingly critical attribute for managers who adapt effectively to free agent career patterns.

To thrive in the changing work environment, individuals must begin to think of themselves as business persons, not simply employees, and to perceive their careers as a series of team projects (Peters, 1992). This change in how careers are perceived is also considered in the context of the self-designing organization, another term describing the changing work environment and organizational structure (Weick & Berlinger, 1989). In the self-designing organization, one's subjective career is thought to play a much greater role and actually becomes a resource for the organization in defining its structures. The subjective career, characterized by activities that raise self-respect, where adaptability is an important measure of growth (Weick & Berlinger, 1989), appears extremely compatible with characteristics such as self-efficacy and risk-taking. Career resilience and its components, the characteristics which can undoubtedly further the needed shifts in career-thinking, will facilitate positive and effective adaptation to the organizational changes stemming from turbulent, uncertain environments.

### Career Insight

Career insight was measured by three factors: insight derived from the London (1991) questionnaire items, as well as outcome goal clarity and reliance on feedback derived from the Noe et al. (1990) items. The London items appear to behave consistently with the theory in that no sub-domains are thought to exist within the

insight dimension. Despite the fact that the London items focus on two main themes, self-awareness and goals, they did not discriminate sufficiently for these to emerge as separate factors. Because the Noe et al. (1990) items did load on two factors, it would appear that these items were more sensitive in discriminating between outcome goal clarity and reliance on feedback.

In the confirmatory factor analysis, the three variables measured by these scales loaded as expected on the latent variable, career insight. Since convergent validity could not be evaluated for these three measures, the standardized coefficient of validity was substituted and was found to be acceptable (Bollen, 1989). The confirmatory factor analysis demonstrated that items comprising the career insight variable (London, 1991) were stable and behaved as expected. The items from the Noe et al. (1990) scale discriminated more effectively between goals and reliance on feedback with the present sample, than with the sample in the original research. Although further testing of the theory would be required, there is some evidence that the career insight dimension in fact consists of two sub-domains, outcome goal clarity and reliance on feedback. The latter sub-domain is closely tied to learning more about one's strengths and weaknesses, an important aspect of career insight.

#### Career Insight Correlates

Outcome goal clarity and need for change, two characteristics identified as career insight correlates by career motivation theory, were expected to have positive relationships with career change intentions. The indicator variables corresponding to these characteristics were entered in the measurement model and loaded as expected

on the career insight latent variable. Those results confirm that career insight is a unidimensional construct which includes facets such as outcome goal clarity, and need for change. Consequently it is possible to more clearly define the career insight domain.

### Career Insight and Career Change

Of the various hypotheses which described the relationship between career motivation dimensions and career change intentions, the career insight results supported the hypothesized relationship. Career insight was not expected to have a positive or negative relationship with career change intentions. This finding suggests that personal insight does not increase the likelihood of expressing an intention to change career. Given the marginally acceptable fit of the model, these conclusions are tentative and subject to further investigation.

The relationships between the two career insight correlates and the career change indicator variables were evaluated by examining their correlations. The need for change was found to be significantly correlated with pre-elimination intentions ( $r = .31, p < .05$ ). This argues that, prior to job elimination, individuals who felt a need for change also expressed an intention to change career.

This finding suggests that in a turbulent environment, the need for change is more likely to be associated with expressions of intentions to change career. It implies that individuals in these types of environments are aware of the need for change, and have come to the realization that some degree of career change will undoubtedly be necessary.

An alternative explanation for the relationship between the need for change and pre-elimination intentions is that these two variables are in fact isomorphic.

Examination of the items included in the scales measuring these variables reveal that different domains are being tapped. Need for change examines attitudes or cognitions about the individual's job during the pre-elimination period. These items were: a) did you believe that you needed to have regular job changes to advance your overall career progress; b) did you actively seek changes in job responsibilities when you sensed a degree of boredom with your job; and c) were you aware of your feelings towards your job (e.g. fatigue, boredom, enthusiasm). Pre-elimination intentions asks respondents to indicate the extent to which they thought about a new job with differences in skills, duties, functional area, occupational area, field and career. These differences in the two domains might not have been adequately apparent to respondents.

Outcome goal clarity was thought to have a positive relationship with career change intentions. Logically, the individual who is more firm in relation to career goals and ultimate career objectives should have a greater propensity to express intentions to career change intentions when avenues for achieving the goals are perceived to be blocked. This assumes that career goals are sufficiently broad and linked to achieving overall levels of performance or recognition (i.e., outcomes), not specifically related to a given occupational role (i.e., instrumentalities). The absence of a significant correlation between outcome goal clarity and career change intentions did not support this line of reasoning.



The items in the outcome goal clarity scale tap the presence of specific goals and the existence of a plan to achieve those goals. Under pre-job elimination conditions, it appears that individuals who express intentions to change career are not more likely to have conscious career goals and plans.

While a number of different explanations may be possible, it is necessary to consider the impact on career goal planning of a transition from a stable to an unstable environment. Career motivation theory suggests that in a stable environment, career insight will include awareness of specific career goals and formulation of a plan to achieve those goals. In an unstable environment, it is possible that planning is perceived to be a constraint. It may also be that individuals are not able to discern between outcome goals and instrumental goals, i.e. between ends and means, particularly when unemployed and looking actively for work. Under these conditions, where flexibility with respect to means may become the more dominant focus in job search activities, respondents may lose sight of the ends.

To summarize, career insight is a construct which includes characteristics important to all individuals regardless of whether or not there is an intention to change career. In other words, awareness of strengths and weaknesses are equally critical for those who decide to pursue their present career or are considering a change. The correlates which were thought to behave differently from the career insight construct were investigated and while outcome goal clarity was not significantly related to career change intentions, the need for change was found to be associated with pre-elimination intentions to change career.

### Career Insight Measurement

As predicted by career motivation theory, career insight was found to be a unidimensional construct. The indicators of career insight, the insight scale (London, 1991), the outcome goal clarity and reliance on feedback scales (Noe et al., 1990) and the need for change scale consisting of original items behaved as expected in the measurement and structural models. However, when the three career motivation dimensions were evaluated concurrently in one measurement model, reliance on feedback proved to be a more valid indicator of career identity than of career insight. For this reason, the three reliance on feedback items were included as measures of career identity in the refined career motivation questionnaire (see Appendix H).

In keeping with the arguments discussed in relation to focusing the career resilience domain, the most appropriate strategy for refining the existing career insight measures are to limit the retained items to those which stem from the original research (London, 1991; Noe et al., 1990). Consequently, the need for change items should not be included and only the items found in the insight scale (London, 1991) and the outcome goal clarity scale (Noe et al., 1990) were retained. These items (see Appendix H) tap awareness of strengths and weaknesses, as well as the presence of career goals and plans for achieving them.

Selection of these items for the refined measure sharpens the domain of career insight based on the results of the present research. Because the null hypothesis was predicted for the relationship between career insight and career change intentions, it cannot be argued that the refined measure is more applicable to samples of individuals

involved in career change. Rather, a refined career insight measure is useful in assessing career motivation among respondents who intend to change career as well as other samples. By including career insight in a refined career motivation measure, it is expected that further research with other samples will help verify and clarify the validity of the career insight construct.

### Career Insight and Contemporary Organizational Theory

Career insight has a number of facets which have been considered in the present research: individual strengths and weaknesses, goals and plans for achieving them, and recognition of a need for change. Recognition of the need for change is a particularly critical characteristic, since it directly reflects the extent to which the individual has accurately assessed organizational opportunities and limitations. Since involuntary organizational exit is still very much the symbolic enactment of the need for change, free agent managers, those who take responsibility for their own career progress, are advised to constantly be aware of and respond to possibilities that exist elsewhere (Hirsch, 1987).

However, career insight extends beyond recognizing the need for change; it also encompasses knowledge of personal strengths and weaknesses. As individuals begin to realize that "A formal title and its placement on an organization chart have less to do with career prospects and career success in a post-entrepreneurial world than the skills and ideas a person brings to that work." (Kanter, 1989, p. 319), realistic assessments of the skills one already has, those one needs to further develop, and the weaknesses one needs to minimize, all assume increasing importance. In other words,

as career insight develops, managers should be able to more effectively face the challenges of the new, increasingly uncertain organizational environment.

The predicted emergence of skill-based career paths in self-designing organizations (DeFillippi & Arthur [1993]; Weick & Berlinger, 1989), is also consistent with the importance attached to career insight, since accuracy in skill assessment will be prerequisite to developing the skills needed for future career progression. A successful project-based career (Peters, 1992), in which the individual's career consists of participation in a series of projects, can be said to depend heavily on realistic skill assessment and continuous development. Only by developing the necessary skills will the individual be able to perform effectively on projects, which in turn will have a positive effect on reputation and participation in future projects.

Regardless of the framework within which new organizational realities are described, whether career is thought to be skill-based (Weick & Berlinger, 1989), project-based (Peters, 1992), post-entrepreneurial or post-corporate (Kanter, 1989), or boundaryless (DeFillippi & Arthur, 1993), it appears that the emerging organizational environment will be more accommodating to individuals who are flexible, and who can functionally adapt to career patterns such as career hopping (Kanter, 1989). The concept of outcome goal clarity, another important facet of career insight, fits the profile implied by these requirements. Having clear expectations of outcomes while retaining instrumental flexibility is consistent with the demands of the work environment more and more managers can expect to face in the future.

### Career Identity

Career identity, the third dimension, was first measured by two factors, recognition and organizational identification, derived from the London (1991) questionnaire, and one factor, identity, derived from the Noe et al. (1990) items. Career motivation theory predicts that career identity comprises two sub-domains: upward mobility and work involvement. The recognition factor appears to be consistent with the theory since it is closely related to and may be isomorphic with upward mobility. For many individuals, recognition would be concretely represented by interest in upward mobility in the organization. Thus, the recognition and upward mobility domains may indeed overlap and be represented by the same questionnaire items.

The second sub-domain predicted by career motivation theory is work involvement. A distinct work involvement factor was not extracted from the principal components factor analysis and could not be entered in the career identity measurement model. The two items which loaded on the organizational identification factor, subsequently dropped from the model, tapped feelings of pride in the organization and belief in the close relationship between personal and organizational success. Based on these two items, organizational identification cannot be considered isomorphic with the work involvement sub-domain. One example which supports this argument is the case of professionals whose work reflects both an organizational and professional dimension. High levels of work involvement may be more indicative of strong professional identification and adherence to professional work standards and

ethics, rather than an expression of pride in the organization or beliefs that personal and organizational success are linked.

The four Noe et al. (1990) items were found to load on one factor. Since they were unable to discriminate between sub-domains, one factor, identity, emerged from the exploratory factor analysis.

In the confirmatory factor analysis, two of the three factors, identity and recognition were found to load as expected on the latent variable, career identity. In addition, convergent validity was demonstrated with the managerial competence scale from the Career Orientations Inventory (DeLong, 1988), the upward mobility scale (Prince, 1979) and the job involvement scale, derived from Kanungo (1982). Organizational identification, derived from London (1991), was dropped from the final measurement model to improve the fit.

It appears that the organizational identification scale was not as effective an indicator of career identity when evaluated simultaneously with other measurement variables. In this sample, respondents can be expected to hold ambivalent feelings about their former organizations. Even respondents who may have felt pride in their former organization, or believed that personal and organizational success were closely tied would, at best, feel conflicted after job elimination.

Although these findings are generally consistent with the theory, they seem to indicate that career identity can be measured most effectively with two scales, recognition [derived from London (1991)] and identity [derived from Noe et al. (1990)]. The work involvement scale derived from Kanungo (1982) may be a more

effective indicator of this sub-domain than was organizational identification, the factor eliminated in the final career identity measurement model.

