

THE RELATIONSHIP BETWEEN CAREER THINKING AND SALUTOGENIC  
FUNCTIONING

by

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## SUMMARY

Career decision-making is complex and dynamic. Cognitive factors that influence career choice are of interest to researchers. In particular, negative career thoughts and career self-efficacy have been found to influence career decidedness. Similarly, cognitive expectancy has been linked to career decidedness through the locus of control construct. Where locus of control has demonstrated salutogenic stress reducing properties in health literature it has also been widely used in career research. Other cognitive expectancies could contribute to the literature pertaining to career choice. In particular, sense of coherence has begun to make inroads to career psychology.

Where career decision-making research has been universally conducted with student populations, little has been conducted with adults. Because of developmental factors, student based research may not readily generalize to non-student adult based populations. Researching the career indecision of non-student adults could broaden the literature. Establishing the relationship between career thinking (negative career thoughts & career decision-making self-efficacy) and salutogenic functioning (locus of control & sense of coherence) would provide initial research into the nature of career indecision in non-student adults.

A survey design assessed the relationship between career thinking and salutogenic functioning in an adult, career decision-making milieu. Two hundred and twenty five unemployed career undecided adults were sampled from community based career exploration programs. Correlative and regression analysis were conducted on career thinking and salutogenic functioning measures.

Data analysis indicated statistically significant findings between career thinking and salutogenic functioning. In particular, negative career thoughts, career decision making self-efficacy, locus of control and sense of coherence were all found to have significant correlations between each other. Career thinking and

sense of coherence strongly correlated with level of education, while locus of control negatively correlated with age. Regression analysis indicated that sense of coherence demonstrated stronger relationships to career thoughts than locus of control. Further, sense of coherence significantly predicted negative career thoughts and career decision-making self-efficacy. Locus of control maintained a weak and non-significant predictive relationship with negative career thoughts or career self-efficacy. Results suggest that sense of coherence may contribute to further understanding of career decidedness in adults. Implications for Industrial/Organisational psychology are discussed.

**Key Terms:**

Career decision-making, career indecision, salutogenesis, negative career thoughts, career decision-making self-efficacy, cognitive expectancy, locus of control, sense of coherence, adults, unemployment.

## **CHAPTER 1            SCIENTIFIC OVERVIEW OF THE RESEARCH**

This thesis explored the relationship between career thinking and salutogenic functioning within a career decision-making milieu. The aim of the present chapter is to provide a scientific overview of the research. As such, a description of the background and motivation for the study frames the current thesis. Similarly, a problem statement and aims motivates how the research addresses pertinent issues within Industrial/ Organisational psychology. The chapter also provides an overview of the paradigm perspectives, research design and research methods including literature review, empirical study and conclusions and recommendations. A chapter summary is also provided.

### **1.1    BACKGROUND AND MOTIVATION FOR THE STUDY**

Globalization and international competition mean that organizations have to become increasingly malleable to survive. Often this means corporate downsizing (Rothmann & Coetzee, 2003). The influence of global competition, significant advances in technology and biotechnology, and less reliance on natural resources have all contributed to the fourth consecutive decade in Canadian history with a rising level of unemployment (Foot, 1998). The resulting level of unemployment has caused numbers of adult Canadians to face increased insecurity about their futures. Hanish (1999) noted in a review of literature, that unemployed adults typically demonstrate increases in stress, depression and anxiety. Conversely, she noted concomitant decreases in self-esteem, perceptions of competence and personal mastery are typical for the unemployed adult. How an individual navigates the stress of unemployment toward meaningful work largely influences their career decision-making (Amundsen & Borgan, 1996; Sulsky & Smith, 2005; Vinokur & Schul, 2002). Cognitive factors that mediate the stress of unemployment and influence career decision-making are of interest to career psychologists.

Vocational psychology has only begun to focus on understanding intra-psychic processes and cognitive variables that affect career decision-making in the past decade (Lent & Hackett, 1994). Historically, interest in cognitive constructs within

career psychology has been limited in the literature (Hackett, 1995). Savickas and Lent (1994) have noted however, that a proliferation of constructs has entered vocational psychology through developmental and organisational psychology. As these constructs emigrate from one field of psychology to another they add new information to vocational theories and literature. Emerging cognitive constructs may be helpful in enhancing our understanding of career decision-making in adults (Borgan, 1991) and may assist in developing “conceptual scaffolding” that may lessen the gaps that exist in vocational theory (Lent, Brown & Hackett, 1996). Similarly, these evolving cognitive constructs may advance our understanding not simply of how one copes with the stress of unemployment, but also how career decision-making is aided or impeded by them (Savickas, 2001). Research into the relationships between career thinking and salutogenic functioning may provide further guidance in understanding the nature and impediments to career decision-making.

## **1.2 PROBLEM STATEMENT**

Adult career decision-making is multifaceted and interactive (Savickas, 1995). Where the extant literature has sought to explore factors that promote and impede career choice, contemporary research has focused upon cognitive factors that influence career decidedness (Borgan, 1991; Keller, Biggs & Gysbers, 1982; Lustig & Strauser, 2000; Saunders, Peterson, Sampson & Reardon, 2000). In particular, career thinking has demonstrated such influence (Sampson, Reardon, Peterson & Lenz, 2004). Factors such as negative career thoughts and career decision-making self-efficacy (CDMSE) have emerged as cognitive factors that have demonstrated influence over career decidedness from a micro-interactive level. Specifically, high levels of negative career thoughts and low levels of career decision-making self-efficacy have been empirically linked to career indecision (Austin, Wagner & Dahl, 2003; 2004; Bergeron & Romano, 1994; Taylor & Betz, 1983; Reed, Lenz, Reardon & Leirer, 2000; Saunders, 1997, Saunders, Peterson, Sampson & Reardon, 2000; Taylor & Popma, 1990). Though these constructs maintain distinct bodies of research, neither has been researched together. As such, a relationship between them has not been established (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b).

Another cognitive factor related to career indecision is locus of control (LOC). Within the scientific literature, locus of control has demonstrated a link to both negative career thoughts and career decision-making self-efficacy and career indecision. In particular, external locus of control has related to high negative career thoughts and low career decision-making self-efficacy in career undecided student populations (Brown, Reedy, Fountain, Johnson & Dichiser, 2000; Luzzo, 1995; Luzzo, Funk & Strang, 1996; Saunders, 1997; Saunders, Peterson, Sampson & Reardon, 2000; Taylor & Popma, 1990). As a cognitive expectancy, locus of control has been extensively utilized in career decidedness research. Other cognitive expectancy factors could add to the career choice literature. One such cognitive expectancy is sense of coherence (SOC). Emerging from positive psychology, this salutogenic factor has recently contributed to career development research. As such, it has demonstrated a relationship to negative career thinking in student populations and shown promise in broadening the literature on career decidedness (Lustig & Strauser, 2002).

Within the extant career decision-making literature the majority of research has been conducted with college students (Gordon, 1998; McWhirtner, Rasheed & Crothers, 2000). This trend is problematic. Since students represent a young sampling frame, developmental life stages and roles may influence their career choice (Hall, 1992; Patton & Creed, 2001; Savickas, 1994; Super, 1983; Super, Savickas & Super, 1996). This being the case, younger student research lacks the developmental integration to represent most adults (Austin, Wagner & Dahl, 2003; 2004). Non-student and older adults generally make career decisions in life transitions such as unemployment (Amundson & Borgan, 1996). This can be stressful to most adults (Hanish, 1999; Osberg, Wien & Grude, 1995; Vinokur & Schul, 2002). Cognitive factors that buffer this stress can influence the career choice resulting in various degrees of career decidedness. Within career decidedness literature there has been virtually no research surveying non-student adult populations (Gordon, 1998, McWhirtner, Rasheed & Crothers, 2000). As such, the career decision-making problem space for non-student adults is uncharted. Exploratory adult based research pertaining to cognitive factors would broaden the understanding of career decidedness in adults and be of value to the field of Industrial/Organisational psychology.

Within stress related literature locus of control and sense of coherence have demonstrated their stress mediating effects (Berg & Hallberg, 1999; Cilliers 2002; Diraz, Ortlepp & Greyling, 2003; Kilpatrick, Dubin & Marcotte, 1974; Hedov, Annernen & Wikblad, 2002; Hintermair, 2004; Kalimo, Pahkin & Mutanen, 2002; Kalimo & Vuori, 1990; Van Der Merwe & Greef, 2003; Waters & Moore, 2002). As salutogenic factors, these constructs influence how an individual appraises the world and responds toward it. As unemployed adults make career decisions, these salutogenic factors may relate to, and influence, career decision-making cognitions and behaviors. Whereas locus of control has been linked to career-thinking variables (negative career thoughts and career decision-making self-efficacy) and vocational uncertainty, sense of coherence has not. Though seminal research has linked sense of coherence to negative career thoughts in students (Lustig & Strauser, 2002), no research has tied sense of coherence with positive career thoughts or locus of control within career choice literature. Similarly, no research currently exists linking sense of coherence with locus of control or positive and negative career thoughts within the non-student adult career decision-making framework. Further adult based research pertaining to career thinking (negative career thoughts and career decision-making self-efficacy) and salutogenic functioning (locus of control and sense of coherence) may expand our understanding of the career decision-making in adults. With this in mind the following questions are evident:

- 1 What are career decision-making and salutogenic coping as metatheoretical concepts?
- 2 What is career thinking, vis-à-vis negative career thoughts and career decision-making self-efficacy, as constructs of career decision-making?
- 3 What are the locus of control and sense of coherence as constructs of salutogenic functioning?
- 4 What is the hypothetical relationship between career thinking, vis-à-vis negative career thoughts and career decision-making self-efficacy, and

salutogenic functioning, vis-à-vis and locus of control and sense of coherence?

- 5 What are the psychometric relationships between career thinking, vis-à-vis negative career thoughts and career decision-making self-efficacy, and salutogenic functioning, vis-à-vis locus of control and sense of coherence?
- 6 What are the implications of these findings for organisational psychology and further research?

The present thesis is significant in that it adds to the body of Industrial/Organisational psychology through research pertaining to career decision-making. In particular, the current thesis explored the career indecision problem space (Savickas, 1995) of non-student adults. This point is meaningful. Where the literature has criticized career development research for its exclusive use of student based samples (Gordon, 1998) and for lacking developmental integration (Austin, Wagner & Dahl, 2004) the present thesis has addressed these issues. In particular, it addressed suggestions from the extant literature that career decision-making research utilize community based research sites (Reed, Lenz, Reardon & Leierer, 2000) and non-student adult subjects (Austin, Wagner & Dahl, 2003; 2004; Luzzo, Funk & Strang, 1996; Sampson, Peterson, Lenz, Reardon & Saunders, 1996b; Taylor & Popma, 1990) to explore career decidedness. Moreover, it contributed to understanding career indecision of adults.

Further, research explores career indecision with non-student adults during a period of stressful unemployment. That unemployment is stressful (Feather, 1997; Hanish, 1999; Osberg, Wien & Grude, 1995) and affects career exploration (Amundsen & Borgan, 1996; Vinokur & Schul, 2002) is pertinent to the present research. In particular, this thesis explores the relationships of cognitive career factors and stress mediating factors within the career undecided adult. The relationships between these factors is new to, and significant to, career development literature. As such, research explored career indecision in adults. Results are thus meaningful to the super ordinate domain of I/O psychology



(Kuther, 2005; Martin, 2001). The implication of such research is relevant to further investigation of adult career development.

### **1.3 AIMS OF THE RESEARCH**

The general aim of this research is to investigate the relationship between career thinking and salutogenic functioning.

The aims of the literature review are as follows:

- \* To conceptualize career decision making and salutogenic coping as metatheoretical concepts.
- \* To conceptualize career thinking, vis-à-vis negative career thoughts and career decision-making self-efficacy (CDMSE) as constructs of career decision-making.
- \* To conceptualize internal locus of control (LOC) and sense of coherence (SOC) as constructs of salutogenic functioning.
- \* To integrate the literature on negative career thoughts, career decision-making self-efficacy and internal locus of control and sense of coherence in order to formulate a hypothesis for the empirical study.

The aims of the empirical study are as follows:

- \* To determine the psychometric relationship between career thinking, vis-à-vis negative career thoughts & career decision-making self-efficacy, and salutogenic functioning, vis-à-vis locus of control & sense of coherence, in career undecided adults.
- \* To formulate recommendations from these research findings, pertaining to Industrial and organisational psychology and further research.

### **1.4 PARADIGM PERSPECTIVE**

The paradigm perspective delimits the scope of research. Discussion of the relevant subdomains of I/O psychology and applicable psychological paradigms

frames the research. Discussion of metatheoretical concepts and relevant theories focus the thesis towards the applicable constructs. This section also frames the central research question and poses the methodological convictions for the thesis.

#### **1.4.1 The disciplinary relationship**

Industrial/Organisational (I/O) Psychology is an applied field of psychology dedicated to the understanding of organizations and employees (Argyris & Shon, 1996; Martin, 2001). As such, I/O psychologists are interested in every aspect of organisational functioning and work place behavior. I/O psychology draws heavily upon theory and practice to inform its research endeavors. Specifically, it draws from research areas such as psychometric theory and testing, cognitive psychology, sensation and perception, and personality theory to inform its field (Kline, 1996).

Where I/O psychology has several foci, two primary areas of interest are career development and employee stress management. Career development primarily addresses the needs of workers to navigate the complicated process of organisational integration. I/O psychology's interest in work analysis, recruitment, and training and development assist organizations in maintaining optimal personnel (Keller, 1997; Lowenberg & Conrad, 1998; Schultz & Schultz, 1998; Spector, 1996). Similarly, career development assists individuals to identify individual capacities and preferences in order to maximize organisational "fit" (Allen, Bobocel, Brown, Day, Latham, Latham, Saks, Sulsky & Zweig, 2005).

I/O psychology is also interested in employee health and wellness (Barling & Griffiths, 2003; Wright & Doherty, 1998). In particular, workplace stress management is a primary research and training ground to promote organisational health (Quick & Tetrick, 2003). Identifying workplace stressors, alleviating those stressors and promoting stress resistance in employees universally advances organisational health (Grandey, 2000; Quick, Quick, Nelson & Hurrell, 1997).

## 1.4.2 The cognitive paradigm

A major premise of the cognitive paradigm is that an individual's behaviors and feelings are largely derived from one's cognitions. Conversely, an individual's behavior can influence one's feelings and cognitions (Beck & Weishaar, 2000; Lam & Gale, 2004). Cognitions are viewed as pictorial or verbal events in an individual's stream of consciousness (Sacco & Beck, 1995; Sampson, Peterson, Lenz, Reardon & Saunders, 1996b). Cognitions are formed through an individual's past experiences in the form of schemata (Beck, 1995). Schemata are simply ways of "seeing" the world (Young, 1999). Used to filter and screen incoming stimuli, schemata assist individuals in making sense of their inter, intra, and super personal environments. In a similar fashion, schemas positively and negatively influence individual feelings and thoughts about life events and stressors (Beck & Weishaar, 2000; Carver, 1998; Lam & Cheng, 2001). Negative thought patterns often draw an individual's resources away from reality-based problem solving, fixating them on their lack of internal and external resources (Carver & Scheier, 2002; Lam & Cheng, 2001).

The current study holds the following assumptions:

- \* Behavior is not simply prompted by thoughts or feelings but rather, each is affected by the other. Thoughts, feelings, behaviors, biology, and environment each have the capacity to influence the other (Beck & Weishaar, 2000; Dattilio & Padesky, 1990; Peterson & Steen, 2002).
- \* People are able to change ineffective cognitions and behaviors by learning and implementing new cognitions and behaviors (Free, Oei & Appleton, 1998; Maddux, 2002; Snyder & Lopez, 2002).
- \* People are able to meta-cognate about, and control their affect and behaviors (Beck & Weishaar, 2002; Sampson, Peterson, Lenz, Reardon & Saunders, 1996b).