### Career Identity and Career Change

The findings did not generally support the career identity hypotheses. The absence of a significant negative relationship with career change intentions indicates that career identity is indeed unrelated to one's intention to change career. Furthermore, the upward mobility and job involvement factors were not significantly correlated with any of the career change intentions indicators.

It may not be realistic to expect a negative relationship between career identity and intentions to change career, as hypothesized. At least, for those having gone through a lay-off, it seems that positive affect for their prior career does not constrain them from considering alternative career paths or options. People who intend to change career may still be capable of looking back with a sense of pride and accomplishment at achievements related to the previous career, although these may not be directly salient to career change intentions.

Therefore, expressing an intention to change career does not seem to be associated with strong feelings, positive or negative, related to the prior career. This explanation reconciles the findings with the need to re-examine the career identity-career change intentions hypothesis.

### Career Identity Measurement

The same arguments in support of the approach taken with the career resilience and career insight measures can be invoked for refining the career identity measure.

However, in addition, it must be noted that neither of the retained factors derived from the London (1991) or Noe et al. (1990) questionnaires represented the expected sub-domains. Therefore, there is merit in considering the retention of items from the upward mobility scale (Prince, 1979) and the job involvement scale (Kanungo, 1982), given that they appear to be more valid measures of these sub-domains. Nevertheless, further research will be necessary to substantiate including these scales, and in particular to determine whether the relatively large number of Kanungo (1982) job involvement items can be further pared down.

In addition, the reliance on feedback factor was originally expected to indicate career insight but shifted to indicate career identity when the three career motivation dimensions were evaluated simultaneously in one measurement model. This implies that the feedback respondents receive is more closely associated with how central career is to one's identity. This conclusion is consistent with London's (1985) view that information is important for the development of both career insight and career identity. Logically, the more an individual receives feedback, specifically positive feedback, about one's performance, the more career identity is strengthened. Further research will be necessary to determine whether reliance on feedback continues to be a stable indicator of career identity, or whether it partially indicates both career insight and career identity. The three items included in this factor should be retained for the refined career identity scale.

#### Career Identity and Contemporary Organization Theory

Of the present research findings, the absence of a negative relationship between



former career identity and career change intentions is perhaps the most difficult to reconcile. The results indicate that former career identity, represented by variables such as work involvement, organizational identification, or desire for upward mobility are not related to the expression of career change intentions. These results imply that how career identity is defined and consequently measured may require reconsideration.

For example, as organizations adapt to rapidly changing, uncertain environments, work involvement may cease to be as crucial a components of career identity. Although the present sample were all drawn from relatively traditional organizations, it is possible that respondents had already begun reduce the importance of work involvement to their career identities.

In organizations which have adopted more functional structures, e.g., the self designing organization, identities are decoupled from specific jobs, making it easier to incorporate roles from a variety of sources in developing an identity (Weick & Berlinger, 1989). This pattern of identity development is particularly vital when job changes involve simultaneous changes in organization and/or career as well. When one's identity is a composite of various roles, it is less difficult to consider opportunities which represent a departure from previous roles.

This notion of career identity is also related to the concept of the project-based career (Peters, 1992). The role one plays in each of a series of projects may not necessarily remain constant. In fact, career can be conceptualized as a series of personal projects, certain of which may be of interest to particular organizations. As described by Peters (1992), organizations need to refer to actors, not workers, who

have been assembled to attain a particular market objective, much like an improvisational theatre troupe. "Their projects...will coincide with a given corporation/network for a bit, then evaporate" (Peters, 1992, p. 222). As one accumulates projects, in a variety of roles and organizations, career identity is much less the result of a specific set of occupationally-related functions or organizationally-based jobs.

The professionalization of managerial occupations and the diminishing importance of firm-specific knowledge (Kanter, 1989) are two additional trends consistent with the suggested revisions to the concept of career identity. The sequence of roles becomes increasingly vital to identity development in the career pattern exemplified by the post-entrepreneurial blend:

...more and more people will find their careers shaped by how they develop and market their skills and their ideas - and not by the sequence of jobs provided by one corporation. More people will be in and out of business for themselves at more points in their careers, as they enter and leave corporations, as they start and grow businesses, as they combine with peers to offer professional services for still other businesses and corporations. (Kanter, 1989, p. 318.)

The tendency to find sources of career identity other than a particular organization is also reflected in changes to organizational loyalty. Trust in individual employers is diminishing while faith in oneself has become recognized as the only alternative (Kanter, 1989). This trend suggests that career identity formation will also shift away from organizational sources to those which are much more within the control and domain of the individual, namely, one's personal skills and goals, and the

roles assumed in various projects.

An extension of this concept of career as a series of roles is provided by the portfolio career (Handy, 1989). Traditionally, one considered work and employment as synonymous, and career identity emerged from this one particular kind of work, usually, within one organization. When career is considered to be a portfolio, the individual may alternate between a variety of work categories, wage and fee work which are paid, and homework, giftwork and study work which are not. This model is reminiscent of Super's Life Career Rainbow (Super, 1984) but differs from it in that the roles in the latter model are primarily a function of age, with emphasis or importance of any particular role changing as one moves along in the life cycle. The portfolio work categories and their implied roles are not ordered in specific sequence and are not a function of adult development process.

The impact on identity of this shift in thinking about work categories is potentially quite profound. Currently, when one leaves a job in the paid wage-work category, it is usually the only category present in the portfolio. According to Handy (1989), this one category traditionally represented one's entire career, and by extension, the career identity one had developed. A more contemporary view, even at the core of the shamrock organization (Handy, 1989), is one of fixed-term work, implying that everyone will need to expand their career portfolio. Since many individuals still rely on single sources for their career identity, changes do not come easily. "The most difficult transition...is in fact from a one-item portfolio to a multi-item one, not to an empty one" (Handy, 1989, p. 186).

The present results, demonstrating that there is no relationship between prior career identity and intentions to change career, are consistent with the implications of contemporary organizational theory for careers. Among the majority of research participants there may already be a transition taking place from career identity as a sole function of a particular sequence of jobs in one particular organization. Trends such as decoupling, project-based careers, and careers as a portfolio of work categories may already be contributing to career attitudes reflected in the present research, namely that one can look back at a previous career with a sense of pride even when one's job has been eliminated.

### Volition

Volition was a control variable inserted in the structural equations to evaluate an alternate explanation for the expected relationships between the latent variables. There was no significant relationship between volition and any of the latent career change intentions variables with the exception of a significant negative relationship with ideal intentions in the career resilience structural model.

Individuals who were less likely to feel constraints were more likely to express an intention to change under ideal or hypothetical conditions (in contrast to present conditions). This suggests that whereas constraints might limit expression of intentions under hypothetical change conditions, when people consider career change under more immediate, present conditions, constraints are not a factor. In other words, when faced with the reality of being unemployed, people who score high in self-efficacy, and risk-taking do not limit their options with the kinds of considerations

included in the volition domain.

### Summary

The factors derived in the exploratory factor analysis from the London (1991) and Noe et al. (1990) scales were found to indicate the career motivation dimensions as expected, and were found to demonstrate convergent validity or result in acceptable coefficient of validity values. Only one factor, organizational identification, was eliminated in the confirmatory factor analysis to improve model fit.

An integrated measurement model, simultaneously evaluating the three career motivation dimensions with indicator variables drawn from the original career motivation questionnaires (London, 1991; Noe et al., 1990) was consistent, for the most part, with the results of the previous measurement models. Three factors, resilience, risk-taking, and self-efficacy were found to indicate career resilience; two factors, insight and outcome goal clarity indicated career insight; and three factors, reliance on feedback, recognition and identity indicated career identity.

What is demonstrated by the integrated model provides support for consolidating the two original measures of career motivation (London, 1991; Noe et al., 1990) into an integrated instrument. The confirmatory factor analysis has permitted the simultaneous evaluation of the three latent dimensions and has provided direction for the retention of items which are their most effective indicators.

The one exception, the reliance on feedback scale, did not behave consistently with predictions of career motivation theory. Whether reliance on feedback is, in fact, a better indicator of career identity will require further investigation. In the post hoc

model, reliance on feedback was an indicator of career identity, a result which is inconsistent with the previous measurement models evaluating each career motivation dimension independently. Possible explanations for this shift were considered and it appears that feedback could be important for both career identity and career insight. Further research will be necessary to clarify the behavior of the reliance on feedback scale.

The results of the confirmatory factor analyses generally support the propositions of career motivation theory. Each dimension was confirmed as a latent variable in the single-variable models, while the integrated model supported the premise that career motivation is a three-dimensional concept.

#### Career Motivation Dimensions Sub-domains and Correlates

Correlations were used to evaluate several of the hypotheses specifically concerned with the relationships between the sub-domains or correlates of career motivation dimensions and the career change intentions variables. Significant correlations were found for two relationships: (a) need for change and pre-elimination intentions, and (b) self-efficacy and ideal differences, i.e., differences between pre-elimination and ideal jobs. In both cases, the dependent variables are indicators of ideal intentions in the structural model. This argues that it is easier for individuals who feel a need for change and who have a higher level of self-esteem or self-confidence to express an intention to change career under the conditions implied by the ideal intentions dimension.

The absence of a relationship between career change intentions and the career

identity sub-domains indicates that the need for upward mobility and job involvement are not important concerns for individuals who express an intention to change career. This conclusion is also consistent with the conclusions regarding the absence of a significant career identity-career change intentions relationship.

The absence of a relationship between development orientation and career change intentions indicator variables may be explained by the importance respondents attach to this dimension in relation to their career change prospects. People may feel development orientation is a more critical factor in career success when the environment is stable and career progression proceeds in a linear traditional fashion within the same organization. Perhaps, in a turbulent environment, past development orientation is not perceived to be as relevant to increasing the likelihood of career change. Development orientation may be better conceived as a factor in long-term career change and adjustment. In this sample, there is more of a short-term perspective imposed by their immediate situation (i.e., unemployment).

Conceptually, there do not appear to be any strong arguments to support the absence of a relationship between risk-taking and career change intentions. The results may be indicative of a need to tap the type of risk-taking behaviors that might be most closely related to career change intentions.

#### Prospective versus Retrospective Views of Career Change

According to London (1983), career motivation is reflected in the dynamic relationships between individual characteristics, situational characteristics, and career decisions and behaviors. Although the present research did not set out to

specifically test these relationships, reconciling the findings with career motivation theory necessitates interpretation of the research results in relation to retrospective and prospective rationality perspectives.

"Prospective rationality assumes that objective differences in organizations, jobs, and individuals account for variations in career decisions and behaviors" (London, 1983, p. 625). The assumptions underlying the present research are reflective of this approach. The research design minimized organizational differences by investigating a sample drawn from organizations which were experiencing similar types of uncertain, turbulent environments. Differences in jobs were also diminished by examining, with few exceptions, managerial and professional designations. Therefore, individual characteristics were thought to be most indicative of differences in career motivation.

Regarding retrospective rationality, London (1983) states that past behavior "...may influence future behavior in that individuals attempt to behave in ways that are consistent with the past, giving little thought to what might happen in the future..." (p. 626). This perspective, namely that behavior can also be explained by a socially-constructed component, was not the perspective taken in the present research.

London (1983) formulated six propositions to describe the prospective and retrospective relationships between the elements in his interactive model. Each of these propositions defines the conditions under which a particular element of the model is influenced by the other elements. These propositions and related hypotheses were not specifically tested in the present research, since the available sample and



organizational setting necessitated a correlational research design. Nevertheless, the findings of the present research are consistent with aspects of these propositions.

For example, the first proposition states:

Individual characteristics associated with career motivation will have a greater direct effect on career decisions and behaviors the more the individual characteristics are stable and integrated into the individual's self-concept. (London, 1983, p. 626).

The present research was based on an assumption that individual traits and characteristics were stable over time, and consequently, would differentiate between those individuals who were more or less likely to express intentions to change career. For the present sample, individual traits and characteristics associated with career resilience were found to be related to career decisions and behaviors, represented by intentions to change career. Consequently, the results are consistent with and support the prospective rationality relationships found in the first proposition.