### **1.4.3 The salutogenic paradigm**

A major focus of the salutogenic paradigm is to understand how individuals stay healthy in the face of stressors rather than why they get sick (Antonovsky, 1979; Korotkov, 1998; Strümpfer, 1990a; 1990b; 1995). The salutogenic paradigm maintains that “healthy” individuals invariably hold “stress buffering” personality characteristics (Antonovsky, 1987). As such, individuals with greater salutogenic functioning navigate life stressors with fewer pathogenic effects.

The current study holds the following assumptions:

- \* Rather than homeostasis governing human nature, man is constantly in a state of dynamic heterostatic disequilibrium governed by entropy and senescence (Antonovsky, 1979; Korotkov, 1998; Strümpfer, 1990a).
- \* Salutogenic orientation views stressors as salutary, neutral, or pathogenic (Antonovsky, 1979; Strümpfer, 1990a).
- \* The focus is on factors that facilitate movement toward health (Korotkov, 1998; Strümpfer, 1995).
- \* The focus is on how individuals manage to stay well despite stress (Antonovsky, 1979; 1987; 1991; Korotkov, 1998; Kraft, Mussman, Rimann, Udris & Muheim, 1993).

### **1.4.4 The functionalistic paradigm**

The major premise of the functionalistic paradigm is that relationships are rational, concrete and measurable through scientific analysis (Burrell & Morgan, 1979). As such, the functionalist paradigm emphasizes the use of testing and empirical research to gain knowledge pertaining to social factors. The functionalistic paradigm also pertains to the logic underlying the design of the study to ensure sound research practices (Danizan & Lincoln, 1994).

The current study holds the following assumptions:

- \* Behavior can be measured (Babbie, 2001; Burrell & Morgan, 1979; Cozby, Worden & Kee, 1989; Field, 2002; Maleske, 1995) and as a result be:
- \* explained (Babbie, 2001; Burrell & Morgan, 1979; Cozby, Worden & Kee, 1989; Field, 2002; Maleske, 1995) and;
- \* predicted (Babbie, 2001; Burrell & Morgan, 1979; Cozby, Worden & Kee, 1989; Field, 2002; Maleske, 1995).

#### **1.4.5 Market of intellectual resources**

The market of intellectual resources is the foundational beliefs that directly influence the extent and validity of research (Mouton & Marais, 1993). Two types of intellectual resources are theoretical and methodological resources (Mouton, 1996). Theoretical resources pertain to the nature of the field of study. Methodological resources pertain to the nature of research.

The present thesis addressed theoretical intellectual resources by framing the nature and purpose of the study. In particular, meta-theoretical discussion of career development and positive psychology created a backdrop for research questions. Further, career thinking and salutogenic functioning were discussed as was their relevance to the present thesis. Hypotheses were formed based upon the literature.

The present thesis addressed methodological intellectual resources through a research design that directed the empirical research. In particular, cognitive, salutogenic and functionalist beliefs are held. Empirical research was facilitated through a quantitative approach. Similarly, a standardized research method was implemented and quantitative instruments were used.

##### **1.4.5.1 *Relevant Metatheories***

The research emerges from two distinct bodies of literature. In particular, research pertaining to the state of career indecision relates to the larger body of career development (Brown, 1996; Gordon, 1998; Holland & Holland, 1977; Stead & Watson, 1993; Stewart, 1995). Similarly, the research pertaining to stress

management relates to the larger body of literature pertaining to positive psychology and more specifically, salutogenic functioning (Antonovsky, 1979; 1987; 1991; Coetzee & Cilliers, 2001; Nakamura & Csikszentmihalyi, 2003; Strümpfer, 1990a; 1990b).

#### *1.4.5.2 Behavioral models and theories*

In order to explore the career indecision of non-student adults several theories have been used. Cognitive factors empirically linked to career indecision in students are negative career thoughts (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b) and career decision-making self-efficacy (Betz & Taylor, 1994). These cognitive factors are “task specific” in nature and pertain to the thoughts and beliefs about individual career decision-making activities.

Factors that have demonstrated stress mediation properties are internal locus of control (Rotter, 1966) and sense of coherence (Antonovsky, 1979). These salutogenic factors are “generalized” and not task specific. Rather, these constructs pertain to how the individual appraises the world and stimuli around them. The thesis reviews the literature pertaining to these constructs as well as the larger career development and salutogenic literature.

#### *1.4.5.3 Applicable constructs*

Constructs that reflect the pertinent cognitive career and salutogenic factors have been operationalized in the extant literature. Relevant career thinking constructs are negative career thoughts and career decision-making self-efficacy. Relevant salutogenic functioning constructs are internal locus of control and sense of coherence. Against these operational definitions the thesis frames hypotheses, measures and reports.

Negative career thoughts are operationalized as negative outcomes of “thinking about assumptions, attitudes, behaviors, beliefs, feelings, plans, and/or strategies related to career problem solving and decision-making” (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b, p.3).

Career decision-making self-efficacy is operationalized as “the individual’s degree of belief that he/she can successfully complete tasks necessary to complete career decisions” (Betz & Taylor, 1994, p. 8).

Internal locus of control has been operationalized as “the degree to which an individual perceives rewards or reinforcement as contingent on his own behaviors or attributes” (Donovan & O’Leary, 1983, p.108).

Sense of coherence has been operationalized as the degree “to which one has pervasive, enduring and dynamic feeling of confidence that one’s internal and external environments are predictable and that there is a high probability that things will work out as well as reasonably can be expected” (Harris, 1997, p.36).

#### *1.4.5.4 Research hypothesis*

The central research hypothesis is “There is a relationship between career thinking and salutogenic functioning”

#### *1.4.5.5 Methodological convictions*

Methodology is a subset of epistemology concerned with science of “finding out” (Babbie, 2001). As such, methodological convictions are the foundational beliefs that under gird this science. In particular, schools of thought pertaining to social science inquiry are of interest (Mouton & Marais, 1993).

The present thesis holds methodological convictions from both a humanistic and positivist framework. Humanistic psychology originated in the 20<sup>th</sup> Century in contrast to the behaviorist tradition. As such, it focused upon the phenomenology of the human experience, human capacities and values (Schneider, Bugental & Pierson, 2001). Rather than being perceived as simply products of their environments, humanists hold that individuals are active agents in forming and interpreting their life contexts.

Empirical research within the present thesis follows a positivist conviction. Originating in the 19<sup>th</sup> Century, positivism focused on objective knowing (Comte, 1896). In particular, positivism focuses on objective and observable components of nature such as facts and empirically measurable phenomenon (Babbie, 2001).

## **1.5 RESEARCH DESIGN**

Research design is intended to serve as a map or blueprint to guide a researcher in the collection, analysis and interpretation of data (Babbie, 2001; Mouton & Marais, 1993). With this in mind, the purpose of research was to explore, describe and explain phenomena of interest (Babbie, 2001; Mouton & Marais, 1993).

Exploratory studies are essential to social scientific research and are appropriate to broaden understanding of previously unexplored areas (Babbie, 2001). The current thesis was exploratory in nature. As such, it explored the unexamined area of career indecision with non-student adults.

Exploratory research can be qualitative or quantitative (Mouton & Marais, 1993). Following a positivist framework, a quantitative study was implemented and psychometric instruments were used to collect data (Creswell, 1994). A quasi experimental survey design was employed (Babbie, 2001).

Unit of analysis refers to the “things” (characteristics, phenomena, behavior, etc.) of interest to the researcher that allow for descriptions, explanations and summaries of those “things” (Babbie, 2001, p. 95). Within social science research the most prevalent unit of analysis is the “individual” (Babbie, 2001, p. 94). The present research considered the “individual” as the unit of analysis. Two relevant characteristics of these individuals were that they were non-student adults and secondly that they were career undecided.

Validity and reliability of empirical studies are reflected in the precision of the research design (Babbie, 2001; Creswell, 1994). The research design of the present thesis intended to ensure the validity and reliability of the study. Validity was addressed in the present thesis through extensively researching career



thinking and salutogenic functioning and through the use of valid and reliable instruments that reflected career thinking and salutogenic functioning. Reliability was ensured in the present thesis through a standardized research delivery process. The research method ensured a homogenous and representative sample selection and valid assessment instruments (Creswell, 1994). In particular, the study was conducted in similar contexts (government funded programs) within a similar time frame in order to standardize the context of empirical research.

Ethical considerations are an important part of research design (Babbie, 2001). Ethical research was ensured through the acquisition of approval from research sites, participants' informed consent, and confidentiality of data and anonymity of subjects.

## **1.6 RESEARCH METHOD**

Pragmatic research should distinguish between metatheory, theory, design, empirical method and data (Jorgensen & Nafstad, 2004). The research method was designed to delineate the steps of research of the present thesis. Research proceeded as follows:

### **PHASE 1: LITERATURE REVIEW**

#### **Step 1 Metatheoretical Concepts**

Career thinking and salutogenic functioning emerge from distinct bodies of scientific literature. In particular, career thinking has become known through the field of career development and salutogenic functioning has emerged from positive psychology. A discussion of these fields on a metatheoretical level framed the value of the constructs to the current thesis.

## **Step 2                      Career Thinking**

A literature review conceptualized career thinking. In particular, negative career thoughts and career decision-making self-efficacy were discussed as constructs of career thinking within career decision-making. An overview of career decision-making theories, decidedness states and cognitive factors that influence career decision making were addressed. In particular, negative career thoughts (Sampson, Peterson, Reardon, Lenz & Saunders, 1996) and career decision-making self-efficacy (Taylor & Betz, 1983) were conceptualized, as were their dimensions and behavioral dynamics. Their contributions to career decision-making literature were reviewed and evaluated with respect to the present thesis. Integration of career thinking literature prepared the research questions for the empirical study to follow.

## **Step 3                      Salutogenic Functioning**

Positive psychology has considered factors that mediate stress and facilitate coping. As such, salutogenic constructs have demonstrated this ability. Two such constructs are internal locus of control (Rotter, 1966) and sense of coherence (Antonovsky, 1979). Internal locus of control and sense of coherence were conceptualized as constructs of salutogenic coping, as were their dimensions and behavioral dynamics. Research pertaining to the locus of control and sense of coherence were discussed, as were their contributions towards coping with unemployment. The contribution of internal locus of control and sense of coherence to stress mediation and coping suggest how these constructs can enhance the current career choice literature.

## **Step 4                      Theoretical Integration**

The present study was exploratory in nature. Whereas the majority of career choice research had sampled only students it represented a narrow portion of the larger population of young adults. As developmental stages and roles affect the individual they also may affect career decision-making. A discussion pertaining to these developmental considerations integrated the career thought research with

locus of control and sense of coherence literature. Where internal locus of control and sense of coherence have demonstrated stress-mediating properties, their integration with career choice research was discussed.

## **PHASE 2: EMPIRICAL STUDY**

### **Step 1 Population and sample**

To evaluate the relationship between career thinking and salutogenic functioning within a career decision making milieu, an appropriate population and sample were drawn. Impetus for their selection and selection process was discussed.

### **Step 2 Measuring instruments**

Two measures represented both career thinking and salutogenic functioning each. In particular, the Career Thought Inventory (Sampson, Peterson, Lenz, Reardon & Saunders, 1996a) and the Career Decision-making Self-efficacy short form (Betz & Taylor, 1994) measured career thinking. The I-E LOC scale (Rotter, 1966) and the Orientation to Life Questionnaire (Antonovsky, 1979) measured salutogenic functioning. A biographical questionnaire was also utilized. A discussion pertaining to each measurement instrument framed their relevance to the thesis.

### **Step 3 Data collection**

A discussion of how data was collected from the sample at representative research sites was provided.

### **Step 4 Data processing**

Data analysis related to the aforementioned questionnaires and forms was conducted following the collection of all data from the multiple research sites. Assessing for significant relationships between variables was conducted through various statistical procedures. A discussion of these procedures was provided.

## **Step 5 Hypothesis**

Empirical hypotheses were formulated regarding the relationships between career thinking vis-à-vis negative career thoughts & career decision-making self-efficacy and salutogenic functioning vis-à-vis internal locus of control & sense of coherence within a career decision-making framework. The relationship between negative career thoughts and career decision-making self-efficacy and internal locus of control and sense of coherence were posited. All relationships were examined utilizing unemployed adult, non-student subjects. Research explored career indecision of adults.

## **Step 6 Results**

Data analysis was reported through tables, figures and statistics. Interpretations relevant to statistical analysis were introduced in order to make sense of the data.

## **PHASE 3 CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS**

### **Step 1 Conclusion**

Conclusions for the present thesis were posited. Their relevance to the aims of research was discussed.

### **Step 2 Limitations of the research**

Completion of the study revealed limitations in the research. These limitations were discussed.

### **Step 3 Recommendations**

A discussion and recommendations pertinent to the present thesis and Industrial/Organisational psychology was presented.

## **1.7 CHAPTER DIVISION**

The current thesis is structured through several chapters. Chapter 2 addresses career decision-making and salutogenic functioning on a metatheoretical level. Chapters 3, 4 and 5 provide a literature review and integration of factors important to the study. Chapters 6 and 7 address the empirical research and results. Chapter 8 discusses the conclusions, limitations and recommendations of research.

CHAPTER 2            METATHEORETICAL CONCEPTS

CHAPTER 3            CAREER THINKING

CHAPTER 4            SALUTOGENIC FUNCTIONING

CHAPTER 5            THEORETICAL INTEGRATION

CHAPTER 6            EMPIRICAL STUDY

CHAPTER 7            RESULTS

CHAPTER 8            CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

## **1.8 CHAPTER SUMMARY**

The aim of the present chapter was to provide a scientific overview of the current thesis. The background and motivation for the study suggested that unemployment and career decision-making are normal in today's labor market. Cognitive factors that influence the navigation of this problem are of interest to Industrial/ Organisational psychology. Similarly, the problem statement suggested that cognitive career thoughts and cognitive expectancies have demonstrated links to career indecision and stress mediation respectively. However, as the majority of research pertaining to these variables has been conducted with students, a gap exists in the literature where non-student adults are not

represented in the research. The aims of research addressed specific questions pertaining to the relationship between cognitive variables within the adult career indecision problem space. Aims were posited for the literature review and empirical study.

The chapter also addressed the paradigm perspectives of the research. The disciplinary relationship discussed the two primary foci of research. Similarly, the cognitive, salutogenic, and functional paradigms were addressed as were their behavioral assumptions. The market of intellectual resources was discussed as were relevant metatheories and behavioral theories. A review of applicable constructs narrowed the focus toward the operationalization of negative career thoughts, career decision-making self-efficacy, locus of control and sense of coherence. Research hypothesis and methodological convictions were also discussed.

The chapter framed the research design and research methods suggesting the direction of the study. In particular, phases of research were suggested as were the specific steps of the literature review, empirical study and conclusions, limitations and recommendations. The chapter also provided a brief description of the contents of the remaining thesis chapters.

## **CHAPTER 2            METATHEORETICAL CONCEPTS**

The present study emerges from two broad conceptual bodies of literature; career development and positive psychology. In order to clarify the boundaries of the concepts and constructs a separate chapter pertaining to the metatheory is presented. The aim of the chapter is to conceptualize career decision-making and salutogenic coping as metatheoretical concepts and to discuss their integration. A chapter summary is also provided.

### **2.1    CAREER DECISION-MAKING**

Engels (1994) defines the field of career development as “the total constellation of psychological, sociological, educational, physical, economic and chance factors that combine to influence the nature and significance of work in the total life span of any given individual” (p.2). To discuss all of the factors and theories within this constellation is beyond the scope of this thesis. However, relevant general and cognitive factors that influence career choice are discussed in order to demark the scope of research.

Since the inception of career psychology, theorists have sought to understand the nature of career choice and the factors that influence it. As a result, dozens of theories have been posited to explain career decision-making. Similarly, a myriad of dynamics have been researched to explore the career decision problem space (Savickas, 1995) in order to understand the factors that facilitate and impede career decidedness.

#### **2.1.1            Process and structure theories**

According to Reardon, Lenz, Sampson and Peterson (2000) most career development theories fall into two general categories, namely “process” or “structure” theories. Process theorists suggest that individuals are shaped and molded by a variety of factors throughout their lifetime. These factors, in turn, influence the formation of the individual and consequently the career choice of the individual. Noteworthy historical process models have suggested that individuals

career ideas and choices are influenced by gender roles (Betz & Hackett, 1981; Gottfredson, 1981), parenting style (Roe, 1956), prior learning, self-efficacy and mastery (Krumboltz, 1979), personal narrative attributions (Savickas, 1995), adjustment to work environments (Dawis & Loftquist, 1984), psychodynamic motivation (Bordin, 1994), and from developmental stages, roles and age appropriate beliefs through the lifespan (Ginzberg, Ginsberg, Axelrad & Herma, 1951; Super, 1953). Process theorists maintain that career decisions are made as a result of a culmination of factors that have shaped the individual, the agent of career choice (DeCharm, 1968; 1976; Kush, 1991).

Whereas process theorists focus on factors that shape the individual, structure theorists focus primarily on how career decisions are made. Career psychologists in this category consider the individuals interest patterns (Holland, 1966; 1973; 1992), personality type (Myers, 1998), values (Brown, 1996), as well as a myriad of personal factors such as the individuals intelligences (Gardner, 1983; 1993; Schearer, 1997), aptitudes, skills, and barriers to inform career choice. Other structure theorists have focused upon career choice strategies (Gelatt, 1962; Janis & Mann, 1977; Parsons, 1909; Peterson, Sampson, Reardon & Lenz, 1996; Tiedeman & O'Hara, 1963) to guide individual career choice.

It is largely held by structure theorists that through the assimilation, interpretation and synthesis of personal and occupational information that effective career decisions are facilitated (Parsons, 1909; Peterson, Sampson, Reardon & Lenz, 1996). The result of this is career decidedness.

One theory has suggested however, that career decidedness is not as straight forward as synthesis of informational domains (Bansberg & Sklare, 1986). Rather, career decidedness is contingent upon contextual and cognitive factors that influence career choice (Savickas, 1995). The Cognitive Information Processing theory (CIP) of career decision-making (Peterson, Sampson & Reardon, 1991; Sampson, Lenz, Reardon & Peterson, 1999) is relevant to the current thesis. In particular, the CIP model frames a decision-making structure that integrates foundational "self" and "occupational" information as part of decision-making. The CIP model also frames a decision-making structure to facilitate the choice



process. What demarks the CIP model from other structure theories however, is its focus upon meta-cognition. In particular, the CIP model suggests that individuals maintain cognitions (thoughts, beliefs, appraisals, expectancies, etc.) at an executive processing level of cognitive functioning (Peterson et al., 1991; Peterson et al., 1996; Sampson et al., 2004). These cognitions may facilitate or impede career decision-making depending on their content. As such, these meta-cognitions would influence career decidedness.

### **2.1.2 Career decidedness**

Both process and structure career theorists have considered career decidedness to be a byproduct of the career choice process. However, as research has evolved, a myriad of cognitive, contextual and personological factors have been suggested to influence individual career decidedness. Whereas much of the literature has considered decidedness to be a unidimensional continuum, literature has suggested that career decidedness is multidimensional in nature. As such, career decidedness is influenced by multiple factors and is a complex problem space (Savickas, 1995).

Career decidedness had originally been considered to be a decided / undecided dichotomy (Parsons, 1909). However, later theorists suggested that decidedness was best represented by a unidimensional continuum with degrees of decidedness (Williamson, 1937). This belief was still being confirmed in research until the 1990's (Savickas & Cardin, 1992) when researchers began to question this assumption (Hartman, Fuqua & Jenkins, 1986; Osipow, 1999; Savickas, 1995; Wooten, 1993). In particular, theorists suggested that career decidedness was more multidimensional than originally thought.

Criticisms of the unidimensionality of career decidedness were largely based upon measurement instruments widely used in research. First generation career decision-making assessments (Osipow, Carney, Winer, Yaniko & Koschier, 1976), liberally utilized in career decision-making research, were suggested to be limited in scope (Hartung, 1995) consequently biasing research. In contrast, second generation measurement tools (Jones, 1989; Chartrand, Robbins, Morrill & Boggs,

1990) have been framed upon broader theoretical assumptions. As a result, research has suggested that career decidedness is more multidimensional than originally believed (Gordon, 1998; Sampson, Reardon, Peterson & Lenz, 2004; Savickas, 1995; Stead & Watson, 1993).

Another factor implying the multidimensionality of career decidedness pertains to the broader body of literature. As such, research suggests that multiple factors influence career choice. Career decision-making research has now begun to explore the nature of career decidedness and the factors that promote and impede career choice.

#### *2.1.2.1 General Factors*

According to Stewart (1995) career indecision is the inability to specify a career choice within career decision-making. Conversely, career decidedness is the ability to specify a career choice within career decision-making. Though reasons for decidedness and indecision are individual and varied, researchers have attempted to understand the nature of career choice. As such, research has examined factors that are believed to promote or impair career choice.

Within the literature it is clear that numerous general factors either facilitate or impede career choice clarity. Regarding general factors that promote career decidedness, early research suggested a link between academic performance and decidedness. In particular, research suggests that career decided students demonstrate higher GPA's and have more credits toward graduation (Chase & Keene, 1981), higher scores on the ACT exams (Taylor, 1982), and demonstrate higher academic ability (Taylor & Betz, 1983).

Other career decidedness research has suggested that decidedness relates to personality factors. As such, decided individuals have been found to maintain greater identity formation (Fuqua, Blum & Hartman, 1988) and satisfaction, agreeableness and conscientiousness (Lounsbury Tatum, Chambers, Owens & Gibson, 1999).

Moreover, attributional factors have demonstrated a relationship to career decidedness. For example, career decided subjects maintain better decision-making skills (Holland & Holland, 1977), problem solving skills (Larson & Heppner, 1985), and positive coping strategies (Larson, Piersel, Imao & Allen, 1990; O'Hare & Tamburri, 1986). Factors such as internal decision-making style (Osipow & Reed, 1985), greater satisfaction and career choice comfort (Jones & Chenery, 1980; Serling & Betz, 1990), and stable goal commitment (Robinson & Cooper, 1988) have also strongly related to career decidedness.

General factors have also been noted to impede career choice. Research suggests that indecision has demonstrated a significant relationship to low self esteem (Chartrand, Martin, Robbins, McCauliffe, Pickerelle & Galliotte 1994; Resnick, Faubles & Osipow, 1970), poor identity (Fuqua, Blum & Hartman, 1988), and greater interpersonal incompetence, lack of confidence, and involvement (Holland & Holland, 1977).

General personological factors that impede career choice decidedness include neuroticism (Lounsbury, Tatum, Chambers, Owens & Gibson, 1999) and anxiety (Fuqua, Blum & Hartman, 1988; Holland & Holland, 1977; Larson, Piersel, Imao & Allen, 1990; O'Hare & Tamburri 1986; Serling & Betz, 1990; Skorupa & Agresti 1998; Stead, Graham, Watson & Foxcroft, 1993) and lower self esteem (Chartrand, Martin, Robbins, McCauliffe, Pickerelle & Galliotte, 1994; Resnick, Faubles & Osipow, 1970; Stead, Graham, Watson & Foxcroft, 1993).

Attributional factors relating to indecision also include poor decision-making skills (Holland & Holland, 1977), external decision-making style (Osipow & Reed, 1985), less stable goal commitment (Robinson & Cooper, 1988), and fear of success (Taylor, 1982).

The research described thus far has provided evidence that career decidedness is influenced by general factors and as such is a complex and interactive domain. The problem space of decidedness not only integrates informational domains but also complex cognitive interactions. Literature pertaining to career choice has recognized numerous cognitive factors that affect career decidedness.

### 2.1.2.2 *Cognitive Factors*

Contributing to the belief that career decidedness is multifaceted and interactive is research pertaining to cognitive factors. Within the extant literature cognitive factors have also demonstrated relationships to career decidedness. Whereas some cognitive factors have been shown to facilitate career decidedness others have related to the impediment of career choice clarity (Keller, Biggs & Gysbers, 1982; Luzzo & Ward, 1995; Taylor & Betz, 1983).

Cognitive factors that have been found to relate to career decidedness include positive self talk (O'Hare & Tamburri, 1986), problem solving confidence (Larson, Heppner, Ham & Dugan, 1988; Larson & Heppner, 1985), lower self appraised pressure and barriers (Larson, Heppner, Ham & Dugan 1988, O'Hare & Tamburri, 1986), internal appraisals of control (Larson, Piersel, Imao & Allen 1990), and effective coping (O'Hare & Tamburri, 1986).

Conversely, cognitive factors that have demonstrated a relationship to career indecision are low problem solving confidence (Larson & Heppner, 1985; Larson, Heppner, Ham & Dugan, 1988), external appraisal of control (Fuqua, Blum & Hartman, 1988; Larson, Piersel, Imao & Allen, 1990; Taylor, 1982), and greater self appraised pressure and barriers (Larson, Heppner, Ham & Dugan, 1988). Moreover, career indecision has also demonstrated a significant relationship to "career thinking" such as greater self defeating beliefs (Sweeney & Shill, 1998), irrational thinking (Enright, 1996; Skorupa & Agresti, 1998; Stead, Graham, Watson & Foxcroft 1993), poor career beliefs (Enright, 1996), and lower career decision-making self-efficacy beliefs (Taylor & Betz, 1983).

Regarding career indecision, research has also suggested that a link between anxiety and maladaptive career beliefs could be argued based on the extant literature (Mitchell & Krumboltz, 1991; Stead, Graham, Watson & Foxcroft, 1993; Wooten 1993). Negative career thinking has been recognized as important to the career choice process (Roll & Arthur, 2002). Further research between career thinking and career indecision has been suggested in the literature (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b).

Where theorists have recommended that career decidedness is a by-product of career decision-making, research suggests that this may not be the case. As demonstrated by the literature, career decidedness is influenced by numerous general and cognitive factors. These influences interact within the career decision-making problem space to either facilitate or impede career choice. Whereas original theorists espoused the unidimensionality of career decidedness research is suggesting otherwise. In particular, current research has suggested that career decidedness is multidimensional in nature (Gordon, 1998; Peterson, Sampson, Reardon & Lenz, 1996; Sampson, Reardon Peterson & Lenz, 2004).

### **2.1.3 Meta Analytic Research**

Whereas many process and structure theories have addressed career choice making from a macro-decision-making perspective, few have addressed career decidedness from a micro-interactive point of view (Guay, Senecal, Gauthier & Fernet, 2003; Patton & McMahon, 1999). This feature has contributed to researchers suggesting that little is known about career indecision (Tinsley, 1992) and the constructs that influence it (Brown, 1996).

In an attempt to further understand the nature of career decidedness and the factors that influence it, Gordon (1998) performed a meta-analysis of the major career decision-making research surveying the previous twenty-year period spanning 1978-1998. Her findings suggested that for the most part, the majority of career decision-making research had erroneously assumed a decided/undecided continuum. Rather, she indicated that the extant literature suggested multidimensionality within career decidedness and that further subtypes could be argued from the literature. Based upon her research, Gordon suggested that decision-making status could be broken into a potential taxonomy with several levels of decidedness. In this taxonomy, individuals could be classified within one of the three categories of decided, undecided, or indecisive.

According to Gordon (1998), individuals within the decided category could range from completely confident in their choice to anxious and unstable commitment to their choice. Similarly, individuals in the undecided category could range from

tentatively undecided (with potential choices) to developmentally undecided (maturity deficits) to seriously undecided where external control attributions and poor self esteem could be factors influencing career choice. The final category Gordon (1998) referred to as chronically indecisive. Individuals in this subtype were characterized by a personal sense of inferiority, and negative personality traits. She further suggested that anxiety was an antecedent of indecision rather than a by-product of it.

According to Gordon (1998), factors such as anxiety, external locus of control, low esteem, aimlessness, and cognitions were consistently found to associate with career indecision. Further research into the nature of career indecision was suggested.

Moreover, Gordon (1998) suggested that the subtypes garnered from her literature review were speculative in nature and required further research to clarify their boundaries. This sentiment was reflected by Osipow (1999) who suggested that the undecided / indecisive boundaries were blurred. In his writing he particularly indicated that the undecided and indecisive categories were interwoven theoretically and empirically and therefore difficult to separate. The literature is only now beginning to clarify the boundaries of these domains through empirical research.

In conclusion to her review of the major career decision making literature, Gordon (1998) suggested that career decidedness was indeed complex and interactive requiring further research. In particular, Gordon suggested that one focus of research include age related influences. Moreover, despite the breadth of her meta-analytic review she concluded that the majority of career decision-making research pertained to student based samples. No research pertained to unemployed non-student adult based populations. This point is of significant interest to the career development literature. In particular, theorists have widely held that career choice is mediated by developmental influences (Ginzberg, Ginsberg, Axelrad & Herma, 1951; Hall, 1992; Krumboltz, 1979; Super, 1983). This lack of developmental integration within the greater literature may limit its generalizability.

Furthermore, Gordon (1998) commented that environmental factors that influence career decidedness were scarcely addressed in the literature. As such, she suggested the inclusion of environmental influences in future research. Where much of the literature has considered the influence of general and cognitive factors on decidedness, little research has considered external factors such as downsizing, labor market conditions, unemployment, and cyclical career decision-making (Bandura, 1997; Phillips & Blustein, 1994; Stewart, 1995). Such factors may vicariously influence career choice through the pressures that surround them (Hanish, 1999; Sulsky & Smith, 2005). Career decidedness literature could be enhanced through research that considers developmental, situational, and cognitive factors that influence career choice.

## **2.2 SALUTOGENIC COPING**

Interest in why people remained healthy prompted Antonovsky (1979; 1991) to suggest that the field of psychology should begin to focus upon the origin of human health (saluto-genesis) rather than continuing to survey the factors that contributed to the pathology of the human condition. In the decades that have followed, psychology has begun to actively focus its energy toward this goal. Particularly, in the past decade positive psychology has become a dominant force as a field of psychology that has focused upon the psychology of human strengths. Within this field the proliferation of factors deemed to influence human strength has rapidly increased. To review all of these factors on a metatheoretical level is beyond the scope of this thesis. However, a review of factors that assist the individual in stress reduction and coping will provide an overview of the field. A narrower focus on factors that influence coping on an intrapersonal level will then provide a backdrop motivating the need for further research of locus of control and sense of coherence within the career development literature.

### **2.2.1 Positive psychology**

Psychology has traditionally focused upon the pathology of human nature (Antonovsky, 1979; Aspinwall & Staudinger, 2003; Lopez, Snyder & Rasmussen, 2003). Whereas Antonovsky (1979) facilitated the call to health based research,

this focus failed to take root within psychology (Seligman & Csikszentmihalyi, 2000) until the past half decade. However, in this time the focus upon health has become the Zeitgeist in psychology prompting a flourishing literature and convergence of research (Strümpfer, 2005). Positive Psychology has now surfaced as an umbrella over existing and emerging factors that promote human strength and facilitate health (Nakamura & Csikszentmihalyi, 2003; Strümpfer, 2005).

Positive psychology is a psychological movement that focuses on researching factors and applying interventions that promote positive human functioning at subjective, individual and group levels (Linley & Joseph, 2004; Seligman, 2002). In recent years the literature has identified literally dozens of factors that are enveloped under the rubric of “Positive Psychology”. In particular, one significant publication identified fifty-five factors that currently represent positive psychological characteristics (Seligman & Peterson, 2003). However, as the literature continues to expand and “blaze a new trail” (Larson, Hemenover, Noris & Cacioppo, 2003), this number of positive intrapersonal, interpersonal, biological, developmental, social, structural, and cultural factors will certainly grow. Defining the boundaries of this emergent field will remain the focus of positive psychology for years to come (Magnusson & Mahoney, 2003).