Although the prospective view is useful in understanding the relationships between the elements in the interactive model of career motivation, and the career resilience results support one of the prospective rationality propositions, there is a limitation in extending the interactive model to the present research. The relationships in the model are described as causal, which takes them beyond the scope of the present cross-sectional research design. Future research should attempt to investigate the causal dimension by adopting a longitudinal design.

#### Career Motivation and Career Change

The expected relationships between the career motivation dimensions and the

career change intentions latent variables were supported only in the case of career resilience. However, the findings indicate that there is a need to track facets of the career resilience domain which may be more directly related to career change intentions. Career resilience, and in particular self-efficacy, have displayed promising results in relation to career change intentions and should be investigated further with other samples. Finally, career identity proved to be a more complex construct than was originally anticipated. Its behavior in relation to career change under turbulent environmental conditions must be re-evaluated.

The conclusions derived from the results of this study lend support to the notion that career motivation can serve as a new approach to career change. As expected, career insight does not appear to discriminate effectively between people on the basis of expressing intentions to change career. Yet, a theoretical correlate of career insight, the need for change, was found to be associated with the expression of pre-job elimination intentions to change career. A stronger need for change can evidently serve as a basis for identifying individuals who are more likely to be interested in changing career in situations which precede job elimination. This basis for identifying potential career changers emerges from conceptual arguments, advanced in earlier chapters, advocating a career development perspective of career change. Future research with similar samples should investigate whether the need for change varies positively in relation to career development experiences. Support for this relationship would demonstrate that career development can be useful in preparing for change in a turbulent organizational environment.

Alternatively, it is possible to argue that the present results reflect common method variance by not discriminating sufficiently between the dependent and independent measures. A review of the items in preceding discussions of career insight correlates indicated that they appeared to tap two different domains. However, it is not possible to completely discount the tendency for respondents to perceive the need for change and pre-elimination intentions as identical. Future research could rely more on multi-method, multi-trait techniques to reduce the potential impact of common method variance.

The findings related to career identity were contrary to expectations and suggest that the relationship between career identity and intention to change career requires re-evaluation. Organizational identification was not found to be a valid or reliable indicator of career identity. There may be a need to distinguish between identification with the organization versus recognition of one's career accomplishments. In addition, contrary to expectations, some evidence was found that reliance on feedback was a more valid indicator of career identity than career insight. Individuals evidently place great importance on feedback in the process of forming their career identity. These results support the need to further clarify the theoretical formulations related to career identity in turbulent environments and to sharpen the domain of this construct.

The career resilience results indicate that particular facets of the construct domain are more positively related to career change intentions. The re-specified structural model found a positive and significant relationship between resilience and

real intentions while the relationship between resilience and ideal intentions was also positive but fell slightly below the desired level of significance. This is supported by the significant correlation found for self-efficacy and one of the career change intentions indicators. Of all the career motivation dimensions, career resilience is the one which conceptually should have the strongest relationship to career change. The findings indicate that key facets of the career resilience construct domain are related to one of the two career change intentions dimensions.

A number of conceptual reasons for these findings were advanced in the previous discussion on career resilience and career change. Career resilience is a useful global construct and behaves consistently with the theory of career motivation. However, in a turbulent environment, only certain key facets have a relationship with career change intentions. This emphasizes the need to track certain facets more closely in terms of their relationship to career change intentions.

Extending the theory of career motivation to career change has revealed that the career resilience construct does have a more significant bearing on career change intentions than the other career motivation dimension. Further clarification of the relationship between career resilience and career change intentions will undoubtedly result from further testing with other samples. However, the present findings have already demonstrated that career motivation is an appropriate theoretical framework for career change.

#### Career Motivation Measurement

In general, the use of confirmatory factor models to evaluate the relationship

between indicator variables and the latent career motivation dimensions provides a particular form of support for career motivation theory. Exploratory factor analysis techniques had already been selected for the development of existing measures of career motivation (London, 1991; Noe et al., 1990). Replication of this method would have added support for the validity and reliability of the scales but the small sample size would have meant a more fragmented statistical analysis.

The selection of confirmatory and structural modelling demonstrated the indicator-latent variables relationships and evaluated the relationships between the dependent and independent latent variables. More traditional forms of statistical analysis such as multiple regression would have been incapable of providing the same level of analysis.

However, the limitations imposed by the sample size did not permit the application of one particular technique related to item evaluation and available with LISREL. Future research should include a second order confirmatory factor analysis which is based on two levels of latent variables. This methodology permits the use of individual items as indicators of the sub-domains, the first level latent variables, which are simultaneously evaluated as indicators of the next level latent variables, in this case, the career motivation dimensions.

Since this technique cannot be applied in the present research, selection of those items which define the individual indicator variables discussed in the preceding sub-section should serve as a good basis for future research.

### Career Motivation and Contemporary Organizational Theory

Career motivation theory arose from research conducted in a traditional complex organizational structure (AT&T in the 1970s), facing a relatively stable, certain environment. Support for the major concepts of the theory, produced by the confirmatory factor analysis, and for some of the hypotheses as well, lead to the conclusion that the theory can be extended to samples of individuals in a state of transition, in unstable, turbulent environments.

As discussed previously, the major propositions and notions about organizational structures and career patterns emerging in the literature (Arthur, 1992; Handy, 1989; Hirsch, 1987; Kanter, 1989; Peters, 1992) are consistent with the present findings. Consequently, career motivation appears to be a theory which has value in describing the emerging career patterns found in these new organizational structures. In particular, three major points related to the career motivation dimensions should be highlighted: a) career resilience, the ability to bounce back from career setbacks, is a vitally important skill since careers will be characterized much more by discontinuous change (Handy, 1989) and hopping (Kanter, 1989) than ever before;; b) in the process of preparing for future roles, career insight will help the individual accurately assess personal strengths and weaknesses, goals, and the need for change; c) the role-based, career portfolio will become a more significant source of career identity.

### Career Development

One link in the framework represented by career motivation theory is the role played by career development. This aspect has not received wide research attention,

but as discussed in previous chapters, there is some basis for expecting to find a relationship between career development and career change intentions. The hypotheses describing these relationships were tested with a structural model but no support for a relationship was found.

Among the possible explanations for this lack of support, context cannot be ignored as a potentially important factor. The results indicate that those individuals who were more likely to express intentions to change career were not more likely to have participated in career planning activities, and were not more likely to have perceived their organization as supporting career planning activities, prior to job elimination.

These results may suggest that individuals who were themselves in a turbulent environment may attenuate their ratings for career planning and career management activities. The low means for the four career development scales support this assertion (the means range from 1.12 to 2.19 on a seven-point scale, while standard deviations range from 1.00 to 1.71). There may have been a tendency to think of career planning and career management in traditional terms, i.e., as related more directly to advancement within the organization. Knowing that the opportunities for a traditional upwardly mobile career are limited at best, and that potentially one's job is in jeopardy, individuals may be more likely to underestimate the level and utility of career planning activities and the degree of organizational support for career management.

In addition, asking people who have been laid off to objectively describe the

characteristics of their organization may be an unrealistic request. Their responses are too likely to be clouded with extraneous affect. The merging of career planning (an individual responsibility) with career management (an organizational responsibility) makes the career development measure suspect.

If, as suggested above, respondents underestimated the utility of career development activities for extra-organizational opportunities, it is also likely that they did not develop a sense of ownership over the career development process. The dominant role played by the organization is one possible reason for having obtained the present results. The perception of career development as a process which benefits the organization more than the individual is consistent with a number of contemporary research and practice topics related to career planning and career management. Among the career planning issues listed by Hall (1986a), job moves, desire for mutual career planning with company, need for information on company career opportunities, linking career planning to corporate career management systems, reflect the close relationship that is perceived to exist between career planning and one's corporate destiny. Career management issues such as strategic human resource planning, succession planning, new human resource movement systems, and assessment and development of management potential (Hall, 1986a), also describe an organizationally-centered approach.

In this context, it appears that the present sample had not developed a sense of ownership over career development, i.e., they did not feel that the career development process was related to extra-organizational opportunities and consequently, it was not



"their" process. An individually-owned career development process, with a focus first and foremost on the individual's career, was not being fostered by the organizations in this study. Consequently, it would be difficult for an individual to appreciate the value of career development experiences for anything but the traditional corporate-centered career.

The limitations of traditional perspectives of career development, i.e. those tied solely to advancement within one organization, are especially evident when considered in relation to the self-designing organization (Weick and Berlinger, 1989). In the self-designing organization, defined as a social form "...built to deal with rapid environmental change" (Weick & Berlinger, 1989), cultivating spiral career concepts in which deliberate, substantial career changes occur every five to seven years is a critical career development activity. Such an activity would be incompatible with traditional career development practices. The latter are by definition focused on the identification of long-term career goals, and the development of a plan to achieve those goals, gradually, over an extended time period. Because these career plans are often made in conjunction with one particular organization, they of necessity exclude the likelihood of substantial change, particularly if that is synonymous with leaving the organization.

Decoupling identity from jobs is another example of a career development activity which will acquire increasing importance in the self-designing organization (Weick & Berlinger, 1989). This element of career development has already been discussed previously in relation to the career identity dimension of career motivation.

For the participants in the present research, the evidence suggests that this trend may already have taken hold. The examples provided by these two career development activities illustrate how the concept of career development must be modified and broadened. The results of the present research support this position having revealed that the traditional forms of career development are possibly too narrow a description of the range of activities that accompany self-designing, post-corporate career patterns, patterns which incorporate many of the elements associated with traditional forms of career change.

#### Strengths and Limitations of the Research Design

In contrast to examples of studies carried out with convenience samples of individuals who may be in the process of changing jobs and, possibly, their career (Vaitenas & Weiner, 1977), the present research was able to investigate potential career changers who were faced with involuntary job loss in a turbulent environment. This is an important advantage of non-random samples "...since it may allow certain facets of the broad domain that the researcher is seeking to emphasize to be depicted." (Bryman, 1989, p. 116). Specifically, the availability of a homogeneous sample, i.e. all individuals had been faced with the same job elimination conditions, meant that processes associated with career change intentions under such conditions were more likely to be captured.

Given the research questions being addressed, a longitudinal design would have been desirable and would be practical under certain circumstances. This would facilitate reduction of the potential common method bias problem present in this

research. First, it would be necessary to find a research site which had already collected career motivation and career development data, or would be willing to have this data collected from a large sample prior to job elimination. After a re-organization was implemented, career change intentions data could be collected from those individuals who were looking for new jobs.

Given the impracticality of this approach for the present research project, a cross-sectional research design was the only option from the perspective of gaining cooperation for research sites as well as from an ethical perspective. It is difficult to imagine the practicality of an experimental design with random assignment to control and experimental groups. Consideration of a temporal element to introduce causality is also inappropriate because individuals would have to complete a questionnaire related to potential job loss. This would unnecessarily raise anxieties and fear which would undoubtedly leave the research open to violation of ethical norms.

The cross-sectional design was deemed to be the most appropriate method available and two concerns frequently raised in applying this design had to be minimized. First is the need to insure that the observed relationship is not spurious. Namely, is it possible that a third variable, related to the dependent and independent variables, is causing the observed relationship? Volition, the extent to which individuals felt constrained by personal circumstances unrelated to career motivation, was thought to potentially be such a variable and consequently was inserted in the structural models as a control variable. Its effect on the principle relationships of interest (i.e., career motivation and career change intentions) was ruled out. In the

reduced structural model for career resilience, volition was negatively related to one of the career change intentions dimension, ideal intentions, indicated by pre-elimination intentions and differences between pre-elimination and ideal jobs. Since career resilience was positively related to the other career change intentions dimension, real intentions, indicated by present intentions and attractiveness of change, volition does not affect this relationship. Therefore, by including volition as a latent independent control variable, the research design permitted the elimination of the volition-career change relationship as a possible alternative explanation.