Regarding the current literature, any factor that promotes human strength and reduces discomfort is regarded as “positive” (Nakamura & Csikszentmihalyi, 2003). As such, factors that promote strength have pertained to: environments (Rasmussen, Neufeld, Bouwkamp, Edwards, Ito, Magyar-Moe, Ryder & Lopez, 2003), collective moral action (Sears, 2003), political symbols (Sears, 2003); to emotional factors such as self esteem (Heatherington & Wyland, 2003; Wanberg, 1997), positive affect (Isen, 2003), positive coping (Hack & Degner, 1999), perseverance (Carver & Sheier, 2003), love (Hendrick & Hendrick, 2003), confidence (Seligman, 1991), emotional intelligence (Salovey, Mayer, Caruso & Lopes, 2003); to religious factors such as moral judgment (Gibbs, Basinger & Grime, 2003), religion (Argyle, 1999; Fabricatore, Handal, Rubio & Gilner 2004), hope (Lopez, Snyder & Pedrotti, 2003), spirituality (Laubmeier, Zakowski & Bair, 2004); to interpersonal factors such as empathy (Zhou, Valiente & Eisenberg,



2003) positive relationships (Ryff, 1989), forgiveness (Thompson & Snyder, 2003), personal projects (Little, 1998), humor (Martin, 2003), gratitude (Emmons, McCullough & Tsang, 2003) and cognitive factors such as sense of purpose, (Ryff, 1989), meaning (Nakamura & Czikszentmihalyi, 2003; Wong, 1998), optimism (Aspinwall, Richter & Hoffman, 2001; McIntosh, Stern & Ferguson, 2004; Wanberg, 1997), sense of coherence (Antonovsky, 1979), hardiness (Kobasa, 1979a; 1979b; 1982), locus of control (Rotter, 1966), and self-efficacy (Bandura, 1977a; 1977b; 1982; 1986; 1992; 1996; 1997; 2000), to name a few.

Within the current “positive” definition, it is easy to see that innumerable cultural, societal, interpersonal, developmental and intrapersonal factors contribute to the health of any given individual, group or society. However, cognitive factors that may contribute to career decision-making are of interest to organisational psychologists (Patton & McMahon, 1999). As such, positive cognitive expectancy factors are discussed.

### **2.2.2 Cognitive expectancy**

One primary focus of positive psychology has been to consider how individuals cope under stress. While it is arguable that the vast majority of positive environmental, emotional, interpersonal and religious factors can, and do, contribute to the mediation of stress in some fashion, their discussion is beyond the scope of this research. Rather, salutogenic factors that cognitively mediate stress are the focus of this literature review.

Antonovsky's (1979) salutogenic focus primarily addressed cognitive expectancy. As such, he sought to clarify how cognitive, appraisal driven factors promoted the health of the individual. Though his focus was primarily directed to the sense of coherence construct the extant literature has noted other cognitive factors that mediate stress.

Cognitive expectancy generally refers to the way an individual tends to see the world: from one's universal outlook to their response to stimuli (Isaacowitz & Seligman, 2003). Similarly, expectancies influence the way individuals appraise

stressful events and motivate the individual's response to them (Carver & Scheier, 2002). Salutogenic factors that have been identified as having this capacity are optimism, meaning, hardiness, self-efficacy, locus of control and sense of coherence. These factors have demonstrated the ability to both mediate the effects of stressor and to facilitate personal agency.

Optimism has been elucidated as a hopeful cognitive expectancy that circumstances and situations turn out positively (Scheier & Carver, 1993). Individuals with strong optimistic expectancies have been found to maintain positive psychological health (Morrison, O'Connor & Morrison, 2001), and have more rapid recovery after surgery (Bromberger & Mathews, 1996). Under stress, optimists engage in more proactive coping behavior such as problem focused coping and positive reframing (Bromberger & Mathews, 1996; Scheier, Weintraub & Carver, 1986), in being playful (Fontaine, Manstead & Wagner, 1993), in workplace based problem solving and self control (Strutton & Lumpkin, 1992), and in utilizing more cognitive coping strategies (McIntosh, Stern & Ferguson, 2004).

The concept of meaning has similarly demonstrated salutogenic, stress mediating and agency promoting facets. Finding or ascribing purpose or meaning to life events imbues them with purpose or value (Baumeister & Vohs, 2002). As such, life stressors that are appraised and deemed to have meaning are navigated more easily. Within the literature, meaning has been associated with well being (Reker & Wong, 1998; Zika & Chamberlain, 1992) and with faster recovery from trauma (Ulmer, Range & Smith, 1991). The literature has also drawn a strong and obvious association between meaning and spirituality (Argyle, 1999). Individuals with strong spiritual expectancy also maintain stronger sense of meaning (Acklin, Brown & Mauger, 1983) and as such have better coping with loss (Balk, 1983), well being (Fabricatore, Handal, Rubio & Gilner, 2004), and mediated stress (Laubmeier, Zakowski & Bair, 2004). Individuals with strong meaning also mobilize social support resources to address their appraised stressors (Ulmer, Range & Smith, 1991).

Another cognitive expectancy construct that demonstrates salutogenic value is the concept of hardiness (Kobassa, 1979; 1982). Hardiness has been described as a

constellation of personality factors that are inextricably linked to mitigate the effects of stress (Kobasa, Maddi & Courington, 1981) and to promote agency (Kobasa, 1979a; 1979b). Characteristics of hardiness are control, commitment and challenge. Control refers to the expectancy that an individual has influence over life events. Commitment refers to an individual's feeling of being committed to their life; that it is interesting and worthwhile. Challenge refers to an individual's expectancy that change is exciting and growth promoting (Maddi, 1998). In health related literature hardiness has mediated emotional exhaustion (Michelsen, Willemsen, Croon, de Vries & van Heck, 2004), job related stress (Steinhardt, Dolbier, Gottlieb & McAlister, 2003), and psychological and somatic distress (Beasley, Thompson & Davidson, 2003). Hardiness has also demonstrated a relationship to agentic behavior such as obedience, loyalty and participation (Turnipseed, 2003).

Self-efficacy (Bandura, 1977a; 1986) is a salutogenic cognitive expectancy that refers to an individual's beliefs about their ability to perform specific tasks. As such, self-efficacy entails a complex interaction between environment, cognition and action in a reciprocal fashion toward specific tasks. General self-efficacy has inversely related to depression (Bandura, 1997), anxiety (Williams, 1995) and with physiological stress responses (O'Leary & Brown, 1995) and autoimmune functioning (Bandura, 1997). General self-efficacy has also demonstrated agency promoting features. As such it has negatively related to avoidant coping (Williams, 1995) and positively with addictive recovery (DiClemente, Fairhurst & Piotrowski, 1995). Where general self-efficacy has demonstrated its stress mediating and agency producing effects it has not been useful in task specific domains (Madux, 2002). As such, research outcomes depend greatly on the specific domain of application.

Another cognitive expectancy within positive psychology that has demonstrated both stress mediating properties and agency promoting characteristics is locus of control (Fournier & Jeanrie, 1999). Within the literature, locus of control has been described as an expectancy that pertains to generalizations about causality (Lefcourt, 1980). As such, individuals believe that life events are either within their control (Internal) or beyond their control (external) (Silberstein, 2005; Spreitzer,

1995). Internal control expectancy has been associated with better health (Bobak, Pikhart, Hertzman, Rose & Marmot, 1998), psychological well being (Grob, Little, Wanner, Wearing & Euronet 1996; Morrison, O'Connor & Morrison, 2001; Turner, Barling & Zacharatos, 2002), job satisfaction (Rothman & Agathagelou, 2000) and effective stress mediation during unemployment (Litt, 1988; Waters & Moore, 2002), and stress mediation in African men (Van Der Merwe & Greef, 2003). External control has associated with poor psychological adjustment and coping (Hack & Degner, 2004). Individuals with external control attributions demonstrate avoidance related coping and decreased personal agency (Skinner, 1996; Thompson, 2002; Wanberg, 1997).

Antonovsky's (1979) sense of coherence (SOC) construct is also a salutogenic cognitive expectancy that has demonstrated stress mediation and agency promoting tendencies. Sense of coherence is a global expectation that an individual's internal and external environments are predictable and expectation that things will work out (Antonovsky, 1979). Sense of coherence is comprised of three inextricably interwoven dimensions: comprehensibility, manageability and meaningfulness. Comprehensibility refers to the degree that the individual perceives stimuli as predictable and ordered and make cognitive sense. Manageability refers to the individual's appraisal that they have internal and external resources to manage the stressor. Meaningfulness pertains to the individuals appraisal that life makes sense and that demands are worthy of energy and commitment (Korotkov, 1998). As such the sense of coherence has strongly related to general well being (Ryland & Greenfield, 1991) and positive well being (Chamberlain, Petrie & Azriah, 1992) and been shown to significantly mediate perceived stress (Hedov, Annernen & Wikblad, 2002; Hintermair, 2004; Kalimo, Pahkin & Mutanen, 2002), burnout (Cilliers, 2002; 2003), anxiety and depression (Edwards & Besseling, 2001), inter-role conflict and life satisfaction (Diraz, Ortlepp & Greyling, 2003), hostility (Kivimaeki, Elovainio & Vahtera, 2002) and predict suicidal ideation (Rothman & Van Rensberg, 2002). Sense of coherence has also positively associated with personal agency characteristics such as program involvement and completion (Berg & Hallberg, 1999) and improved quality of life (Hintermair, 2004). Within salutogenic literature sense of coherence has also related to other positive expectancy constructs such as optimism (Pallant & Lae,

2002), hardiness (Bengston & Hansson, 2001), self-efficacy (Cilliers & Kossuth, 2004; Rachman, 1990), learned resourcefulness (Cilliers & Coetzee, 2003) and locus of control (Cilliers & Kossuth, 2004; Pallant & Lae, 2002; Rachman, 1990).

As part of the positive psychology movement cognitive constructs have received abundant research pertaining to their nature. As such, cognitive expectancy factors have generally demonstrated their stress mediating characteristics. Moreover, these salutogenic expectancies have also been empirically linked to personal agency. These characteristics are of value to the current thesis. Factors that mediate stress while promoting agency may contribute to the larger body of organisational psychology. In particular, salutogenic factors may assist in exploring career indecision in non-student adults.

Within the realm of career psychology two salutogenic cognitive expectancies have contributed to the research. In particular, locus of control has been extensively researched with career decidedness and career thinking factors that influence career choice. Similarly, sense of coherence has begun to make inroads to career development research. As such, it has been empirically linked to cognitive career thought variables and may prove valuable in furthering the understanding of career choice.

### **2.3 INTEGRATION**

Unemployment causes stress. Research suggests that individuals who have become unemployed suffer greater levels of anxiety, depression and state related stress. Conversely, unemployed persons have also demonstrated decreases in self-esteem, perceptions of personal competence, and mastery in the extant literature (Hanish, 1999; Hammarström & Janlert, 1997; Sulsky & Smith, 2005; Vinokur & Schul, 2002). How an individual copes with the stress of unemployment influences career decision-making (Amundson & Borgan, 1996). Similarly, how one copes with stress influences career decidedness.

Within career decision-making literature individuals demonstrating greater career indecision have been found to maintain greater levels of anxiety (Fuqua, Blum &

Hartman, 1988; Holland & Holland, 1977; Larson, Piersel, Imao & Allen, 1990; O'Hare & Tamburri, 1986; Serling & Betz, 1990; Skorupa & Agresti, 1998) and self appraised pressure and barriers (Larson, Heppner, Ham & Dugan, 1988, O'Hare & Tamburri, 1986). Individuals undecided in their career choice have also demonstrated less effective coping (O'Hare & Tamburri, 1986) and external appraisals of control (Larson, Piersel, Imao & Allen, 1990). For these undecided individuals career choice has been impaired by factors that convolute decision-making.

Research into the nature of career decision-making have considered stress and coping as mediators of career decidedness. One study considering career decidedness and stress appraisal was conducted by Larson, Heppner Ham and Dugan (1988). Originally designed to consider indecision academic performance, researchers found a link between indecision and perceived stress. Data analysis found that significant differences existed between decided and undecided subjects. Undecided students had reported less confidence in their academic performance as predicted by researchers. Similarly, undecided subjects had indicated having less confidence in their problem solving ability. 'Undecided' subjects also admitted to more stress, pressure and barriers to their career choice. Conversely, 'decided' students demonstrated less stress and appeared to cope with career choice more favorably. Though findings did not suggest whether stress was a causal factor of career indecision, research suggested that stress and coping were associated to indecision.

Similar research into the role of coping and career decision-making was conducted by Callahan and Greenhaus (1992). In their study Callahan and Greenhaus sought to clarify the role of attitudinal outlook and coping to career decidedness by administering several psychometric assessments to his subjects. Analysis of the data suggested that career decided subjects held a more positive outlook than their undecided counterparts. Similarly, undecided students demonstrated more stress than the decided cohort. Callahan & Greenhaus (1992) suggested that personal attributes such as outlook and coping may buffer against stress and anxiety and in turn assist decidedness.

One study testing this supposition was conducted by O'Hare and Tamburri (1986) to examine whether coping could serve as a moderator between anxiety and career indecision. Researchers theorized that ineffective coping could in turn cause a rise in anxiety and a consequent decrease in decision-making ability. Data analysis confirmed that a relationship between career indecision and anxiety. Students who were career decided noted less anxiety. However, undecided students demonstrated greater anxiety. Results further suggested that a relationship existed between decision-making and coping. Individuals demonstrating effective coping were found to have more positive self talk and attributed their stress to be manageable. Individuals demonstrating better coping also had stronger internal belief of personal control over life situations and general self-efficacy. These same individuals also demonstrated lower anxiety and were more apt to make career decisions. Conversely, subjects indicating career indecision also demonstrated less positive self talk, poorer general self-efficacy, and ineffective coping. These same individuals also held that external circumstances dictated their personal outcomes.

Research suggests that career decision-making activities and career decidedness are impeded by stress. Conversely, stress management and coping appear to assist career choice and relate to career decidedness. Factors associated in stress management and coping are of interest to career decision-making research for these reasons.

Career decision-making literature has suggested that career choice is a complex and multifactor problem space (Savickas, 1995). As such, further research into the nature of career decidedness has been suggested. In particular, cognitive factors that influence career choice have been singled out as grist for research. Following this line of submission, career specific thinking and salutogenic cognitive expectancies may influence career choice. Research into their relationship with career indecision would broaden the career literature and the super ordinate field of organisational psychology.

## 2.4 CHAPTER SUMMARY

The aim of the chapter was to conceptualize career decision-making and salutogenic coping as metatheoretical concepts and discuss their integration. Though the total constellation of career development literature was beyond the scope of the thesis, a general discussion pertaining to process and structure career theories narrowed the focus toward career decision-making and decidedness. In particular, general factors that promote or impede career decidedness were discussed. Cognitive factors that have demonstrated influence on career choice were also discussed. Relevant to the dialogue was that career decidedness had originally been considered to be unidimensional in nature. However, research indicates that career decision-making is influenced by multiple factors suggesting that career decidedness is multidimensional. As such, it is apparent that career decidedness is complex and interactive. Gordon's (1998) literature survey lent significant credence to this belief. Conclusions to her survey were that developmental and environmental factors be considered in future research.

Antonovsky (1979) suggested that "health" rather than pathology be the focus of psychology. Positive psychology movement has since eclipsed this salutogenic focus. Though the positive psychology movement has named dozens of factors that promote individual and community health, addressing each factor was beyond the scope of this metatheoretical discussion. Rather, salutogenic cognitive factors assisting in individual coping were primarily the focus of this chapter.

It was the intention of this chapter to shed light on the metatheory of career decision-making and salutogenic coping in order to demarcate the scope of research. As such, the chapter established a link between career decision-making and salutogenic coping. In particular, career choice literature seeks to understand the nature of career decidedness and factors that influence it. Career specific cognitions have demonstrated such influence on career decidedness. Whereas salutogenic factors have been shown to remediate stress, they may also influence the career decidedness problem space. Exploring the relationship between career decidedness and salutogenic coping could enhance the existing literature.



## **CHAPTER 3      CAREER THINKING**

The present chapter presents the literature pertaining to career thinking constructs, vis-à-vis negative career thoughts and career decision making self-efficacy. The aim of the chapter is to conceptualize each construct and present the dimensions, behavioral dynamics and previous research pertaining to each. A chapter summary is also presented.

### **3.1      NEGATIVE CAREER THOUGHTS**

Career thinking pertains to positive and negative cognitions regarding career choice activities. Negative career thoughts have been formally discussed in career development research regarding career thinking through the Cognitive Information Processing (CIP) model of career decision-making (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b). As such, negative career thoughts have demonstrated a relationship with career indecision among student populations although their contribution to the career development literature for non-student adults has yet to be determined. Their nature is discussed.

#### **3.1.1      Conceptualization**

Dysfunctional thinking has been conceptualized as unhelpful cognitions that are negatively biased, distorted and idiosyncratic (Lam & Cheng, 2001; Young, 1999). Pertaining to career development and career thinking, the literature has discussed these negative cognitions as self defeating assumptions (Dryden, 1979), career myths (Dorn & Welch, 1985), dysfunctional cognitions (Corbishley & Yost, 1989), dysfunctional career beliefs (Krumboltz, 1990), faulty self-efficacy beliefs (Brown & Lent, 1996), faulty generalizations (Stead, Graham, Watson & Foxcroft, 1993), self defeating beliefs (Sweeney & Shill, 1998), poor career beliefs (Enright, 1996), and negative career thoughts (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b).

Where career thoughts are conceptualized as the “outcomes of one’s thinking about assumptions, attitudes, behaviors, beliefs, feelings, plans, and/ or strategies related to career problem solving and decision-making” (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b, p.2) negative career thoughts pertain to the pervasive dysfunctional cognitions specifically related to career choice. Whereas negative thoughts (i.e. This is unfair), beliefs (i.e. I can’t swim), cognitive expectancy (i.e. The world isn’t fair) or self talk (i.e. I’m so fat) can be general in nature, negative career thoughts are “domain specific” and relate to the task of career choice and decision-making. Negative career thoughts are believed to negatively influence career choice (Austin, Wagner & Dahl, 2003; 2004; Kleiman, Gati, Peterson, Sampson, Reardon & Lenz 2004; Osborn, 1998; Saunders, Peterson, Sampson & Reardon, 2000; Sampson, Peterson, Lenz, Reardon & Saunders, 1996b).

### **3.1.2 Dimensions**

Adults facing career choices invariably require accurate information pertaining to their capacities and preferences (self information), occupation and labor market factors (occupational information) and decision-making strategies (Sampson, Reardon, Peterson & Lenz, 2004). Their beliefs and assumptions (schema) (Beck, 1995; Beck & Weishaar, 2000) about this information influences their career decision making. Negative schema pertaining to these areas can impair career decidedness (Elliott, 1995; Judge & Locke, 1993). Adults who make poor career choices are invariably less aware of these schema and feelings as they engage their career decisions (Reardon, Lenz, Sampson & Peterson, 2000).

According to the CIP theory of career decision-making, negative career thoughts inhibit career choice through negative thinking about their assumptions, attitudes, behaviors, beliefs, feelings, plans and/or strategies related to career decision-making (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b; Sampson, Reardon, Peterson & Lenz, 2004). These negative thoughts are believed to function at an executive processing level of metacognitive functioning (Beck, 1995; Wells, 2000). According to the CIP model, three metacognitive skills

mediate career decision making: self talk; self awareness; and monitoring and control.

Self talk refers to the “quick and silent” conversations that adults have with themselves during the career choice process (Sampson, Reardon, Peterson & Lenz, 2004, p. 24). Positive self talk facilitates career choice (Strauser, Lustig, Keim, Ketz & Malesky, 2002), whereas negative self talk impedes it (Sampson, Peterson, Lenz, Reardon & Saunders, 1996). Self awareness refers to the extent that adults are mindful of themselves (of motivations, self talk, etc.) during career decision making. Monitoring and control refers to the individual’s degree of monitoring and censoring self talk during career choice (Sampson, Reardon, Peterson & Lenz, 2004). Individuals demonstrating poor metacognitive skills invariably demonstrate poor career choices (Peterson, Sampson, Lenz & Reardon, 2002). In the same way, negative career thoughts relate to and can impede career decision making (Austin, Wagner & Dahl, 2003; 2004; Carr, 2004a; 2004b; Sampson, Peterson, Lenz, Reardon & Saunders, 1996b; Sampson, Reardon, Peterson & Lenz, 2004; Saunders, Peterson, Sampson & Reardon, 2000; Van Haveren, 2000).

### **3.1.3 Behavioral dynamics**

Negative thoughts are idiosyncratic in nature (Young, 1999) and are believed to contribute to resulting confused thought processes (Sampson, Reardon, Peterson & Lenz, 2004). Since these cognitions function at a metacognitive level (Beck, 1995; Sampson, Peterson, Lenz, Reardon & Saunders, 1996b; Sampson, Reardon, Peterson & Lenz, 2004) they invariably manifest in emotional, verbal and behavioral responses (Corbishley & Yost, 1989; Lam & Gale, 2004).

The impact of negative thoughts on associated emotions and behavior is believed to be unfavorable (Burns, 1980; Power & Dalgleish, 1997). Scientific research has suggested that negative thoughts contribute to emotions such as disappointment and hurt (Lam & Gale, 2004), state and trait anxiety (Saunders, Peterson, Sampson & Reardon, 2000), less well being (Ciarrochi, 2004), anger (Corbishley & Yost, 1989; Lam & Gale, 2004; Strausberger, 1998), reduction in life

satisfaction & self worth (Judge & Locke, 1993), less satisfaction (Wright, 2001), depression (Corbishley & Yost, 1989; Lam & Gale, 2004; Saunders, Peterson, Sampson & Reardon, 2000) and low job satisfaction among adults with ADHD (Painter, 2004).

Behavioral outworkings of negative thoughts are also discussed in the literature. In particular, dysfunctional thoughts are noted to manifest verbally as negative statements (Corbishley & Yost, 1989), verbal expression (Kendall & Hollon, 1992) and endorsed test statements (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b). Similar behavioral responses have been discussed in research such as perfectionism (Osborn, 1998), incomplete assignments and indecision (Corbishley & Yost, 1989), overgeneralization (Judge & Locke, 1993), and self appraised problem solving among substance abusers (Slatten, 1999).

Career thoughts are also understood to mediate career related emotions and behaviors (Lent, Hackett & Brown, 2000) and are implicated as a significant factor in career decision making (Strauser, Lustig, Keim, Ketz & Malesky, 2002). Scientific research has found that negative career thoughts contribute to anxiety (Gordon, 1998; Sampson, Reardon, Peterson & Lenz, 2004; Stead, Graham, Watson & Foxcroft, 1993) and this anxiety limits career development behavior (Carr, 2004b). Similarly, negative career thoughts have been empirically linked to job avoidance behavior (Judge & Locke, 1993), academic undecidedness (Kilk, 1997), employment seeking status (Keim, Strauser & Ketz, 2002), career undecidedness (Wright, 2001), perfectionism and career indecision (Osborn, 1998), depression and career indecision (Saunders, 1997), career indecision (Kleiman, Gati, Peterson, Sampson, Reardon & Lenz, 2004), and career indecisiveness (Austin, Wagner & Dahl, 2004), low job satisfaction (Judge & Locke, 1993), and low skill confidence (Wright, 2001).

Scientific literature has demonstrated that negative career thinking influences career development behavior. Greater levels of negativity are associated with indecision. Lower levels of negativity are associated with career decidedness. The research pertaining to negative career thoughts is presented.

### **3.1.4 Previous research on negative career thoughts**

Within career decision-making literature, negative career thoughts have been considered in both published and unpublished research. Due to the relatively recent emergence of this construct (Sampson, Peterson, Lenz, Reardon & Saunders, 1996a), research evidence pertaining to it is limited and evolving. However, the literature discussed in the present thesis reflects representative and relevant research evidence pertaining to negative career thoughts.

One of the first studies conducted into negative career thoughts was conducted by Kilk (1997) who examined the relationship between negative career thoughts and academic major by surveying an undergraduate student sample from a U.S. college. The study sought to clarify whether students who were academically decided would score differently than academically undecided students on the Career Thoughts Inventory (CTI). The author further sought to clarify whether differences existed between first and second year students and whether a career decision-making course could affect negative career thoughts. Results from the data analysis suggested that a significant difference existed between academically decided and undecided students. Students who had indicated that they were decided also demonstrated lower scores on the CTI thereby indicating less negative career thinking. Further, Kilk suggested that students who had participated in the career decision-making course demonstrated a significantly lower score on the decision-making confusion subscale of the CTI. In essence, confusion about career decisions was reduced by the CDM course. Kilk did note however, that no differences existed in negative career thoughts between freshmen and sophomore students. Similarly, no significant changes occurred on the commitment anxiety and external conflict subscales of the CTI after the CDM course. The only change that had occurred was within the DMC subscale of the CTI.

Another dissertation that addressed negative career thoughts was conducted by Durbin (2000). Surveying an undergraduate student sample, Durbin sought to clarify if a relationship existed between negative career thoughts and academic performance among freshmen that were academically undecided. Researchers

assessed students pertaining to their pre-college academic achievement scores, negative career thoughts, and first year GPA standings. Analysis of the data revealed that GPA did not have a significant relationship to negative career thoughts as measured by the CTI subscales. Further, when pre-college academic achievement scores were held constant, the CTI accounted for less than 1 % of GPA variance. In essence, negative career thoughts did not play a significant role in the prediction of below average achievement in a first year student population.

Seeking to further clarify the relationship between negative career thoughts and career indecision, Saunders, Peterson, Sampson and Reardon (2000) conducted a college-based study. Utilizing a sample of 215 undergraduate students, researchers administered several instruments to assess depression, career decidedness, anxiety, locus of control, vocational identity and negative career thoughts. Researchers regressed several variables related to career indecision in order to determine their contribution to career indecision. Data analysis revealed that all of the variables demonstrated a relationship to career indecision. However authors also suggested that once these variables had been regressed, only negative career thoughts demonstrated a significant contribution to career indecision. Saunders, Peterson, Sampson and Reardon (2000) noted that career indecision is influenced by a complex interaction between cognitive and personological factors. Further, authors commented that negative thought processes could impede individuals from navigating career decisions in a clear and manageable way.

Within published career choice literature one study has addressed negative career thoughts and career decidedness within a cognitive restructuring intervention. Reed, Lenz, Reardon and Leierer (2000) conducted research on the efficacy of a career decision-making course at reducing negative career thoughts. Surveying a sample of 181 undergraduate college students, researchers administered several questionnaires to ascertain demographic information, career decidedness, and negative career thoughts at the onset of a career decision-making course. Negative career thoughts were re-assessed at the completion of the course. Analysis of the data revealed several findings. As in other student career decision-making literature the authors found that no gender or racial differences

existed within the data. Reed, Lenz, Reardon and Leierer (2000) did find however that post test CTI global scores were significantly lower for the student sample following the career decision-making intervention. Analysis suggested that the intervention was a significant factor in reducing negative career thoughts. These researchers also analyzed the data against three distinct negative career thought groups (high, medium and low). Analysis revealed that the greatest reduction of negative career cognitions occurred within the group originally scoring the highest level of negative thoughts. Multivariate measures suggested that these findings were consistent in the global CTI scale and its subscales. The above researchers did note however, that since the course was a semester long, no particular part of the intervention could be singled out for reducing negative career thinking.

Following the line of research taken by Reed, Lenz, Reardon and Leierer (2000), Carr (2004b) sought to identify which interventions would assist in reducing negative career thoughts. Sampling 86 undergraduate students from a career development workshop at a U.S. university (average age 20 years) the researcher performed a quasi-experimental evaluation to determine the efficacy of a workbook, designed to modify negative career thinking, and its effects on dysfunctional career thoughts. Data was collected for treatment and control groups over three periods spanning 22 days. Data analysis indicated that the treatment group demonstrated significant changes in level of dysfunctional career thinking compared to the control group. Carr (2004b) concluded that, despite follow up indicating treatment decay, the CTI workbook was an effective intervention in reducing negative career thinking.

Research into the nature of career indecision with non-student adults is recent to the career development literature. Following the suggestions of Reed, Lenz, Reardon and Leierer (2000) a study was conducted with a community based non-student adult based sample. Seeking to mirror the Reed et al. (2000) study Austin, Wagner and Dahl (2003) sought to clarify if a community-based career decision-making intervention would reduce negative career thoughts with an unemployed, career undecided adult sample. Researchers administered assessments to ascertain both demographic information and negative career thinking at the onset of a career decision-making intervention. Forty adults participated in the

intervention and then completed a post-test negative career thought measure following the course. Data analysis revealed that, as in the Reed et al. (2000) study, negative career thoughts were significantly reduced during the career decision-making intervention. Reductions in negative career thinking were noted on the CTI global scale and decision-making confusion, commitment anxiety and external conflict subscales. Similar to the Reed, Lenz, Reardon and Leierer (2000) study, no specific intervention could be singled out as the main ingredient of change in the CTI scales.

Another study researching negative career thinking with utilizing non-students adult was conducted by Keim, Strauser and Ketz (2002). In their study these researchers examined career thought differences with three discrete groups of women. In all 108 female (average age: 30.43) subjects were sampled from social service programs. Women in group 1 were enrolled in a community based job search program and had some form of disability. Women in group 2 were enrolled in a community based job search program and attempting to obtain a GED certification. Women in group 3 were not seeking employment, nor working. Researchers administered measuring instruments to ascertain biographical information and negative career thought level (CTI). Data analysis found that women who were not working (group 3) have significantly lower scores than women enrolled in GED on all scales of the CTI. Moreover, this group had significantly lower scores than the job search training group. Researchers suggested that since these subjects had no internal motivation for work, negative career thoughts would not be a factor. Across subscale measures, subjects seeking employment and subjects completing a GED did not significantly differ suggesting that they are similar in career thought structure. Researchers also found that women who were away from work for longer durations also manifest greater levels of dysfunctional career thinking. Researchers recommended that further research be conducted with similar adults from differing backgrounds.

Drawing on Gordon's (1998) earlier research Austin, Wagner and Dahl (2004) sought to clarify whether a relationship existed between negative career thoughts and career indecisiveness. Researchers sampled 69 unemployed adults from a career decision-making intervention and administered assessments at the onset



and completion of the intervention in order to measure negative career thinking and career indecisiveness. Pretest data analysis found that a strong linear relationship existed between negative career thoughts and career indecisiveness. Following the career decision-making intervention data indicated, as in earlier research (Austin, Wagner & Dahl, 2003; Reed, Lenz, Reardon & Leierer, 2000), that negative career thoughts were reduced following the intervention. Similarly, career indecisiveness was reduced following the intervention with the greatest reduction occurring in the high negative career thinking group. Authors concluded that negative career thoughts assisted in exploring career indecision in adults.

Seeking to further explore career indecision with non-student adults Dahl, Austin, and Wagner (2005) surveyed the relationship between negative career thoughts and emotional intelligence. Whereas negative career thoughts have related to various factors within career development research, it only recently been researched within the realm of positive psychology (Lustig & Strauser, 2002). Emotional intelligence has been noted as a positive psychological construct (Salovey, Mayer & Caruso, 2002; Salovey, Mayer, Caruso & Lopes, 2003) with salutogenic implications. Researchers suggested that the relationship between emotional intelligence and negative career thinking was unexplored and could add to the extant career development literature. Researchers surveyed an adult, career undecided, non-student sample ( $n=414$ ) from a community based career exploration program funded by the Government of Canada. The Career Thoughts Inventory (CTI) and BarOn Emotional Quotient Inventory (EQ-i) were administered. Data analysis revealed statistically significant inverse relationships between CTI and EQ-i global scales and subscales. In particular, CTI global and EQ-I scale correlations ( $p < .01$ ) were -0,457 (global), -0,426 (intrapersonal), -0,223 (interpersonal), -0,433 (adaptability), -0,303 (stress management) and -0,385 (general mood). CTI subscales demonstrated equally significant correlations with the EQ-I global score, -0,494 (decision making confusion), -0,319 (commitment anxiety) and -0,257 (external conflict). Subscale correlations between instruments were also significantly correlated. Individuals demonstrating negative thinking regarding career related tasks subsequently manifested lower emotional intelligence.