The present research did not include any additional control variables, although others which are unmeasured may yet be relevant. For example, certain demographic characteristics and the type of job or occupation previously held might be two variables which should be controlled in future research.

Second, the cross-sectional design was employed to address research questions regarding the relationships between variables, but much of the data collected was retrospective in nature. This might normally be quite problematic and it is possible that affect generated as a result of job loss may have skewed recollections, particularly in relation to career development for reasons discussed previously.

In relation to career motivation, this tendency may have been minimized as a result of the nature of the construct, particularly career resilience. Based on the development of career motivation theory (London, 1985), it was possible to assume that career resilience was stable over the short-term, minimizing any bias that would have otherwise been introduced. This was a reasonable assumption in light of the

thinking surrounding the dynamics of career motivation. According to London (1985), career resilience is composed of ingrained personality traits which can be observed early on in the individual's career. Although career resilience can be altered, it is more stable than career insight and career identity, which are highly dependent on information people receive about themselves. The implication in this argument is that career resilience is unlikely to change dramatically in the short term, and that those who scored higher in career resilience at the time of job elimination would have also scored higher if data had been collected prior to re-organization.

To summarize, the cross-sectional design and homogeneous sample strengthened the research from the perspective of internal validity. Volition, a possible alternate explanatory variable was ruled out, and thus, the design permitted a sharper focus on the behavioral processes of interest.

The impracticality of an experimental design for ethical reasons and the exigencies of the research project which contributed to the development of a cross-sectional rather than a longitudinal design, left the research open to a number of criticisms with respect to external validity. In general, the approach taken in the present research was to focus on the theoretical relationships, with the realization that external validity would be subject to limitations.

Limiting the sample to only former employees of these organizations suggests constraints in the extent to which the results can be generalized to populations of employed managers and professionals. Because the opportunity to study a sample of individuals was extremely attractive, given the likelihood that the social processes of

interest would be readily observable, (Nicholson, 1984). the task of generalizing to other populations has been left to future research.

"In the last analysis, external validity...is a matter of replication" (Cook & Campbell, 1979). Certainly, additional research with samples drawn from other sectors will strengthen the confidence in the external validity of the present results. Until such research takes place, it is not possible to make unqualified generalizations to other organizations in other industries. Therefore interpretation of these results should be undertaken with a degree of caution, their value being more in demonstrating possible relationships between various individual characteristics and career change intentions that require corroboration.

Since this study relied on a correlational design, a number of conditions limit the extent to which firm conclusions can be drawn. Among the potential threats to validity, of greatest concern would be alternative explanations for the relationships. Some possible confounding effects (e.g., industry differences with respect to products, technology, size, responses to turbulent environments) were controlled because the majority of individuals were drawn from only two organizations in the same industry. The additional individuals do not represent a large enough proportion of the sample to jeopardize these conditions.

Issues of internal validity also concern the design of the scales. Career change intentions scales were developed for this study and certainly require further evaluation in the future. However, they manifested high standardized Cronbach alpha scores and behaved in a stable fashion across exploratory and confirmatory factor analyses as well

as structural equations.

The career development scales were also developed for this study and will require further testing with other samples. The original measures were conceived to tap individual career planning and organizational career management. The scales retained in the principal components factor analysis maintained this distinction but the measurement model was modified to create a unidimensional career development latent variable. To determine whether this reflects the respondents' difficulty in distinguishing between the individual and organizational dimensions or whether the items do not adequately tap the construct domains will require further investigation.

In addition, since this research was conducted at the individual level of analysis, elements which might be present at the unit or organizational level were not considered. This suggests that further theory development regarding career development is necessary to adequately consider the range of variables which should be represented in a research design addressing career change. For example, one's functional affiliation in the organization may be associated with access to career development activities.

Regarding career motivation, this study was able to evaluate existing scales which had not received extensive prior testing. The exploratory factor analysis and Cronbach alpha analyses evaluated the reliability of indicator variable scales and the confirmatory factor analysis demonstrated convergent validity with other measures expected to tap similar or related constructs. The exploratory factor analysis was concerned with the identification of common factors and deletion of items which did

not load purely. The deletion process was guided by statistical, theoretical and substantive considerations evaluating factor loadings as well as item content. This process extracted factors characterized by substantive consistency, with pure item-factor loadings. Standardized Cronbach alpha of .6 or higher was set as a minimum expected level to provide additional statistical support for the factors. Iterations were often repeated with a different protocol and additional joint analyses of items from both original questionnaires were conducted to minimize error.

In the confirmatory factor analysis of the integrated career motivation model, all measurement variables with the exception of reliance on feedback were found to discriminate between the latent variables. However, since the same measurement method was utilized for all variables, discriminant validity was only approximated (Bryman, 1989). This and other problems associated with traditional methods of evaluating internal validity (Bryman, 1989) could be overcome to some extent by taking advantage of alternative methods applicable to confirmatory and structural models which lend themselves to multi-method multi-trait analysis (Bollen, 1989). For example using different response scales to measure constructs permits this type of analysis. Future research should incorporate designs which can avail themselves of this technique.

Consideration of statistical conclusion validity concerns issues of reliability, sample size, and post hoc analysis (Gosselin, 1986). This study relied on two measures of reliability. Standardized Cronbach alpha was evaluated for each of the measurement variable scales which emerged from the exploratory factor analysis. In



addition, reliability, as indicated by the squared multiple correlation (SMC) in the confirmatory factor analysis, was also examined and unreliable measures, i.e., those with an inflated level of error variance were dropped entirely from the model.

Whether these measures are sufficiently stable over time and over samples could not be assessed in this study. Confirmation of portions of the original career motivation measures was demonstrated and suggest a degree of stability, given the dramatic difference between this sample and the AT&T managers in the original research (London, 1983).

Regarding sample size, a low rate of questionnaire returns resulted in constraints on the type of exploratory and confirmatory factor analyses which were possible, as well as constraints in the number of measurement variables which could be included in the measurement and structural models. Item-to-sample ratios in the exploratory factor analysis were within the range of those reported elsewhere in the literature (Snell & Dean, 1992). However, some of the initial analyses did exceed the 1:10 item-to-sample ratio rule-of-thumb. In addition, the confirmatory and structural models respected accepted parameter-to-sample ratios (Bagozzi, 1980). It should be noted however, that there are a range of opinions on these rules-of-thumb, and no consensus has yet emerged. Given the small sample, it was not possible to carry out a second order factor analysis which might have been more conclusive, particularly in the case of career resilience.

The question of post hoc analysis and its implications for the conclusions have been discussed previously. Regardless of the limitations associated with post hoc

analysis, it has been recognized as an alternative which is valuable at early stages of theory development (Bollen, 1989; Byrne, 1989). Under these conditions, the results of post hoc analysis should serve as a guideline for future research and theory development.

### Implications for Future Research

Future research should attempt to take the preceding limitations into consideration in the development of research designs. It is certainly possible to improve the likelihood of a larger sample and consequently overcome some of the limitations imposed by small sample size. To some extent, individuals in the sample may not have been motivated to respond due to a number of possible factors, among them: the study's identification with an anglophone institution, the quality of the French translation of the questionnaire, or individuals' anger with the former organization (which was perceived to be a collaborator in the research). Although great care was taken in the translation, re-translation, and pre-testing of the questionnaire to eliminate problems which might arise as a result of language differences, it is possible that some were overlooked, and contributed to the disinterest of the individuals. Future research should attempt to overcome any potential difficulties in this area.

### Career Change

The study demonstrated that career motivation theory can be useful in a wider range of research. While many of the study's conclusions were tentative, they form a reasonable basis on which to build a career change research agenda. Replication of

the findings with larger samples and more complex measurement and structural models is a first step towards improving confidence in the conclusions.

The career change intentions scales were developed for this research and, while they look promising, they should be tested further. Their attempt to measure career change and intentions to change career as continuous variables departs from most previous research and, while they are based on sound logic, they require further evaluation.

The choice of a quantitative research design permitted sampling a larger number of individuals than would have been possible with qualitative methodology. However, at this stage of theory development, the type of data usually captured by qualitative designs might prove to be a valuable contribution in illuminating career change processes in a turbulent environment. Given the limited testing of career motivation, and the absence of any prior application of the theory to career change, examination of qualitative data might expose processes and variables which would enrich the current understanding of career change, and serve as a further basis for applying a theory such as career motivation.

The present research attempted to assess the applicability of a theory of career development to career change. The results indicated that a theory such as career motivation can indeed apply to individuals in the midst of potential career changes. Selecting career motivation theory was also intended to evaluate whether career change could be treated as a legitimate outcome of career development processes, in other words, where change is taken as one of several outcome 'norms', given a

particular set of individual characteristics and career development experiences. The setting in which this research was conducted could be categorized as quite traditional, but in the process of undergoing a dramatic change, evidenced by the downsizing strategies which had been adopted.

In these kinds of settings, it is certainly still possible for people to think in terms of former and future careers, and career change. Yet it is important to understand that the very term career change emerged from a period of relative stability, where change was of necessity both radical and discontinuous. In the context of considering the implications of the present study for future research, it becomes important, therefore, to contemplate how career change will unfold given new organizational structures and career patterns described in the literature (Arthur, 1992; DeFillipi & Arthur, 1993; Handy, 1989; Kanter, 1989; Peters, 1992; Weick & Berlinger, 1989).

One possibility is certainly that the very concept of changing one's career, as it is currently understood, will become obsolete. For example, if, as Handy (1989) suggests, careers are the aggregation of different categories of work found in a given portfolio, then when exactly has career change taken place. In fact, the scenario suggested by the concept of career portfolio is one of continuous change, in other words, where change becomes the norm rather than the exception. This view is certainly supported by other contemporary organizational theorists such as Weick and Berlinger (1989) who characterize the self-designing organization as one where change is continuous and where careers can be expected to experience dramatic, radical

changes at regular intervals.

According to Handy (1989), even those individuals who will fill the executive positions at the core of their organizations must think of their work as temporary, and learn to rely on themselves when it becomes time for them to make the transition to a new category of work. The project-based career (Kanter, 1989), and career as a series of roles (Weick & Berlinger, 1989) are two concepts implying a view of change as inevitable and expected.

The career change literature contains many examples of attempts to define career change. Re-considering some of these definitions (see Chapter 2) serves to illustrate how they lose their meaning in light of emerging career patterns. Changing jobs from practitioner to administrator is probably a better example of role change, within the broad context of a professionalized career, rather than career change. Differences in Dictionary of Occupational Titles codes may also cease to be a meaningful indicator of career change since these changes in titles lose their significance in a career portfolio. As the value of distinctions such as those between employment and retirement is being questioned (Handy, 1989), so is it becoming appropriate to question the continued distinctions between career persistence and career change.

The present research was based on the premise that turbulent organizational environments require different approaches to dealing with change. Future research may very well be carried out in environments characterized by a new norm, one of uncertainty and turbulence. If change does indeed become the norm, and what was

previously known as career change does in fact describe the career development activities typically found in self-designing organizations (Weick & Berlinger, 1989), or the behaviors associated with enriching one's career portfolio (Handy, 1989), or employability (Kanter, 1989), will career change continue to exist as a phenomenon of interest to organizational scholars?

Although the career change concept may ultimately become redundant in the context of new organizational structures and career patterns, there are probably still many organizations which continue to take a traditional approach to career development. There are also many individuals who still find it difficult to make the transitions from single- to multi-category career portfolios (Handy, 1989). It appears that the organizations are in a transitional stage, and so is contemporary thinking on careers. By extension, career change is also a concept in transition. During this transitional period, understanding how people manage the difficulties they face in implementing the kinds of patterns implied by the career portfolio concept or the career as a repository of knowledge (Arthur, 1992), for example, is a research objective that can be effectively attained by the present call for a more intensive qualitative approach. Although traditional career change may become obsolete, the processes in which people engage to expand their career portfolios and to assume new and different roles will continue to have extreme relevance and importance for organizations and for organizational scholars.