## **3.2 CAREER DECISION-MAKING SELF-EFFICACY**

Self-efficacy was formally discussed by Bandura (1977; 1982; 1986; 1992; 1995; 1997) but was later introduced within career development research (Betz & Hackett, 1983; Hackett & Betz, 1981; Taylor & Betz, 1983; Taylor & Popma, 1990). As a positive factor of career thinking, career decision-making self-efficacy has demonstrated a relationship with career indecision among student populations. The contribution of CDMSE to the career development literature for adults has yet to be determined. Its nature will be discussed.

### **3.2.1 Conceptualization**

Career decision-making self-efficacy (CDMSE) is conceptualized as the “individual’s degree of belief that he/she can successfully complete tasks necessary to make career decisions” (Betz & Taylor, 1994, p.8). As such, CDMSE is a task specific career thinking factor that influences career decision-making.

According to the CIP definition of career thoughts, career decision-making self-efficacy is considered an “outcome of one’s thinking related to career problem solving and decision-making” and therefore would fall under the rubric of “career thought” (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b, p.2). However, whereas negative career thoughts pertain to a pervasive negative thought structure, CDMSE reflects a positive career thought structure. CDMSE does not represent an “equal opposite” measure to negative career thoughts but rather reflects a distinct domain of career thinking. As such, CDMSE operates from an individual’s metacognitive faculty and therefore the executive processing domain of the CIP model.

### **3.2.2 Dimensions**

As a general positive cognitive construct, self-efficacy was originally discussed by Albert Bandura to describe a personological construct that he believed influenced one’s confidence toward specific activities. To Bandura (1986) self-efficacy is

defined as one's beliefs of one's "capabilities to organize and execute courses of action required to attain designated types of performances" (p.391). According to self-efficacy theory, one could maintain efficacy beliefs for distinct activities. For example, one could hold strong efficacy beliefs towards "mathematics, initiating social interactions, investing in stocks or fixing a flat tire" (Betz, 2004, p.341). These beliefs represent one's confidence to perform such tasks. However, rather than seeing self-efficacy as static or a unitary trait, Bandura held that they were a constantly changing set of beliefs about behavioral performance based upon personal and environmental factors (Patton & McMahon, 1999). Efficacy beliefs could change based upon internal and external factors such as perceptions of barriers, outcome expectations, self-efficacy expectations or opportunity or environmental factors respectively (McWhirtner, Rasheed & Crothers, 2000). Factors such as personal mastery, failures, vicarious experiences, physiological states, social persuasion and cognitive information processing could also influence self-efficacy (Bandura, 1986; 1995; 1997).

Self-efficacy can also be influenced by self-talk. Positive and negative self-statements either facilitate or impede efficacy expectations and consequently behavior (Betz, 2004). Positive self talk has been shown to facilitate career choice (Strauser, Lustig, Keim, Ketz & Malesky, 2002) where dysfunctional thoughts have impaired it (Sampson, Reardon, Peterson & Lenz, 2004). Low self-efficacy has also demonstrated a relationship between negative self talk, and anxiety (Betz, 2004). These factors directly influence personal agency and the pursuit or avoidance of target activities (Lent & Brown, 1996).

The self-efficacy construct was originally researched in field of career development psychology by Betz and Hackett (1981). Their interest in Bandura's construct culminated in the authors applying the concept of self-efficacy to career decision-making research. According to Betz and Taylor (2001) career decision-making self-efficacy pertains to accurate self appraisal, gathering occupational information, goal selection, plan making and problem solving. Scientific research shows that CDMSE influences specific behavior related to career decision-making.

### **3.2.3 Behavioral dynamics**

Self-efficacy affects choice behaviors. Whereas strong self-efficacy leads to “approach” behaviors, low efficacy relates to “avoidant” behaviors (Betz, 2004). As such, individuals with low self-efficacy thereby avoid engaging in tasks related to the specific area of efficacy belief (Bandura, 1986; 1995; 1997). Conversely, individuals with strong self-efficacy tend to undertake activities related to those beliefs (Quimby & O’Brien, 2004). This has implications for career choice (Betz & Taylor, 2001). Individuals who indicate stronger efficacy beliefs pertaining to career decision-making will participate more readily in career decision-making behavior (Betz & Voyten, 1997; Fouad & Sprea, 1996; McWhirtner, Rasheed & Crothers, 2000; Ochs & Roessler, 2001; 2004). Individuals with weaker efficacy beliefs will less readily participate in these same activities (Luzzo, 1996). These behaviors have direct influence on career decidedness.

Low self-efficacy has also been recognized as a reliable antecedent to career indecision (Luzzo & Ward, 1995). As such, since low career decision-making self-efficacy leads to avoidance of career decision-making tasks they also directly influence greater career indecision (Betz & Luzzo, 1996; Betz & Voyten, 1997; Guay, Senecal, Gauthier & Fernet, 2003; Taylor & Betz, 1983). Conversely, greater career decision-making self-efficacy leads to stronger decision making attitudes and skills (Luzzo, 1993b) and more frequent career decision-making tasks and consequent career decidedness.

Self-efficacy is also related to the level of action and quality of commitment to an activity (Bandura, 1986; 1995; 1997). Individuals demonstrating strong efficacy beliefs engage in activities related to those beliefs with more vigor and persistence despite adversity (Lent, Brown & Larkin, 1986). Conversely, individuals with low self-efficacy withdraw from activities more quickly (Betz, 2004; Betz & Luzzo; 1996; Mau, 2003). Luzzo (1995) reiterates this perspective within the domain of career choice. Individuals who indicate a greater level of career decision-making self-efficacy will commensurately spend greater time initiating and sustaining career choice activities. Persons with weaker career decision-making self-efficacy will withdraw from these activities more readily. Self-efficacy directly influences

whether action is initiated and sustained and the length of time that would be extended to accomplish a task (Luzzo, Funk & Strang, 1996).

Self-efficacy is also related to cognitive appraisal. According to Bandura (1986) individuals with low self-efficacy tend to believe that activities are tougher than they really are. Low efficacy is noted to be associated with greater stress, anxiety, barrier perception and reduction of problem solving appraisal (Bandura, 1999; 2000; Betz, 2004; Lent, Hackett & Brown, 2000; Paa & McWhirtner, 2000). Borders and Archadel (1987) have reiterated this point. To these theorists, persons with lower career decision-making self-efficacy can negatively influence career choice through their cognitive appraisal. These individuals believe that career decision-making is difficult and avoid the activity because of increased stress and anxiety. According to Taylor and Betz (1983) anxiety pertaining to career decision-making tasks has been found to increase as career decision-making self-efficacy decreases. It appears that lower efficacy can elicit behavior contrary to good career decisions.

Current research has demonstrated that self-efficacy directly influences career decision-making. Persons displaying high self-efficacy have shown correspondent lower levels of anxiety whereas persons with low self-efficacy have demonstrated higher levels of anxiety (Jerusalem & Mittag, 1995). Persons revealing low self-efficacy have also demonstrated higher career decision-making problems (Betz, Klein & Taylor, 1996) and maladaptive attributions (Betz, 2004). The converse is also true, that individuals with higher efficacy have demonstrated fewer career decision-making problems and less faulty attributions.

### **3.2.4 Previous research on career decision-making self-efficacy**

Within career decision-making literature, career decision making self-efficacy has been considered in both published and unpublished research. However, the literature discussed in the present thesis reflects representative and relevant published research evidence pertaining to career decision making self-efficacy.

Early research into the relationship between positive career thoughts and career indecision was conducted by Taylor and Betz (1983). Utilizing two sample groups of a combined 346 university students researchers utilized several assessment batteries to contrast career beliefs, scholastic ability and career indecision. Results from the data suggested that a significant relationship between career indecision and career beliefs did exist. Students who had indicated a strong level of career indecision also demonstrated less confidence in their ability to perform career decision-making tasks. Researchers performed further regression analysis to assess whether scholastic ability more strongly predicted career indecision than career decision-making self-efficacy. Results showed that career decision-making self-efficacy was the strongest predictor of career indecision. In one of the sample groups the career decision-making self-efficacy variable was the only variable that successfully predicted indecision. Authors suggested that career decision-making self-efficacy was a solid career thought variable that measured a large general factor of lack of confidence in career decision-making.

A similar study linking career decision-making self-efficacy to career indecision was conducted by Bergeron and Romano (1994). Studying the relationship between career indecision, educational indecision, gender and career decision-making self-efficacy beliefs researchers surveyed a sample of 124 college students with multiple assessments. Data analysis suggested that a significant relationship existed between career decision-making self-efficacy and career indecision. Students indicating greater indecision also indicated a strong inverse relationship pertaining to their career decision-making confidence. Similar results were also noted for educational indecision. Students less clear in their educational major were also less confident in their career decision-making self-efficacy. Results also indicated that there were no gender differences in results. A strong relationship was found between career indecision and educational indecision.

Current research has sought to elucidate the role of career decision making self-efficacy with decision making behavioral intentions. Ochs and Roessler (2004) explored the function of career decision making self-efficacy and outcome expectations on career exploration intentions using the social cognitive career perspective. Researchers sampled 176 high school students in two discrete

groups, 77 of which were diagnosed with learning disabilities (age range: 16-19 years), and 99 were general education students (age range: 18-19 years). Ages for the sample ranged from 16 years to 19 years. Students were administered assessments to reflect social cognitive career theory in order to assess career decision making self-efficacy (CDMSE), career decision making outcome expectations (CDMOE) and career exploration plans or intentions (CEPI). Data analysis found that significant correlations existed between all assessments for both groups. Regression analysis found that career decision making self-efficacy and outcome expectations predicted career exploration intentions. Results were generally more robust for the general student sample than the learning disabled sample. Career outcome expectations accounted for greater variance in exploration intentions for the LD group. Career decision making self-efficacy accounted for greater variance in exploration intentions for the general student sample. Researchers indicated that age may have played a role in group differences. Researchers concluded that CDMSE and CDMOE played a direct role in CEPI. Implications for the social cognitive career perspective on enhancing career decidedness were discussed.

Career indecision has demonstrated a clear relationship to individual's appraisals of personal control in the literature (Fuqua Blum & Hartman, 1988; Larson, Piersel, Imao & Allen, 1990; O'Hare & Tamburri, 1986; Osipow & Reed, 1985; Taylor, 1982; Sweeney & Shill, 1998). Within the extant career indecision literature, locus of control has also been researched in relationship to positive career thinking; in particular, career decision-making self-efficacy.

Taylor and Popma (1990) examined the relationship between career decision-making self-efficacy, career salience, locus of control and career indecision within a student population. A sample of 407 university students participated in the study. Assessments pertaining to career decision-making self-efficacy, occupational self-efficacy, locus of control, career salience, personal factors and career indecision were completed by the student sample, and analyzed for their relationships. Results suggested that, as in other studies, career decision-making self-efficacy demonstrated a strong inverse relationship to career indecision. Similarly, a moderate relationship was found to exist between career decision-

making self-efficacy and locus of control. In essence students who believed that they had less personal control over their lives also believed that they had less confidence in their career decision-making ability. Discriminate analysis was performed on one item from the demographic questionnaire pertaining to academic certainty. Results indicated that career indecision was strongly positively associated with academic uncertainty. Similar association was found with academic uncertainty and external locus of control. Students less certain about their academic major also demonstrated an external appraisal of control. Researchers performed a multiple regression analysis against all factors in order to evaluate their predictive value of career indecision. Taylor and Popma (1990) concluded that career decision-making self-efficacy was the most significant predictor of indecision.

A similar study considered career decision-making self-efficacy and locus of control within a career decision-making framework. Luzzo (1995) researched the contributions of career decision-making self-efficacy and locus of control to career maturity. Sampling a student population, Luzzo administered measures for career decision-making self-efficacy, locus of control, career decision-making (CDM) attitudes and career decision-making (CDM) skills along with a demographic questionnaire to 113 undergraduates. Analysis of the data revealed that there was no gender effect produced among the sample. Results also indicated that both locus of control and career decision-making self-efficacy had a significant relationship with both CDM attitudes and CDM skills. Researchers did note a positive relationship among career decision-making self-efficacy, CDM attitudes and CDM skills when scored against age. Older students for example demonstrated beliefs of stronger CDM confidence, attitudes and skills than younger students. Regression analysis of all factors suggested that career decision-making self-efficacy was the strongest predictor variable for career decision-making attitudes. Researchers similarly found that locus of control was the weakest predictor variable of CDM attitudes. The author concluded that further work on career thought interventions could assist individuals gain career decision-making confidence and behavior.



One study that addressed career thought enhancement was later conducted by Luzzo, Funk and Strang (1996). Utilizing career decision-making self-efficacy and locus of control expectancies, researchers considered attributional retraining to increase career decision-making self-efficacy. Selecting a sample of sixty undergraduate students from a U.S. college, researchers administered a measure for locus of control, career decision-making self-efficacy and demographic questionnaire. Participants were initially separated into two groups based upon internal and external locus of control attributions. After randomly separating the subjects into control and experimental groups researchers then showed an 8 minute attributional retraining video to the treatment group. Researchers followed up two weeks later and assessed for certain relationships. Data analysis suggested that no gender differences existed. However, as in previous studies age demonstrated a positive relationship to career decision-making self-efficacy and locus of control. Older students were more confident in their career decision-making ability and were more confident in their ability to control the outcomes of their choices. Data also revealed that those individuals with the greatest external control attributions also changed the most after treatment. Similar results were found for career decision-making self-efficacy whereby the least confident in career decision-making changed the most after treatment.

Current research with implied relationships between career decision making self-efficacy and internal control was recently conducted at a US university. Paulsen and Betz (2004) explored confidence predictors of the career decision making self-efficacy. Surveying a sample of 627 undergraduate students, researchers administered measuring instruments to assess career decision making self-efficacy as well as skills confidence related to science, math, writing, cultural sensitivity, leadership and using technology. Data analysis identified weak to significant relationships between variables. The strongest correlational and predictive relationships with career decision making self-efficacy were established with leadership confidence. Researchers discussed implications for counselling and academic settings. Though researchers did not discuss the nature or characteristics of leadership, its relationship to CDMSE was significant. In particular, the link between internal control perceptions and attributions within

leadership was not discussed but could contribute to the strong psychometric relationship. This has yet to be determined.

Whereas most career decision-making research has occurred utilizing student samples, one study combining career decision-making self-efficacy and locus of control within an adult population has appeared in the extant literature. Brown, Reedy, Fountain, Johnson and Dichiser (2000) researched career decision-making self-efficacy among a battered women population. Sampling 71 women from domestic violence shelters researchers administered measures for career decision-making self-efficacy, locus of control, career barriers, self esteem, work role attitude and demographic questionnaire. Several relationships were revealed in the analysis of the data. Initially, career decision-making self-efficacy demonstrated a significant positive relationship to self esteem, indicating that women with greater esteem also believed that they had more confidence in their career decision-making. Similarly, locus of control was also correlated to self esteem. Women with external attributions of control demonstrated poorer esteem. This finding was also consistent with perceived barriers. Women with greater external attributions of control also perceived greater career barriers. Researchers performed a multiple regression analysis to ascertain the contributions of perceived barriers, locus of control, self esteem and work role attitudes to predict career decision-making self-efficacy. Results indicated that self esteem was the strongest predictor of career decision-making self-efficacy. Brown et al. (2000) suggested that self-efficacy was also related to employment status. Within the sample 37% of the women reported being employed. Data analysis found that women who were unemployed also believed that they were less able to make career decisions. Employed women reported stronger career decision-making self-efficacy. Brown, Reedy, Fountain, Johnson and Dichiser (2000) concluded that, despite surveying an adult population, the study was limited by its sample. Abused women, from a lower socioeconomic status could not be representative of the adult population. Further research was suggested.

Another study surveying the relationship between perceived barriers and career decision making self-efficacy, utilizing an adult sample was recently conducted. Quimby and O'Brien (2004) examined predictors of career decision making self-

efficacy with non-traditional (over age 25) college woman. The average length of time for subjects before starting or reentering college was 143 months. Researchers surveyed 354 women (average age: 38 years) who were attending college, and administered assessments to measure career decision making self-efficacy, role management self-efficacy, perceived career barriers and perceived social supports. Data analyses indicated that non-traditional female students maintained significant confidence in managing the student role and to pursue career related activities. Similarly, though barriers were identified by this sample, adequate social support was more significant in predicting career self-efficacy. Moreover, perceived support significantly contributed to confidence to manage responsibilities related to the student role and to career decision making behavior. Research noted the value of perceived support in enhancing academic and career related confidence. Researchers concluded that investigation with non-traditional students was rare, and for this reason should elicit continued study.

Current research suggests that career decision-making self-efficacy influences career choice. On a continuum of career decision-making confidence, an individual may express strong self-efficacy or weak self-efficacy pertaining to career decision-making. Low self-efficacy has been associated to career indecision and strong self-efficacy has been associated to career decidedness.

### **3.3 CHAPTER SUMMARY**

The aim of this chapter was to present the literature pertaining to career thinking constructs, vis-à-vis negative career thoughts and career decision making self-efficacy. These constructs were discussed against the milieu of career decision making.

The Cognitive Information Processing model of career decision-making provided a backdrop against which, career thoughts were framed. In particular, the executive processing domain is theorized to orchestrate all metacognitive functions pertaining to career choice. As such, thoughts, beliefs and expectancies are mediated from this domain. Negative career thoughts and self-efficacy beliefs pertaining to career decision-making originate from this metacognitive domain.

Where negative career thoughts and career decision-making self-efficacy are contained under the rubric of “career thoughts”, they are distinct constructs with distinct bodies of research. As such they have not been considered together in formal research pertaining to career decision-making. The nature of negative career thoughts was discussed as were their dimensions and behavioral dynamics. Similarly, the nature of career decision-making self-efficacy was presented as was its dimensions and behavioral dynamics.

The chapter also reviewed the distinct bodies of career decision-making literature pertaining to negative and positive career thoughts. Regarding negative career thoughts, the chapter discussed its relationship to career indecision among its research populations as well as its correlates. As such, negative career thoughts demonstrated a significant positive relationship to career indecision. Persons with greater career indecision were also found to hold greater levels of negative thinking about their career choices. Further research with career thought variables within non-student, non campus based, and adult populations was suggested by several theorists.

Reviewing positive career thoughts, the chapter discussed career decision-making self-efficacy’s relationship to career indecision among various populations as well as its correlates and antecedents. As such, career decision-making self-efficacy demonstrates a significant negative relationship with career undecidedness. Individuals with stronger efficacy beliefs towards career decision-making tasks were found to be more decided than their weaker career decision-making self-efficacy counterparts. Further research with career decision-making self-efficacy has also been suggested in the literature.

## **CHAPTER 4            SALUTOGENIC FUNCTIONING**

The current chapter presents the literature pertaining to salutogenic functioning constructs, vis-à-vis internal locus of control and sense of coherence. The aim of the chapter is to conceptualize each construct and present the dimensions, behavioral dynamics and previous research pertaining to each. A chapter summary is also presented.

### **4.1    INTERNAL LOCUS OF CONTROL**

Locus of control has been expounded by Rotter (1966) as cognitive expectancy that influences the way an individual “sees” the world. As an appraisal driven construct, locus of control influences the actions and affect of individuals as they navigate life stressors. Internal locus of control has been associated with well being and coping in the extant literature. This salutogenic tendency may assist career choice. Its nature is discussed.

#### **4.1.1            Conceptualization**

Locus of control (LOC) has been ubiquitously researched across scientific disciplines such as economics, medicine, education and psychology to name a few (Fournier & Jeanrie, 1999). Within scientific literature, locus of control has also been referred to as personal control, sense of control, cognitive control, agency, explanatory style, cognitive expectancy, decision freedom, autonomy, perceived control, behavioral control and locus of control (Chanowitz & Langer, 1980; Rodin, 1990; Thompson & Spacapan, 1991).

Rotter defined locus of control as a general cognitive expectancy (Rotter, 1966; Rotter & Hochreich, 1975). Expectancies are one’s belief that one’s action will affect certain outcomes. As such, locus of control refers to “the degree to which an individual perceives rewards or reinforcement as contingent on his own behaviors or attributes” (Donovan & O’Leary, 1983, p.108).

Locus of control is influenced through reinforcement (Rotter, 1966). As such, cognitions, affective responses, social reinforcement, and verbal and nonverbal behavior all interact in a reciprocal way to buttress behavior (Barlow, 2000). Individuals failing to achieve outcomes, despite their actions, could potentially “learn” that their actions have no effect through reinforcement. Conversely, individuals experiencing reinforcements as meaningful and valuable may believe that they have control over those reinforcements and the consequent outcomes. This appraisal of personal control vs. non-control influences individual locus of control status (Silberstein, 2005).

Regarding the formation of locus of control, actual events are secondary to cognitive appraisal of those events (Rotter, 1966; 1992; Rotter & Hochreich, 1975). Individual’s appraisal of events attributes reinforcement to either personal control or external factors. Repeated appraisal of personal control would contribute to a perpetual way of “seeing” one’s successes (Barlow, 2000). Appraisal of control to external factors would perpetuate one’s perception of failures. The corresponding appraisal would facilitate or impede individual agency (Lazarus, 2000; Thompson, 2002).

#### **4.1.2 Dimensions**

According to Rotter (1966) the locus of control construct is a general global cognitive construct. As such, it can be framed as a “generalized expectancy which pertains to generalizations about causality” (Lefcourt, 1980, p. 209). Moreover, the LOC construct is framed as a unidimensional continuum of appraisal and expectancy of personal control (Rotter, 1966). External locus of control pertains to the individual’s appraisal that personal effort has little to do with personal consequences (Marks, 1998). Rather, fate, luck and external factors have greater import to one’s destiny (Silberstein, 2005). Internal locus of control then, refers to one’s perception that the individual, rather than external factors, determine what happens to them (Spreitzer, 1995) and that consequences of one’s actions are under one’s personal control (Carlise-Frank, 1991).

Social learning theory maintains that locus of control is reinforced across the history of the individual (Barlow, 2000). As such, locus of control would be malleable for younger persons (Rotter & Hochreich, 1975) and become more stable in older adults (Mirowsky, 1995). Similarly, as social reinforcement would galvanize one's appraisals and expectancies, locus of control could be influenced by culture (Chia, Cheng & Chuang, 1998; Marks, 1998) and personal context (Fournier, Jeanrie & Drapeau, 1996; Spector, 1988) across the lifespan.

Where general locus of control is framed a universal construct (Rotter, 1966), research suggests that it is also multidimensional applying to distinct contexts (Fournier & Jeanrie, 1999) and behavioral domains (Strickland, 1989). As such, individuals may hold a strong internal locus of control in general, but maintain an external locus of control in a specific behavioral domain (Skinner, 1996; Wong & Sproule, 1984). General locus of control has demonstrated influence over cognitive, emotional and behavioral dynamics in scientific research. The influence of internal locus of control is discussed.

#### **4.1.3 Behavioral dynamics**

Locus of control has a long research history in the extant scientific literature (Fournier & Jeanrie, 1999). Decades of medical, sociological and psychological research suggests that locus of control directly influences physical, emotional and behavioral outcomes (Skinner, 1996). Regarding physical research, internal locus of control has demonstrated its salutogenic function in relating to better health (Thompson, 1993; 2002) and physical functioning (Bobak, Pikhart, Hertzman, Rose & Marmot, 1998). Moreover, internal locus of control has been found to lower negative physiological responses (Thompson, 2002) and relates to lower morbidity (Chipperfield, 1993).

The salutogenic appraisal quality of internal locus of control has also demonstrated influence on the emotional domain of individuals. In particular, internal appraisals of control relate to greater job satisfaction (Jackson & Rothmann, 2001; Judge, Locke, Durham & Kluger, 1998; Rothman & Agathagelou, 2000), positive emotions (Thompson, 2002), happiness (Myers,

1992), better psychological well being (Grob, Little, Wanner, Wearing & Euronet, 1996; Turner, Barling & Zacharatos, 2002), self esteem (Ward & Kennedy, 1992) and resiliency (Werner & Smith, 1982). Moreover, "internals" demonstrate better coping with stress (Brosschot et al., 1998; Garber & Seligman, 1980; Glass, McKnight & Valdimarsdottir, 1993; Litt, 1988), less anxiety (Griffin & Rabkin, 1998; Thompson, 2002; Thompson, Nanni & Levine, 1994), less depression (Garber & Seligman, 1980; Wong, Heiby, Kameoka & Dubanoski, 1999) and less distress following a crisis (Griffin & Rabkin, 1998; Regehr, Cadell & Jensen, 1999).

Internal locus of control also influences behavior and contributes to personal agency (Kush, 1991; Thompson 2002). In particular, individuals who learn that their efforts have direct influence on personal outcomes demonstrate greater motivation (Spector, 1982), initiate action (Skinner, 1996), demonstrate greater information seeking, planning, and action (Lazarus, 2000; Ross & Mirowsky, 1989; Skinner & Wellborn, 1994) and persist at activities for longer periods of time despite adversity (Dweck, 1999; Guay, Senecal, Gauthier & Fernet, 2003; Lefcourt, 1991; Rahim & Psenicka, 1996; Skinner, 1996). These factors assist in salutogenic functioning.

#### **4.1.4 Previous research on locus of control**

Locus of control has an extensive literature. Within career development literature, locus of control has been widely used in career decidedness research with students. Within health related literature locus of control has established its salutogenic value. As such, it has demonstrated stress mediating capacity. Whereas external LOC is associated with greater stress, internal LOC is associated with greater stress mediation. Research into the salutogenic nature of internal LOC is presented as relevant to the present thesis.

One early study that measured the stress moderating effects of LOC was borne out of medical research. Cromwell, Butterfield, Brayfield and Curry (1977) examined the way patients responded to differing treatments in cardiac rehabilitation units. Patients who were rated as internal LOC subjects were noted



to be more cooperative and less depressed than their external LOC counterparts. Similarly, external LOC patients demonstrated worse prognostic ratings than their internal counterparts. These researchers commented further that externals maintained higher temperature ratings and had longer time in intensive care than the internal group. In conclusion, the authors noted that LOC, at least in part, could moderate life stressors and influence favorable health outcomes.

Another early study researching LOC and affective responses was conducted by Kilpatrick, Dubin and Marcotte (1974). In their study, these authors researched LOC within a college based medical student population garnering subjects within the four year academic structure (freshman, sophomore, junior and senior). Subjects were then divided into internal and external LOC subgroups. Kilpatrick, Dubin and Marcotte (1974) then administered assessments to rate subjects against affective mood ratings (tension, depression, anger, fatigue and confusion and vigor). Across all class groups externals indicated greater levels of tension, depression, anger, fatigue and confusion than internals. Conversely, internals demonstrated greater vigor than externals. The above researchers suggested that since medical education is often arduous and stressful, internal LOC may buffer against the stresses related to long term education.

A similar early study considering the stress mediating effects of LOC was conducted by Manuck, Hinrichsen and Ross (1975). In their research, authors surveyed individuals who had undergone numerous life changes. Within this sample it was noted that subjects demonstrated high levels of stress and anxiety related to their life changes. However, individuals demonstrating external LOC maintained greater state anxiety than internals. In essence internal subjects exhibited less anxiety than externals regardless of life events. The study suggested that internals coped with stress more effectively than externals.

More current research into the salutogenic nature of internal LOC explored stress reduction in organisational research. Judge, Thoresen, Pucik and Welbourne (1999) conducted a study regarding the dispositional characteristics of managers coping with organisational change. Researchers hypothesized that LOC, self-efficacy, self-esteem, positive affectivity, openness to experience, tolerance of

ambiguity and risk aversion would influence managerial responses to changes within their organizations. Researchers sampled 514 subjects from six organizations and administered measuring instruments to assess each dispositional factor. Organisational change was measured by several individual factors. Although multiple correlations between dispositional and organisational factors were significant, description of their nature is beyond the scope of the present thesis. Rather, description of relationships pertaining to the LOC construct is germane. In particular, internal LOC maintained significant relationships (corrected for sampling and measurement error) with other dispositional factors such as self-efficacy (0,57), self esteem (0,59), positive affectivity (0,56), openness to experience (0,33), tolerance of ambiguity (0,34) and risk aversion (-0,38). Regarding organisational change, internal LOC demonstrated significant relationships with coping with change (0,64), independent coping (0,23), organisational commitment (0,64), job satisfaction (0,43) and career plateau (-0,56). All dispositional factors were statistically and significantly related to successful coping to some degree. Factor analysis suggested that one general factor "positive self concept" were comprised of internal LOC, positive affectivity, self esteem and self-efficacy. Results confirmed earlier research that disposition factors relate to and mediate stress. These researchers concluded that organizations consider disposition factors in recruiting managers and that further research be conducted with these factors. Moreover, these researchers suggested that only a narrow band of dispositional factors were examined within organisational change and that other salutary characteristics be considered in future research.

Research suggests that LOC acts as a mediating factor against stressful events. Internals for example, are able to buffer against stressful stimuli and retain more manageable emotions. Other studies have suggested that internal locus of control might also assist with task actions and goal commitment. It is these salutogenic features that make locus of control suitable for the present study.

Support for the suggestion that LOC assists in task oriented behavior has been contributed through research. For example, Larson, Piersel, Imao and Allen (1990) considered antecedents to problem solving behavior within a college

student sample. Theorizing that metacognitive variables may influence problem solving behavior researchers sampled 443 students within 2 sample groups. Data from the research suggested that problem-solving behavior is influenced by locus of control and anxiety. Problem solving ability for example was negatively impacted by anxiety and external appraisals of control. Significant predictors of problem solving behavior were positive coping strategies, internal LOC and problem solving self-efficacy. Research suggested that appraisals of personal control and effective coping strategies, at least in part, contributed to problem solving ability.

The study by Larson, Piersel, Imao and Allen (1990) mirrored earlier research pertaining to confidence and plan making. In their study Osipow and Reed (1985) found a relationship between indecision and decision-making style. Surveying approximately 200 students, researchers found a significant inverse relationship between variables. Analysis of the data revealed that subjects with an external decision-making style also demonstrated a stronger undecided orientation. Subjects preferring an internal decision-making style demonstrated a stronger decided orientation. Osipow and Reed (1985) further noted that individuals with an internal decision-making style also demonstrated a predisposition toward self confidence and plan making. Findings suggest that internal LOC facilitates task actions. These actions may assist in decision-making.

Further student based research into the relationship of internal LOC and education and career orientation was recently conducted. Kerpelman and Mosher (2004) explored the relationships of locus of control, self-efficacy and responsibility and identity development with an African American cohort. In particular, these researchers sought ascertain whether internal LOC, self-efficacy, responsibility, identity exploration and commitment predict individual future education and career orientation above and beyond biographical information. Secondary hypotheses were that females and older students would have stronger future orientation. The above researchers sampled 267 (99 male & 168 female) African American students from a rural US school and administered measuring instruments to ascertain future orientation, self-efficacy, locus of control and responsibility, and identity exploration and commitment. Data analysis found

multiple significant findings beyond the scope of the present thesis. However, findings germane to the current thesis are discussed. One result of interest was that future career and education orientation were significantly associated to identity commitment and exploration, internal LOC and responsibility, and self-efficacy. Self-efficacy was moderately related to internal LOC and responsibility. Moreover, regression analysis found that internal LOC and responsibility, self-efficacy, and identity commitment were strong predictors of future education orientation. These same factors also significantly predicted future orientation more significantly than biographical factors. In general, findings suggested that girls demonstrated stronger future education and career orientation than boys. Similarly, older students manifest stronger future education orientations than younger students. Kerpelman and Mosher (2004) discussed the implications of relationships that had been measured. In particular, that future orientation was related to internal LOC, self-efficacy and older students was not surprising in that it corresponded with earlier research. Researchers suggested that, among other things, future research consider the role of locus of control and responsibility with future education and career orientation.