#### Career Development

If future research on career development continues to rely on organizationally-

centered concepts, then it is likely that career development will continue to be defined largely as an activity with evident organizational benefits. In the context of a changing, turbulent environment, what may be needed is for researchers to move away from more traditional processes and concepts. After all, if organizational structures are changing along with the nature of work (Handy, 1989; Kanter, 1989; Peters, 1992), then, perhaps, how career development is described and investigated should also be re-examined.

Based on the current research, it appears that career resilience, particularly as reflected by self-efficacy and risk-taking is related to career change intentions. One point of departure for a revised approach to career development is to consider the various work and personal experiences that might contribute to strengthening self-efficacy and risk-taking. These experiences could then become one of the career development facets warranting investigation.

In this respect, additional organizational attributes should be considered as potential variables in the career development process. For example, examining differences in the extent to which the utility of a career planning workshop is evaluated positively within an organization which punishes mistakes, versus one where mistakes are treated as opportunities for learning introduces organizational culture as a possible variable. The proposition implied in this statement is highly speculative but is meant to highlight the possible relationship between aspects of organizational culture and perceptions of career development. The nature of supervision, performance appraisal processes, leadership styles, use of autonomous work teams,

may all play a role in strengthening self-efficacy and risk-taking. These situational conditions should be given consideration in defining the career development domain in future research.

If an effort is to be made to introduce more of these larger contextual factors in future research, then qualitative methodology should also be considered as a more appropriate technique for initial projects. The more intensive investigation afforded by qualitative methodology should contribute to clarification of the construct domain of career development. Once this domain is adequately defined, research could then examine how intentions to change career evolve in relation to perceptions of a more extensive array of career development situational variables.

The extent to which career development experiences vary in relation to the organizational unit, level, or function are additional situational issues which could be clarified using qualitative methodology. Furthermore, these variables lend themselves to objective, non-perceptual measures which could be introduced later in this stream of research.

In conclusion, while the present research has not produced any conclusive findings, the results suggest that career development may need to be re-defined in recognition of new organizational structures. Expanding the domain of career development by considering various situational conditions, and using a qualitative methodology initially to more fully explore the boundaries of this domain are two recommendations emerging from this study.



### Career Motivation Theory and Measurement

Future research should also address the question of the reliance on feedback factor which was an indicator of both career insight and career identity. Further investigation with other samples may clarify whether the reliance on feedback items are in fact more related to insight or identity.

Regarding career identity, a longitudinal design could capture trends such as decline in identity related to the former career, and development of identity in relation to the new career. However, the ethical and perceptual problems of access mentioned previously would still have to be overcome, and it is not clear how this could be done. Therefore, it may be necessary to shift the focus from past career identity to future career identity, which would result in a clearer interpretation of how career identity evolves as individuals engage in the process of change.

The present study's most promising conclusions concerned the relationship between career resilience and career change. Future career change research should focus on this dimension and in particular on the self-efficacy sub-domain. There is certainly a need to replicate the present findings and also to continue tracking facets of the resilience construct domain which may be more strongly related to career change.

The dependency sub-domain seems to have received no attention in earlier career motivation research. In the present study, attempts to operationalize dependency as the inverse of autonomy were not successful and future attempts should explore other options for investigating dependency.

A distinction should probably be made between dependency on the organization

and a trait such as the locus of external control. In fact measures of locus of control might be a more effective approach to capturing the tendency of individuals to assume responsibility for their own career development, a trait which should behave congruently with the other career resilience sub-domains, self-efficacy and risk-taking.

The present research relied almost exclusively on confirmatory factor analysis and structural equations for evaluating the relationships between measurement variables and latent variables, as well as testing the hypotheses. These techniques should be applied in future research as well, with an effort to introduce multi-method multi-trait analyses to support the findings concerning construct validity.

In addition, one aspect of career motivation theory which requires a great deal of further elaboration is the precise relationship between the three dimensions. London (1983) presumed a number of possible relationships, whereby the dimensions exerted mutual influence on each other, or where one preceded the others. The nature of these relationships has not been widely addressed in the research. With some further theorizing to provide a suitable basis for model development, confirmatory factor analysis provides a technique which can be applied to evaluation of models with different combinations of cause-effect relationships between the three dimensions. This would certainly contribute to understanding the underlying processes involved in career motivation theory and would also have practical value.

#### Other Research Directions

The present findings support further research efforts which focus on individual differences. Career motivation theory also accommodates situational conditions that

could be introduced in future research. The conditions examined in the present research focused on career development, specifically, activities which were the responsibility of the individual or the organization.

Perhaps some middle ground exists which has not been adequately tapped by these individual and organizational dimensions. For example, the nature of the individual's relationship with a supervisor, and specifically, the importance that a supervisor places on career development activities may be one element. Social learning theory and role modelling suggest that the individuals with whom one interacts can exert influence on behavior. These interactions may also include those associated with groups or teams. The present research has demonstrated that reliance on feedback is an indicator of career identity, suggesting that social learning and role modelling may provide suitable theoretical frameworks for investigating additional factors related to career change.

To summarize, the relatively modest prior research on career motivation coupled with the tentative conclusions of the present study has left a number of unanswered questions. Consequently, there are a variety of future research thrusts which should be considered. Investigation of traits such as locus of control, further evaluation of reliance on feedback, the continued use of confirmatory and structural models, and the evaluation of more complex models with hypothesized relationships between the latent variables seem to represent some immediate research options.

#### Implications for Management Practice

As discussed earlier, the natural tendency has been to view career change due

to turbulent organizational environments as a temporary effect related more to economic cycles, an effect which diminishes as conditions improve. The basis for the present research challenges this view and has provided evidence to show that organizations in the future will be forced to operate in environments which are much more turbulent than has been the case previously. Consequently, the process of adaptation, and its effects on managerial and organizational careers will become an entrenched element of organizational life.

The present research findings have some application for organizations which have become sensitive to environmental changes and recognize the strategic importance of remaining as flexible and adaptable as possible. Organizations such as these understand that careers are much less likely to begin and end in the same field and in the same organization. These organizations will want to maximize the contribution of their employees during their job tenure while helping these employees map out their career objectives and work actively towards achieving their goals.

Recognizing that achieving these objectives may involve a change in career in the future, organizations can contribute to their employees' welfare by promoting and encouraging activities that will further the development of career resilience and self-efficacy in particular. Although the research did not set out specifically to demonstrate a relationship between career development and career motivation, some implications for career development activities do emerge from the findings. Namely, the findings also do not rule out the possibility of a link between career development and career motivation.

Organizations should help employees become more open and accepting of organizational changes. Career development activities can probably contribute to this effort; career planning may help employees view these changes as opportunities rather than threats. Given the results of this research, these activities should focus on increasing peoples' propensity to take risks, and feelings of self-efficacy.

To begin this process, organizations should consider a number of steps which are consistent with the career development activities typically found in self-designing organizations (Weick & Berlinger, 1989). For example, helping employees feel that they can handle any work problem probably increases both risk-taking tendencies and feelings of self-efficacy. This may involve creating a work environment which accommodates failure, recognizes accomplishments and innovation, and generally helps employees build self-confidence in their own abilities and skills. Promoting continuous skill development and upgrading is another critical component in creating a climate which fosters self-efficacy. An environment where employees are encouraged to find and to suggest new ways of solving work-related problems, and are then recognized for their efforts also builds feelings of self-efficacy. Career development programs in which employees are encouraged to become more aware of their own needs and to realistically recognize the opportunities and limitations of their present work situation can also be extremely helpful.

In conclusion, if present trends continue, the reality of career change will affect increasing numbers of managers and professionals in the future. Organizations concerned with social responsibility and the quality of working life have an

opportunity to act in partnership with their employees, creating an environment which will maximize employees' contributions and simultaneously prepare employees for the challenges they will face in the future.

The present research has attempted to document the environmental changes which form the background for this new partnership, and to explore specific relationships, providing organizations with a better understanding of the inputs which may facilitate the process of change. Although it is unlikely that much can be done to reduce the uncertainty individuals and organizations will face in the future, whatever can be done to increase adaptability and flexibility will undoubtedly make it easier to deal with the unexpected. This appears to be the challenge exemplified by career change, a challenge which has only recently become a more profound aspect of organizational life, but a challenge which, in the future, will also become a more expected and accepted component of organizational careers.

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## Appendix A

Career Orientations QuestionnaireSECTION A: CAREER ORIENTATION

The following section asks you to describe your attitudes, thoughts, and ideas about various aspects of your work and career in general. As you consider each question, think about the answer in relation to the job which is being or was already eliminated, as described in the cover letter. For this reason the past tense is used in the questions which follow. Using the scale which follows, circle the number beside each question which best corresponds to your opinion.

1	2	3	4	5	6	7
Not at all		To some extent		To a large extent		To a very great extent

For example, consider the following question:

To what extent do you think about going to Florida in February?

You might circle "1" (Not at all) if you are an avid skier and only think about travelling to Florida before or after the ski season. If you constantly think about travelling to Florida in February to escape the cold, you would circle "7".

PART 1

- |       |   |                             |
|-------|---|-----------------------------|
| I 1.  | In your job, to what extent ...<br>... were you able to adapt to changing circumstances?  | [1] [2] [3] [4] [5] [6] [7] |
| L 4   | ... did you look forward to working with new and different people?  | [1] [2] [3] [4] [5] [6] [7] |
| N16.  | ... did you reward yourself when you completed a project?   | [1] [2] [3] [4] [5] [6] [7] |
| L3.   | ... did you welcome job and organizational changes (e.g., new assignments)?   | [1] [2] [3] [4] [5] [6] [7] |
| N22.  | ... did you look for opportunities to interact with influential people in your organization?  | [1] [2] [3] [4] [5] [6] [7] |
| N17.  | ... did you take the time to do the best possible job on a task?  | [1] [2] [3] [4] [5] [6] [7] |
| N26.  | ... have you evaluated your job performance against personal standards rather than comparing it with what others do?                            | [1] [2] [3] [4] [5] [6] [7] |
| N18.  | ... did you set difficult but not impossible work goals?  | [1] [2] [3] [4] [5] [6] [7] |
| N21.  | ... have you made suggestions to others even though they may disagree?  | [1] [2] [3] [4] [5] [6] [7] |
| CA8.  | In your job, to what extent ...<br>... was it important to be able to create or build something that was entirely your own product or idea?     | [1] [2] [3] [4] [5] [6] [7] |
| CA16. | ... was it important to use your skills in building a new business enterprise?  | [1] [2] [3] [4] [5] [6] [7] |
| CA24. | ... was it true that you were motivated throughout your career by the number of ideas or products which you were directly involved in creating? | [1] [2] [3] [4] [5] [6] [7] |
| CA32. | ... was it true that inventing something on your own or creating a new idea were important elements of your career?                             | [1] [2] [3] [4] [5] [6] [7] |



CA40	was it true that you always wanted to start and build up a business of your own?	[1] [2] [3] [4] [5] [6] [7]
N25	have you outlined ways of accomplishing jobs without waiting for your boss?	[1] [2] [3] [4] [5] [6] [7]
CA3	was it important to pursue your own lifestyle and not be constrained by the rules of an organization?	[1] [2] [3] [4] [5] [6] [7]
CA11	was it important to have a career which was free from organizational restrictions?	[1] [2] [3] [4] [5] [6] [7]
CA19	was it important to have a career which permitted a maximum of freedom and autonomy to choose your own work, hours, etc?	[1] [2] [3] [4] [5] [6] [7]
CA27	was it true that during your career you were mainly concerned with your own sense of freedom and autonomy?	[1] [2] [3] [4] [5] [6] [7]
CA35	was it true that you did not want to be constrained by either an organization or the business world?	[1] [2] [3] [4] [5] [6] [7]
DO1	have you taken courses or workshops to expand your job related skills and expertise?	[1] [2] [3] [4] [5] [6] [7]
DO2	have you actively read books, periodicals, or other material to keep pace with advances in your profession or field?	[1] [2] [3] [4] [5] [6] [7]
DO3	was developing your job skills extremely important?	[1] [2] [3] [4] [5] [6] [7]
I2	were you willing to take risks (actions with uncertain outcomes)?	[1] [2] [3] [4] [5] [6] [7]
I4	could you have handled any work problem that came your way?	[1] [2] [3] [4] [5] [6] [7]
In your job, to what extent ...		
N19	... did you design better ways of doing your work?	[1] [2] [3] [4] [5] [6] [7]
N20	... would you have accepted a job assignment for which you had little or no expertise	[1] [2] [3] [4] [5] [6] [7]
CA4	... was it important to work in an organization which would provide security through guaranteed work, benefits, a good retirement program, etc.?	[1] [2] [3] [4] [5] [6] [7]
CA12	... was it important to work in an organization which would have given you long term stability?	[1] [2] [3] [4] [5] [6] [7]
CA36	... was it true that you preferred to work in an organization which provides tenure (life time employment)?	[1] [2] [3] [4] [5] [6] [7]
N14	... did you accept compliments rather than discount them?	[1] [2] [3] [4] [5] [6] [7]
N15	... did you believe other people when they told you that you had done a good job?	[1] [2] [3] [4] [5] [6] [7]
N24	... did you make and maintain friendships with people in different departments?	[1] [2] [3] [4] [5] [6] [7]
N23	... did you help co-workers with projects?	[1] [2] [3] [4] [5] [6] [7]

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## PART 2

In your job, to what extent ...		
I6/N1	... did you have clear, specific career goals?	[1] [2] [3] [4] [5] [6] [7]
N7	... did you take the initiative to discuss your career goals with your boss?	[1] [2] [3] [4] [5] [6] [7]

L7.	... did you have realistic career goals?	[1] [2] [3] [4] [5] [6] [7]
L8/N3.	... did you know your strengths (the things you do well)?	[1] [2] [3] [4] [5] [6] [7]
L9.	... did you know your weaknesses (the things you are not good at)?	[1] [2] [3] [4] [5] [6] [7]
L10.	... did you recognize what you could do well and could not do well?	[1] [2] [3] [4] [5] [6] [7]
N8.	... did you ask your boss to discuss your specific skill strengths and weaknesses?	[1] [2] [3] [4] [5] [6] [7]
N2.	... did you have a specific plan for achieving your career goal?	[1] [2] [3] [4] [5] [6] [7]
N6.	In your job, to what extent ... ... did you seek job assignments that you expected would help you attain your career goal?	[1] [2] [3] [4] [5] [6] [7]
N5.	... did you change or revise your career goals based on new information you received regarding yourself or your situation?	[1] [2] [3] [4] [5] [6] [7]
N4.	... did you ask co-workers you respect for feedback on your performance?	[1] [2] [3] [4] [5] [6] [7]
NC2.	... were you aware of your feelings towards your job (e.g fatigue, boredom, enthusiasm)?	[1] [2] [3] [4] [5] [6] [7]
NC4.	... did you actively seek changes in job responsibilities when you sensed a degree of boredom with your job?	[1] [2] [3] [4] [5] [6] [7]
NC3.	... did you believe that you needed to have regular job changes to advance your overall career prospects?	[1] [2] [3] [4] [5] [6] [7]
L17.	... did you see yourself as a professional and / or technical expert?	[1] [2] [3] [4] [5] [6] [7]
N11.	... were you involved in professional organizations related to your career goal?	[1] [2] [3] [4] [5] [6] [7]
L12/N9.	... did you spend your free time on activities that related to your job?	[1] [2] [3] [4] [5] [6] [7]
N10.	... did you take courses toward a job-related degree?	[1] [2] [3] [4] [5] [6] [7]
CA2.	... was it important for you to supervise, influence, lead and control people at all levels of the organization?	[1] [2] [3] [4] [5] [6] [7]
CA10.	... was it important for you to be in a position of influence and leadership?	[1] [2] [3] [4] [5] [6] [7]
CA18.	... was it important to rise to a position of general management?	[1] [2] [3] [4] [5] [6] [7]
CA26.	... was it true that you would have liked rising to a level of responsibility in an organization where your decisions really make a difference?	[1] [2] [3] [4] [5] [6] [7]
CA34.	... was it true that you would have liked to achieve a position which gave you the opportunity to combine analytical competence with supervision of people?	[1] [2] [3] [4] [5] [6] [7]
CA1.	... was it important to build your career around some specific functional or technical area of expertise?	[1] [2] [3] [4] [5] [6] [7]
CA9.	In your job, to what extent... ... was it important to remain in your specialized area as opposed to being promoted out of your area of expertise?	[1] [2] [3] [4] [5] [6] [7]
CA17.	... was it important to remain in your area of expertise rather than be promoted into general management?	[1] [2] [3] [4] [5] [6] [7]

CA25.	... was it true that you would have accepted a management position only if it was in your area of expertise?	[1] [2] [3] [4] [5] [6] [7]
CA33.	... was it true that you would have voluntarily left your company rather than be promoted out of your area of expertise or interest?	[1] [2] [3] [4] [5] [6] [7]
P25.	... did you want a promotion to a higher position at some point in the future?	[1] [2] [3] [4] [5] [6] [7]
P24.	... was it important for you to move up in the organization in the next few years?	[1] [2] [3] [4] [5] [6] [7]
L18.	... did you want to be recognized for your accomplishments?	[1] [2] [3] [4] [5] [6] [7]
L19.	... did you want your boss to recognize your accomplishments?	[1] [2] [3] [4] [5] [6] [7]
L20.	... did you want to be in a leadership position?	[1] [2] [3] [4] [5] [6] [7]
MA1.	... did it feel like a personal insult when someone criticized your career area?	[1] [2] [3] [4] [5] [6] [7]
MA2.	... were you very interested in what others thought about your profession or career area?	[1] [2] [3] [4] [5] [6] [7]
MA4.	... did it feel like a personal compliment when someone praised your profession or career area?	[1] [2] [3] [4] [5] [6] [7]
MA5.	... did you feel embarrassed if a story in the media criticized your profession or career area?	[1] [2] [3] [4] [5] [6] [7]
S1.	... were you surprised when you were notified that your job was to be eliminated?	[1] [2] [3] [4] [5] [6] [7]
L11.	... did you define yourself by your work?	[1] [2] [3] [4] [5] [6] [7]
L13.	... were you involved in your job?	[1] [2] [3] [4] [5] [6] [7]
L14.	... were you proud to work for your organization?	[1] [2] [3] [4] [5] [6] [7]
L15.	... did you believe that your success depended on the success of your organization?	[1] [2] [3] [4] [5] [6] [7]
	In your job, to what extent...	
L16.	... were you loyal to your employer?	[1] [2] [3] [4] [5] [6] [7]
N13.	... did you stay abreast of developments in your line of work?	[1] [2] [3] [4] [5] [6] [7]

### PART 3

Consider the following descriptions of your attitudes and feelings about your work. Indicate the degree of your agreement or disagreement with each statement by circling the appropriate number. In answering, think about your attitudes and feelings prior to being advised that your job was (or is) going to be eliminated.

K1.	The most important things that happen to me involve my job.	[1] [2] [3] [4] [5] [6] [7]
K2.	To me, my job is only a small part of who I am.	[1] [2] [3] [4] [5] [6] [7]
K3.	I am very much involved personally in my job.	[1] [2] [3] [4] [5] [6] [7]
K4.	I live, eat, and breathe my job.	[1] [2] [3] [4] [5] [6] [7]
K5.	Most of my interests are centered around my job.	[1] [2] [3] [4] [5] [6] [7]
K6.	I have very strong ties with my job which would be very difficult to break.	[1] [2] [3] [4] [5] [6] [7]

- |       |  |                             |
|-------|--|-----------------------------|
| K7.   | Usually I feel detached from my job.   | {1} {2} {3} {4} {5} {6} {7} |
| K8.   | Most of my personal life goals are job oriented.                                     | {1} {2} {3} {4} {5} {6} {7} |
| K9.   | I consider my job to be very central to my existence.                                | {1} {2} {3} {4} {5} {6} {7} |
| K10.  | I like to be absorbed in my job most of the time.                                    | {1} {2} {3} {4} {5} {6} {7} |
| SH3.  | If I can't do a job the first time, I keep trying until I can.                       | {1} {2} {3} {4} {5} {6} {7} |
| SH5.  | I give up on things before completing them.  | {1} {2} {3} {4} {5} {6} {7} |
| SH6.  | I avoid facing difficulties.   | {1} {2} {3} {4} {5} {6} {7} |
| SH7.  | If something looks too complicated, I will not even bother to try it.                | {1} {2} {3} {4} {5} {6} {7} |
| SH10. | When trying to learn something new, I soon give up if I am not initially successful. | {1} {2} {3} {4} {5} {6} {7} |
| SH13. | Failure just makes me try harder.  | {1} {2} {3} {4} {5} {6} {7} |
| SH15. | I am a self-reliant person.  | {1} {2} {3} {4} {5} {6} {7} |
| SH16. | I give up easily.  | {1} {2} {3} {4} {5} {6} {7} |

### SECTION B: INTENTIONS

In this section, you are asked to provide information about your **occupation, field, function and career**. Familiarize yourself with the following examples to understand how these terms are used.

**Career:** the sequence of jobs which you have followed up to now refers to your **past career**. Your **future career** refers to the sequence of jobs which you intend to follow from this point on.

**Occupation:** a word used to describe general categories or types of jobs people have. For example: manager, entrepreneur, teacher, scientist are considered occupations.

**Function:** a description of your work in terms of its content. For example, typical business functions are marketing, engineering, finance, human resources, etc.

**Field:** a description of a sector of the economy or part of an industry. Examples of fields are transportation, food, financial services, health and social services, public sector, etc.

If you have already found a new permanent job (vs. a temporary job while you continue searching) proceed immediately to Part 2 on page 8. Otherwise, complete Part 1 of this section beginning on the next page.

### PART 1

Select the number beside each question which best corresponds to your opinion.

Prior to your being advised that your job was (or is) going to be eliminated, to what extent did you think about finding a new job ...

- |        |                                       |                             |
|--------|---------------------------------------|-----------------------------|
| PTIN1. | ... with different duties?            | {1} {2} {3} {4} {5} {6} {7} |
| PTIN2. | ... requiring different skills?       | {1} {2} {3} {4} {5} {6} {7} |
| PTIN3. | ... in a different field?             | {1} {2} {3} {4} {5} {6} {7} |
| PTIN4. | ... in a different occupational area? | {1} {2} {3} {4} {5} {6} {7} |
| PTIN5. | ... in a different functional area?   | {1} {2} {3} {4} {5} {6} {7} |

PTIN6. ... in a different career area? [1] [2] [3] [4] [5] [6] [7]

As you think about your job search, to what extent do you intend to search for a new job ...

PRIN1. ... with different duties? [1] [2] [3] [4] [5] [6] [7]

PRIN2. ... requiring different skills? [1] [2] [3] [4] [5] [6] [7]

PRIN3. ... in a different field? [1] [2] [3] [4] [5] [6] [7]

PRIN4. ... in a different occupational area? [1] [2] [3] [4] [5] [6] [7]

PRIN5. ... in a different functional area? [1] [2] [3] [4] [5] [6] [7]

PRIN6. ... in a different career area? [1] [2] [3] [4] [5] [6] [7]

To what extent are you strongly attracted to a new job ...

AT1. ... with different duties? [1] [2] [3] [4] [5] [6] [7]

AT2. ... requiring different skills? [1] [2] [3] [4] [5] [6] [7]

AT3. ... in a different field? [1] [2] [3] [4] [5] [6] [7]

AT4. ... in a different occupational area? [1] [2] [3] [4] [5] [6] [7]

AT5. ... in a different functional area? [1] [2] [3] [4] [5] [6] [7]

AT6. ... in a different career area? [1] [2] [3] [4] [5] [6] [7]

Comparing your job prior to your being notified that it was (or is) going to be eliminated, with the job you would ideally like to have, to what extent is there a difference ...

DI1. ... in the nature of duties? [1] [2] [3] [4] [5] [6] [7]

DI2. ... in the skills required? [1] [2] [3] [4] [5] [6] [7]

DI3. ... in occupation? [1] [2] [3] [4] [5] [6] [7]

DI4. ... in profession? [1] [2] [3] [4] [5] [6] [7]

DI5. ... in field? [1] [2] [3] [4] [5] [6] [7]

DI6. ... in function? [1] [2] [3] [4] [5] [6] [7]

GO TO PART 3 (page 9)

## **PART 2**

Answer this section if you have already found permanent employment.

Comparing your work prior to your job transition and the permanent work you have found, to what extent is there a difference ...

CC1. ... in the nature of duties? [1] [2] [3] [4] [5] [6] [7]

CC2. ... in the skills required? [1] [2] [3] [4] [5] [6] [7]

CC3. ... in occupation? [1] [2] [3] [4] [5] [6] [7]

CC4. ... in profession? [1] [2] [3] [4] [5] [6] [7]

CC5. ... in field? [1] [2] [3] [4] [5] [6] [7]

CC6. ... in function? [1] [2] [3] [4] [5] [6] [7]

GO TO PART 3 BELOW

**PART 3**

In this section, you are asked to consider your personal situation and circumstances and how these affect your career plans. In answering these questions, think about your circumstances and personal situation prior to being notified that your job was (or is) going to be eliminated.

- To what extent ...
- V3. ... did personal finances prevent you from considering a career in an occupation other than your own? [1] [2] [3] [4] [5] [6] [7]
- V1. ... did your spouse's or significant other's (or mate's) work / career prevent you from considering a career in an occupation other than your own? (If you are not married or have no significant other (mate) circle 1 - Not at all.) [1] [2] [3] [4] [5] [6] [7]
- V2. ... did family responsibilities prevent you from considering a career in a field other than your own? [1] [2] [3] [4] [5] [6] [7]
- V4. ... did the job market prevent you from continuing with your present career? [1] [2] [3] [4] [5] [6] [7]
- GO TO SECTION C BELOW**

**SECTION C:**  
**Career Development**

Please answer this section in relation to your former organization if

- a) you are currently in outplacement,  
OR  
b) you have already accepted a new job offer,  
OR  
c) if you have already started a new job.

Please answer this section in relation to your present organization, if

- a) you have been notified that your present job will be eliminated and you have not yet left your job,  
OR  
b) you have been notified that your employer is planning to re-organize and you have not yet left your job.

This section asks you to describe some of your experiences with various activities related to career development. Some of these may be activities in which you participated recently or some time ago; they also may be activities in which you participated only once or several times.

Below are a series of statements which refer to your reactions to participating in career development activities. For each of the activities which follow, indicate the statement that most closely corresponds to your reactions at the time by writing the number in the space provided

- 0 = This activity was not available in my organization.  
1 = This activity was available but I did not participate.  
2 = Initially I felt reluctant, and I did not get much out of participating in this activity.  
3 = Initially I felt enthusiastic but I did not get much out of participating in this activity.  
4 = Initially I felt reluctant, but I got something out of participating in this activity.  
5 = Initially I felt enthusiastic and I got something out of participating in this activity.  
6 = Initially I felt reluctant, but I got a great deal out of participating in this activity.  
7 = Initially I felt enthusiastic, and I got a great deal out of participating in this activity.

For example, if the subject was sports and you were given the following activity:

\_\_\_ Tennis workshop

you would answer "3" if you had expected to learn something and it was not a good workshop. You would answer "6" if there was a great improvement in your game as a result of participating, (despite your initial feelings of reluctance about attending).

#### PART I

- |   |  |
|---|--|
| <p>___CP1 Participating in a career planning workshop sponsored by your organization.<br/>           [A career planning workshop is a group learning experience in which each participant gains insight into their personal career interests and information about career opportunities.]</p> | <p>___CP2. Completing a career workbook provided by your organization.<br/>           [Career workbooks are resource materials completed at one's own pace. They help employees find out more about their own career interests.]</p>   |
| <p>___CP3 Participating in a company sponsored pre-retirement workshops<br/>           [A pre-retirement workshop is a group learning experience which assists individuals in finding out more about social, economic, and health aspects of retirement.]</p>                                 | <p>___CP4. Participating in meetings with a representative from personnel or human resources to discuss your career development.</p>   |
| <p>___CP5. Participating in meetings with an outside counsellor, hired by your organization, to discuss your career development.</p>  | <p>___CP6. Participating in meetings with your immediate supervisor to discuss your career development.</p>  |
| <p>___CP7. Participating in a discussion with personnel or human resource staff to establish a career path for yourself?<br/>           [A career path is a series of proposed jobs in the organization leading to your ultimate career objective.]</p>                                       | <p>___CP8. Consulting information available in a career resource center maintained by your organization?<br/>           [A career resource center is usually a space in the organization in which information is kept about careers, job opportunities, and tips for changing jobs or looking for new jobs.]</p> |
- 0 = This activity was not available in my organization.  
1 = This activity was available but I did not participate.  
2 = Initially I felt reluctant, and I did not get much out of participating in this activity.  
3 = Initially I felt enthusiastic but I did not get much out of participating in this activity.  
4 = Initially I felt reluctant, but I got something out of participating in this activity.  
5 = Initially I felt enthusiastic and I got something out of participating in this activity.  
6 = Initially I felt reluctant, but I got a great deal out of participating in this activity.  
7 = Initially I felt enthusiastic, and I got a great deal out of participating in this activity.
- |   |  |
|---|--|
| <p>___CP9. Participating in a management assessment center?</p> | <p>___CP10. Completing a psychological test.</p> |
|---|--|

\_\_CP11. Participating in a job rotation program.  
[Job rotation is a system of assignment to jobs other than your own for the purpose of learning new skills.]

\_\_CP12. Following educational courses for which you received tuition reimbursement from your organization.

\_\_CP13. Developing a working relationship with a mentor, (i.e., a more senior individual who takes an active personal interest in your career and gives you advice)?

## PART 2

Using the scale which follows, place the number beside each question which best corresponds to your opinion.

0	1	2	3	4	5	6	7
Not	Not at all		Occasionally		Often		Frequently
Available							
In My							
Organization							

In considering your opinion, think about your job prior to being notified that it was (or is) going to be eliminated

\_\_CP14. Did you consult posted job vacancies?

\_\_CP15. If job vacancies were not posted in your organization, did you request this information from your employer?

\_\_CP16. Did you provide your organization with a listing of your job skills which could be used to identify your suitability for job openings?

\_\_CP17. If not asked, did you offer this information to your (former) employer?

\_\_CP18. Did you inquire whether your name was included in the organization's **promotability forecasts**?  
[A **promotability forecast** is a document prepared by the organization to indicate which employees are potential candidates for various types of positions expected to open in the future.]

\_\_CP19. Did you inquire whether your name was included in **replacement / succession plans**?  
[**Replacement / succession plans** are written plans that indicate who would replace a specific individual in a specific job should that opening arise for any reason.]

## PART 2

Using the scale which follows, place the number beside each question which best corresponds to your opinion.

1	2	3	4	5	6	7
Not at all		To		To a		To a
		some extent		large		very
				extent		great
						extent

To what extent did your organization ...

\_\_CM1. ... encourage participation in career planning workshops?

\_\_CM2. ... encourage completing a career workbook?

\_\_CM3. ... encourage participation in company sponsored pre-retirement workshops?

\_\_CM4. ... encourage employees to meet about their careers with personnel or human resources representatives?

\_\_CM5. ... encourage employees to discuss their careers with outside counsellors hired by the company?

\_\_CM6. ... encourage employees to discuss their careers with their immediate supervisor?

\_\_CM7. ... provide information about job opportunities by posting notices of job vacancies?

\_\_CM8. ... maintain up-to-date information about employee skills?

\_\_CM9. ... maintain information about employee career paths?

\_\_CM10. ... encourage employees to use a career resource center?



- ☐ CM11. ... rely on management assessment centers to assist in making decisions about employees' careers?
- ☐ CM12. ... maintain information about employee promotability?
- ☐ CM13. ... maintain written replacement / succession plans?
- ☐ CM14. ... collect this type of information on employees?
- ☐ CM15. ... encourage job rotation as a way of preparing employees for possible future job changes?
- ☐ CM16. ... promote participation in educational courses for which employees' costs were reimbursed?
- ☐ CM17. ... encourage employees to develop working relationships with a mentor?



**SECTION E: CONSENT FORM**

An important aspect of this research project has to do with comparing outplacement processes (for those respondents who participated in outplacement), past work experience and employee's current career decisions and intentions. In order to conduct a complete analysis, it is necessary to examine information about your participation in career planning, career management, assessment center or any outplacement experiences contained in company and outplacement files. The Concordia University research team will keep all information strictly confidential. Any presentation of results will only indicate general (aggregated) response patterns which will not allow specific respondents to be identified. Please indicate your consent to the examination of the additional information contained in your (pre-transition) company or outplacement files by signing below:

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
PRINT NAME IN BLOCK LETTERS

PRE-JOB-TRANSITION COMPANY: CN AIR CANADA

OTHER:(please print company name)\_\_\_\_\_

**SECTION F: FOLLOW-UP**

If you would agree to be considered for a personal interview, or if you would like to participate in a possible follow up survey in a few years, or if you would like to receive a complimentary summary of the results of this survey place a check in the appropriate space and provide the address information requested.

☐ Yes I would be willing to participate in a personal interview.

☐ Yes I would be willing to participate in a possible follow up survey.

☐ Yes I would be interested in receiving a complimentary copy of the results.

FAMILY NAME: \_\_\_\_\_

FIRST NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TELEPHONE: AREA CODE ( ) NO. \_\_\_\_-\_\_\_\_

NO. \_\_\_\_\_ STREET \_\_\_\_\_

CITY \_\_\_\_\_

POSTAL CODE \_\_\_\_\_

PLEASE RETURN THE QUESTIONNAIRE IN THE STAMPED SELF-ADDRESSED ENVELOPE TODAY.  
THANK YOU FOR YOUR CO-OPERATION

## Appendix B

London (1991) Career Motivation Questionnaire

1. Were you able to adapt to changing circumstances?
2. Were you willing to take risks (actions with uncertain outcomes)?
3. Did you welcome job and organizational changes (e.g., new assignments)?
4. Could you have handled any work problem that came your way?
5. Did you look forward to working with new and different people?
6. Did you have clear, specific career goals?
7. Did you have realistic career goals?
8. Did you know your strengths (the things you do well)?
9. Did you know your weaknesses (the things you are not good at)?
10. Did you recognize what you could do well and could not do well?
11. Did you define yourself by your work?
12. Did you work as hard as you could, even if it meant frequently working long days and weekends?
13. Were you loyal to your employer?
14. Were you proud to work for your organization?
15. Did you believe that your success depended on the success of your organization?
16. Were you involved in your job?
17. Did you see yourself as a professional and / or technical expert?
18. Did you want to be recognized for your accomplishments?
19. Did you want your boss to recognize your accomplishments?
20. Did you want to be in a leadership position?

## Appendix C

Noe et al. (1990) Career Motivation Questionnaire

1. Did you have clear, specific career goals?
2. Did you have a specific plan for achieving your career goal?
3. Did you know your strengths (the things you do well)?
4. Did you ask co-workers you respect for feedback on your performance?
5. Did you change or revise your career goals based on new information you received regarding yourself or your situation?
6. Did you seek job assignments that you expected would help you attain your career goal?
7. Did you take the initiative to discuss your career goals with your boss?
8. Did you ask your boss to discuss your specific skill strengths and weaknesses?
9. Did you spend your free time on activities that related to your job?
10. Did you take courses toward a job-related degree?
11. Were you involved in professional organizations related to your career goal?
12. Have you kept current on company affairs?
13. Did you stay abreast of developments in your line of work?
14. Did you accept compliments rather than discount them?
15. Did you believe other people when they told you that you had done a good job?
16. Did you reward yourself when you completed a project?
17. Did you take the time to do the best possible job on a task?
18. Did you set difficult but not impossible work goals?
19. Did you design better ways of doing your work?
20. Would you have accepted a job assignment for which you had little or no expertise.
21. Have you made suggestions to others even though they may disagree?
22. Did you look for opportunities to interact with influential people in your organization?
23. Did you help co-workers with projects?
24. Did you make and maintain friendships with people in different departments?
25. Have you outlined ways of accomplishing jobs without waiting for your boss?
26. Have you evaluated your job performance against personal standards rather than comparing it with what others do?

## Appendix D

Correlation Matrix Input for Career Resilience, Career Insight, and Career IdentityMeasurement Models (n=94)

	1	2	3	4	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1																			
2	.48																		
3	.18	.34																	
4	.31	.34	.21																
5	.25	.25	.03	.70															
6	.46	.34	.18	.39	.38														
7	.54	.49	.14	.28	.37	.39													
8	.15	-.01	.22	.26	.19	.20	.12												
9	.23	.26	.13	.21	.22	.42	.31	-.02											
10	.50	.54	.23	.37	.38	.35	.45	.28	.28										
11	.12	.25	.24	.18	.09	.03	.23	.09	.25	.25									
12	-.14	.00	.20	.19	.04	-.06	-.06	.17	-.12	-.05	-.01								
13	.51	.52	.00	.28	.38	.37	.73	.14	.43	.44	.31	-.04							
14	.50	.38	.02	.37	.45	.39	.60	.11	.40	.39	.29	-.09	.54						
15	.32	.36	.03	.22	.10	.23	.52	-.11	.16	.25	.31	.05	.35	.41					
16	.36	.36	.02	.11	.20	.31	.56	-.08	.28	.22	.18	.12	.57	.31	.34				
17	.15	.02	.13	.02	.09	.01	.29	.25	.26	.18	.07	.05	.18	.20	-.08	-.02			
18	.14	.28	-.01	.13	.27	.13	.23	.05	.01	.10	-.26	-.04	.16	.15	.11	.18	.01		
19	.42	.47	.21	.37	.27	.25	.45	.20	.27	.45	.11	-.09	.33	.38	.23	.27	.14	.41	
20	.25	.21	.05	.16	.37	.12	.27	.14	.25	.25	.09	.01	.46	.33	-.08	.20	.24	.04	.20

## Variables

1. RESILIENCE  
2. RISK-TAKING  
3. SELF-EFFICACY  
4. INSIGHT  
5. OUTCOME GOAL  
CLARITY

6. RELIANCE ON FEEDBACK  
7. RECOGNITION  
8. ORGANIZATIONAL  
IDENTIFICATION  
9. CAREER IDENTITY  
10. CREATIVITY

11. AUTONOMY  
12. SECURITY  
13. MANAGERIAL  
COMPETENCE  
14. DEVELOPMENT  
ORIENTATION  
15. NEED FOR CHANGE

16. UPWARD MOBILITY  
17. CAREER IDENTITY  
18. PERSEVERANCE  
19. PERSISTENCE  
20. JOB INVOLVEMENT

## Appendix E

Correlation Matrix for Career Development/Career Change Intentions StructuralEquations and Career Change Intentions Measurement Model (n=76)

	Individual Career Path Activities	Opportunities Assessment	Organiza- tional Information Gathering Activities	Organiza- tional Career Path Development	Present Intentions	Pre- elimination Intentions	Attractive- ness of Change	Ideal Differences
Individual Career Path Activities	1.00							
Opportu- ties Assessment	.14	1.00						
Organiza- tional Information Gathering Activities	.09	.14	1.00					
Organiza- tional Career Path Development	.52	.05	.28	1.00				
Present Intentions	.21	.01	-.08	.17	1.00			
Pre- elimination Intentions	.14	-.07	.01	.10	.58	1.00		
Attractive- ness of Change	.14	-.002	-.08	.10	.85	.64	1.00	
Ideal Differences	.12	-.06	.05	.16	.70	.66	.70	1.00

## Appendix F

Correlation Matrix for Career Planning/Career Management Measurement Model(n=89)

	Individual Career Path Activities	Opportu- nities Assessment	Organiza- tional Information Gathering Activities	Organiza- tional Career Path Development
Individual Career Path Activities	1.00			
Opportu- ties Assessment	.25	1.00		
Organiza- tional Information Gathering Activities	.24	.30	1.00	
Organiza- tional Career Path Development	.58	.20	.36	1.00



## Appendix G

Correlation Matrix for Career-Motivation/Career Change Structural Equations (n=76)

	1	2	3	4	5	6	7	8	9	10	11	12
1	1.00											
2	.41	1.00										
3	.20	.38	1.00									
4	.24	.38	.27	1.00								
5	.28	.37	.14	.68	1.00							
6	.45	.34	.21	.42	.46	1.00						
7	.52	.46	.13	.27	.43	.32	1.00					
8	.19	-.02	.24	.23	.20	.22	.15	1.00				
9	.23	.27	.13	.18	.23	.35	.30	-.03	1.00			
10	.16	.08	-.09	.09	.07	.15	.15	.03	-.06	1.00		
11	.47	.52	.28	.37	.47	.37	.46	.41	.28	.04	1.00	
12	.09	.29	.20	.14	.04	-.01	.23	.15	.22	-.10	.28	1.00
13	-.13	.11	.19	.23	.02	-.06	-.07	.19	-.13	.01	.08	-.05
14	.49	.55	.04	.21	.36	.30	.73	.16	.39	.06	.49	.31
15	.52	.41	.08	.32	.43	.35	.60	.09	.38	.28	.47	.28
16	.29	.40	.03	.17	.07	.22	.57	-.13	.19	.01	.27	.29
17	.33	.36	-.05	.07	.22	.23	.52	-.06	.26	.15	.26	.12
18	.16	.01	.22	.01	.07	-.08	.28	.29	.24	.08	.21	.09
19	.15	.28	.02	.13	.33	.13	.23	-.01	.01	.02	.10	-.27
20	.33	.42	.17	.39	.37	.28	.48	.20	.35	.02	.48	.14
21	.21	.16	.12	.12	.40	.09	.24	.16	.30	.07	.30	.13
22	.15	.05	.18	-.21	-.08	.12	.001	-.16	-.08	-.16	.04	-.02
23	.16	.11	.12	-.14	-.04	.03	.12	-.19	.04	-.15	.09	.12
24	.25	.15	.20	-.11	.02	.16	.09	-.24	.06	-.07	.002	-.07
25	.13	.04	.28	-.09	-.08	.18	-.05	-.14	.02	-.17	.06	.07

appendix continues

	13	14	15	16	17	18	19	20	21	22	23	24	25
13	1.00												
14	-.04	1.00											
15	-.12	.48	1.00										
16	.04	.38	.41	1.00									
17	-.16	.54	.26	.37	1.00								
18	.04	.13	.19	-.08	-.05	1.00							
19	-.01	.15	.14	.11	.19	.002	1.00						
20	-.07	.35	.42	.22	.30	.18	.44	1.00					
21	.01	.41	.30	-.09	.18	.22	.04	.16	1.00				
22	-.04	-.12	-.01	.11	-.09	-.02	-.02	-.07	-.15	1.00			
23	-.07	.07	.01	.31	.07	.06	-.07	-.03	-.05	.58	1.00		
24	-.15	.02	.03	.15	.08	-.07	.09	.01	-.09	.85	.64	1.00	
25	.02	-.08	-.05	.18	.01	-.03	-.10	-.12	-.15	.70	.66	.70	1.00

1. RESILIENCE  
2. RISK-TAKING  
3. SELF-EFFICACY  
4. INSIGHT  
5. OUTCOME GOAL  
CLARITY

6. RELIANCE ON  
FEEDBACK  
7. RECOGNITION  
8. ORGANIZATIONAL  
IDENTIFICATION  
9. CAREER IDENTITY  
10. VOLITION

11. CREATIVITY  
12. AUTONOMY  
13. SECURITY  
14. MANAGERIAL  
COMPETENCE  
15. DEVELOPMENT  
ORIENTATION

16. NEED FOR CHANGE  
17. UPWARD MOBILITY  
18. CAREER IDENTITY  
19. PERSEVERANCE  
20. PERSISTENCE

21. JOB INVOLVEMENT  
22. PRESENT  
INTENTIONS  
23. PRE-ELIMINATION  
INTENTIONS  
24. ATTRACTIVENESS  
OF CHANGE  
25. IDEAL DIFFERENCES

## Appendix H

Selected Career Motivation Questionnaire ItemsLondon Resilience Items

- L3. Did you welcome job and organizational changes?
- L2. Were you willing to take risks (actions with uncertain outcomes)?
- L4. Could you have handled any work problem that came your way?
- L5. Did you look forward to working with new and different people?
- L1. Were you able to adapt to changing circumstances?

Noe et al. Resilience Items

- N21 Have you made suggestions to others even though they may disagree?
- N24 Did you make and maintain friendships with people in different departments?
- N19 Did you design better ways of doing your work?
- N25 Have you outlined ways of accomplishing jobs without waiting for your boss?
- N14 Did you accept compliments rather than discount them?
- N15 Did you believe other people when they told you that you had done a good job?
- N26 Have you evaluated your job performance against personal standards rather than comparing it with what others do?
- N17 Did you take the time to do the best possible job on a task?
- N22 Did you look for opportunities to interact with influential people?

London Insight Items

- L9 Did you know your weaknesses (the things you are not good at)?

- L10 Did you recognize what you could do well and could not do well?
- L8 Did you know your strengths (the things you do well)?
- L6 Did you have clear specific goals?
- L7 Did you have realistic goals?

Noe et al. Insight Items

- N1 Did you have clear specific career goals?
- N2 Did you have a specific plan for achieving your career goal?

London Identity Items

- L18 Did you want to be recognized for your accomplishments?
- L19 Did you want your boss to recognize your accomplishments?
- L20 Did you want to be in a leadership position?
- L17 Did you see yourself as a professional and / or technical expert?

Noe et al. Identity Items

- N11 Were you involved in professional organizations related to your career goal?
  - N10 Did you take courses toward a job-related degree?
  - N9 Did you spend your free time on activities that related to your job?
- (Formerly Noe et al. insight items)
- N4 Did you ask co-workers you respect for feedback on your performance?
  - N8 Did you ask your boss to discuss your specific skill strengths and weaknesses?

- N5 Did you change or revise your career goals based on new information you received regarding yourself or your situation?

Prince Items

- P25. Did you want a promotion to a higher position at some point in the future?
- P24. Was it important for you to move up in the organization in the next few years?

Kanungo Items

- K1. The most important things that happen to me involve my job.
- K2. To me, my job is only a small part of who I am.
- K3. I am very much involved personally in my job.
- K4. I live, eat, and breathe my job.
- K5. Most of my interests are centered around my job.
- K6. I have very strong ties with my job which would be very difficult to break.
- K8. Most of my personal life goals are job oriented.
- K9. I consider my job to be very central to my existence.
- K10. I like to be absorbed in my job most of the time.