One current study investigating locus of control and career decidedness within a non-student adult population was conducted by Weinstein, Healy and Ender (2002). These researchers noted that non-student adult based research was virtually unexplored. In order to contribute to the literature researchers examined the relationship of anxiety and coping with perceived control in a female based cohort. A sample of 126 female health workers (average age: 25.79 years) were drawn from a medical services chain in the U.S. Researchers administered measuring instruments to ascertain biographical information, level of career indecision (CDS), state- trait anxiety (STAI), ways of coping (WOCC) and perceived control. Instrument packets were distributed to study participants, completed and returned to the researchers. Data analysis found that women demonstrating internal LOC reported greater problem focused coping. Conversely, women with external LOC demonstrated emotional focused coping. Similarly, internal LOC and less career indecision also corresponded to lower anxiety. Moreover, coping corresponded with lower anxiety. Results also indicated that internal perceptions of control when combined with problem focused coping

resulted in the lowest level of career anxiety. Internal control with low coping, however, resulted in high career anxiety. Weinstein, Healy and Ender (2002) concluded that the directionality of factors could not be established but suggested that internal LOC directly and indirectly influences choice anxiety within career contexts. Moreover, that LOC is related to career choice anxiety regardless of indecision suggests that LOC is a key factor within the career choice context. Weinstein, Healy and Ender (2002) suggested that dispelling negative beliefs might be a valuable component in career interventions. Such a step could assist in enhancing clients LOC. Implications for research with LOC and non-student adult women were discussed.

Career related research tying locus of control together with other dispositional factors has been established within the organisational milieu. In particular, Jackson and Rothmann (2001) conducted a study pertaining to the role of locus of control, self-efficacy and sense of coherence in predicting job satisfaction. An extensive sample of 689 adult employees from eight organizations was selected for research. Researchers administered measuring instruments to ascertain sense of coherence, self-efficacy, and locus of control. Data analysis found that employees of government and schools manifest the lowest job satisfaction. Similarly, health service and estate agency employees demonstrated lower autonomy than police, marketing and cigarette manufacturing employees. Significant relationships were also found between external LOC and SOC (-0,56), self-efficacy (0,25) and job satisfaction (0,43). Similar results suggested relationships between internal LOC and SOC (0,32), self-efficacy (-0,25) and job satisfaction (0,30). Jackson and Rothmann (2001) discussed inverted values with self-efficacy and other constructs as representative of positive adaptation. Discussion of results elaborated on the research findings. Financial pressures and external expectations may have contributed to low satisfaction scores with teachers and health workers. Implications of internal LOC's and SOC's contributions toward job satisfaction were also discussed. In particular, individuals demonstrating internal LOC and SOC may believe in their ability to work independently, with confidence, and take action, or problems solve, thereby contributing to job satisfaction. Jackson and Rothmann (2001) did not confirm earlier research suggesting that self-efficacy was a better predictor of satisfaction

than internal LOC. Authors suggested that this may have been due to the specific nature of self-efficacy. Implications for organisational training were discussed. Further research concerning dispositional factors and job satisfaction was posited.

Other research pertaining to the locus of control construct has been conducted in with the sense of coherence. Further discussion of pertinent locus of control research is provided in the next section.

## **4.2 SENSE OF COHERENCE**

Sense of coherence has been expounded by Antonovsky (1979) as cognitive expectancy that influences the way an individual “sees” the world. As an appraisal driven construct, sense of coherence influences the actions and affect of individuals as they navigate life stressors. Sense of coherence has been associated with well being and coping in the extant literature. This salutogenic tendency may assist career choice. Its nature is discussed.

### **4.2.1 Conceptualization**

Antonovsky (1979) suggested that individuals manage stress and tension, in part, through generalized resistance resources. These resources pertain to any characteristics (physical, biochemical, artifactual-material, cognitive, emotional, valuative-attitudinal, interpersonal-relational and macrosociocultural) of either individual or group that promote effective stress management (Antonovsky, 1979, p.103). According to Antonovsky (1979) sense of coherence is a global orientation that assists in both the management of stress and the promotion of health.

Sense of coherence has been described as an active and dynamic general health resource (Pallant & Lae, 2002; Vuori, 1994) that expresses the “extent to which one has pervasive, enduring and dynamic feeling of confidence that one’s internal and external environments are predictable and that there is a high probability that things will work out as well as can be reasonably expected” (Antonovsky, 1979, p.123). As such, sense of coherence is both a dispositional and perceptual construct with both cognitive and affective components that influence one’s

behavior (Harris, 1997). As noted by Antonovsky (1993), the SOC serves as a way of looking at the world that facilitates coping and personal well being. One can “view” the world and its stressors as negative, neutral or salutary. Whereas life stress can appear insurmountable to one individual, a person with stronger sense of coherence will appraise the same stress as having minimal impact. This person will believe that all will work out well (Antonovsky, 1979). Conversely, a person with weak SOC will become fixated on the stressors and potential negative outcomes by appraising them as burdens (Korotkov, 1998).

Antonovsky (1979) suggested that sense of coherence is developmentally influenced. Whereas persons who are younger are still malleable in their SOC orientation, adults are more solidified in their orientation (Fiorentino & Pomazal, 1998; Ryland & Greenfield, 1991). Older individuals, Antonovsky argued, would address life stressors with a greater degree of strength of their SOC orientation. Stronger sense of coherence appraisal would mean that an adult would more readily respond to stressors than younger counterparts. Empirical support for this trend has been tentatively established in the literature (Holmberg, Thelin & Stiernström, 2004; Larsson & Kallenberg, 1996; Nilsson, Holmgren & Westman, 2000).

Similarly, Antonovsky (1979) suggested that stress appraisal and SOC strength was consistent across stressors. For example, adults facing unemployment would not change in sense of coherence strength regardless of length of unemployment (Antonovsky, 1998a). Rather, SOC would mediate the stress of unemployment despite the potential changes due to unemployment status. Felton (1996) further argued that sense of coherence may also assist in decision-making and facilitate effective behaviors despite life stressors. This feature may be of significance to career decision-making research.

#### **4.2.2 Dimensions**

Antonovsky (1979; 1987; 1993) has suggested that SOC represents a single global cognitive appraisal measure. However, he notes that SOC maintains three distinct subdomains that combine to create the sense of coherence entity;

comprehensibility, manageability and meaningfulness. Though distinct in their function, Antonovsky suggests that each subcomponent is theoretically and empirically indivisible. Research has borne this out. Korotkov (1998) suggests that data analysis from several studies have found a single latent factor of sense of coherence.

Antonovsky (1979; 1987) discussed each of the three SOC subcomponents and their contribution to the sense of coherence entity. Comprehensibility is represented by one's appraisal that stressors are predictable, ordered and make cognitive sense to the individual. According to Korotkov (1998) this predictability allows the individual to anticipate and respond to stressors with the best adaptability. Manageability is represented by an individual's perception that they have internal and external resources to cope with life stressors. Both comprehensibility and manageability domains are conceived to operate primarily on a cognitive level whereas meaningfulness is conceived as a more affective component (Lustig & Strauser, 2002). Meaningfulness is represented to be the individual's appraisal that stimuli make emotional sense and that they are worthy of investing time and energy to address. Sense of coherence is conceived as a unidimensional continuum between weak and strong SOC (Antonovsky, 1993; Feldt & Rasku, 1998).

#### **4.2.3 Behavioral dynamics**

The salutogenic nature of the sense of coherence construct has implications for physical and psychological health (Vuori, 1994). Individuals with greater sense of coherence enlist generalized resistance resources (GRR's) that assist in navigating and buffering stress. Scientific research has found that sense of coherence has demonstrated a significant stress mediating effect (Albertsen, Nielsen & Borg, 2001; Cilliers, 2002; 2003; Diraz, Ortlepp & Greyling, 2003; Feldt, Kinnunen & Mauno, 2000; Höge, & Büssing, 2004; Ryland & Greenfield, 1991; Söderfeldt, Söderfeldt, Ohlson, Theorell & Jones, 2000) indicating that individuals with stronger SOC and GRR's manage stress more effectively than individuals with low SOC. Individuals with stronger SOC also exhibit greater physical health (Kivimaeki, Feldt, Vahtera & Nurmi, 2000; Lutgendorf, Vitaliano, Tripp-Reimer,



Harvey, & Lubaroff, 1999), and are less overweight, smoke and drink less and have better physical activity (Hassmén, Koivula, & Uutela, 2000; Holmberg, Thelin, & Stiernström, 2004; Poppius, Tenkanen, Kalimo & Heinsalmi, 1999; Van Loon, Tijhuis, Surtees, & Ormel, 2001).

Regarding psychological health, individuals with stronger sense of coherence also exhibit greater well being (Harris, 1997; Nasermodeli, Sekine, Hamanishi & Kagamimori, 2003; Pallant & Lae, 2002; Wissing & van Eeden, 2002), self esteem (Soderberg, Lundman & Norberg, 1997) and life satisfaction (Diraz, Ortlepp & Greyling, 2003; Lustig, Rosenthal, Strauser & Haynes, 2000). Individuals indicating stronger sense of coherence also uphold greater emotional stability (Mlonzi & Strümpfer, 1998; Sullivan, 2002), emotional calm and contentment (Johnson, 2004). Individuals with stronger sense of coherence also display less psychological difficulties such as neuroticism (Larssen & Kallenberg, 1999; Strümpfer, Gouws & Viviers, 1998), anxiety (Bernstein & Carmel, 1991; Felton, 1996; Geyer, 1997; McSherry & Holm, 1994), psychopathology (Bengston & Hansson, 2001; Petri & Brook, 1992), suicidal ideation (Rothman & Van Rensberg, 2002), dysfunctional thinking (Karlson, Seger, Osterberg, Gunnel, & Orbaek, 2000; Lustig & Strauser, 2002) and depression (Bernstein & Carmel, 1991; Carstens & Spangenberg, 1997; Frenz, 1990; Geyer, 1997).

The role of sense of coherence within career research is relatively new (Höge, & Büssing, 2004; Lustig & Strauser, 2002). Antonovsky (1987) originally proposed that sense of coherence would both mediate the effects of work stress on the individual while mobilizing internal and external general resistance resources (faith, family, unions, lobbying, job hunting etc.) to address the perceived stressors. These suppositions have gained empirical support in the literature. In particular, individuals maintaining stronger SOC indicate greater satisfaction with employment (Kalimo & Vuori, 1990; Rothmann & Coetzee, 2003; Strümpfer, 1995; Strümpfer, Danana, Gouws & Viviers, 1998), perceive less stress at work (Höge & Büssing, 2004), and indicate less burnout and emotional exhaustion (Cilliers, 2002; 2003; Gibar, 1998; Rothmann, Scholtz, Rothmann & Fourie, 2002). Similarly, lower sense of coherence has corresponded to greater stress and insecurity at the workplace (Holmberg, Thelin & Stiernström, 2004) and greater

negative career thinking within a career decision making context (Lustig & Strauser, 2002).

The nature of the sense of coherence concept is of value to the present study. Since SOC assists in both the mediation of stress and the general resistance resource mobilization to perceived stressors, SOC may shed light on the career choice with unemployed adults. Stronger SOC may in fact assist coping and career decision-making.

#### **4.2.4 Previous research on sense of coherence**

Sense of coherence is a global appraisal orientation towards life and external stimuli and considered as a factor that mediates stress. Whereas weak sense of coherence is associated with greater stress, strong SOC is associated with greater stress mediation. Similarly, SOC facilitates task action. Research into the salutogenic nature of sense of coherence has considered it with physiological responses, well-being, coping, dysfunctional thinking and problem solving. Where sense of coherence has been researched within work psychology in the past decade (Höge & Büssing, 2004) the nature of SOC may make it a valuable construct for career decision-making research (Lustig & Strauser, 2002). Research that is relevant to the present thesis is presented.

One study linking SOC construct to well-being, coping and employment was conducted by Kalimo and Vuori (1990) as a third wave of the “Healthy Child” longitudinal study in Finland. Research questionnaires were sent to 817 subjects who completed scales pertaining to competence and life satisfaction, SOC, coping strategies, work conditions and other factors originally surveying in the two prior stages of the study. Subjects were divided into four groups based upon competence and life satisfaction ratings. Multiple regressions were used from factors assessed in youth to predict competence and life satisfaction. Analysis of the data suggested that sense of coherence was the best predictor of differences among groups. Factors measured in youth were relatively weak predictors of competence and life satisfaction. Kalimo and Vuori (1990) suggested that adults who worked were among the most mentally healthy. Among these adults, those

with greater freedom from external controls and who had internal influence and control were the most satisfied with their lives. Conversely, within the unemployed adults' data set, those who had less internal influence or who were externally controlled had less well being and greater stress. Authors also noted that less education was correlated to less personal well being. Researchers further considered the coping styles of their sample. Individuals demonstrating strong well being also demonstrated better coping and applied problem focused strategies to their stressors. Individuals with poor well being demonstrated poorer coping and demonstrated greater cognitive distortions and dysfunctional thinking. Findings suggested that sense of coherence assisted in coping, problem solving and well being among research subjects. This finding is important to the present thesis.

Another study considering the stress buffering effects of sense of coherence was conducted by McSherry and Holm (1994). In their research authors reviewed sense of coherence and its effects on psychological and physiological responses prior, during and after stressful situations. Selecting their sample of 1000 students from college based environment, researchers administered the "orientation to life questionnaire" to segregate the sample into high medium and low levels of sense of coherence. Ten male and ten female subjects were then randomly drawn from each category for the remainder of the study. The subject sample (n=60) was then administered measures to consider state and trait personality factors, stress arousal, cognitive appraisal, coping and physiological arousal. At the time of assessment all subjects were baseline measured against skin temperature, pulse rate and skin resistance. Subjects were then asked to pretend to be in a job interview and give an unprepared speech while being video taped. Physiological responses were assessed throughout the speech. Analysis of the data revealed that sense of coherence was directly related to coping. Subjects demonstrating low sense of coherence exhibited higher levels of stress, anger and anxiety than high SOC groups. Concurrently, higher SOC groups also demonstrated a more positive outlook on life. Researchers suggested that this feature may assist in the stress buffering effects of SOC and lend to better coping and behavioral responses to stressors. These findings are consistent with Felton (1996). Further, higher SOC subjects believed that they had more coping resources and problem solving skills than their lower SOC counterparts. McSherry and Holm (1994) also

linked sense of coherence to cognitive factors. Lower SOC subjects demonstrated more negative self talk and negative personal attributions than high SOC subjects. These appraisals predispose individuals to greater stress and consequent reduction in coping response. For example, researchers found that low SOC subjects were less likely to use coping strategies than high SOC subjects. Findings lend support to Antonovsky's (1979, 1987) suppositions that low SOC subjects appraise stressors as too difficult and withdraw from effective coping behaviors. Higher SOC subjects, conversely, mobilize their resources and respond more favorably to life stressors. These findings have merit with respect to unemployment and career decision-making research.

Whereas locus of control and sense of coherence have demonstrated stress mediating effects as part of their nature, few studies have compared them in the same sample. Flannery, Perry, Penk and Flannery (1994) conducted a study pertaining to sense of coherence and locus of control and other variables in an adult based sample. Subjects were administered assessments to ascertain levels of sense of coherence, locus of control, social support, anxiety, depression and perceived hassles at both the onset of the study and at a seven week interval. Analysis of the data revealed that sense of coherence significantly and negatively correlated with perceived hassles and psychological distress. Individuals with greater sense of coherence demonstrated less stress than their low SOC counterparts. The sense of coherence was also found to demonstrate a stronger overall relationship to anxiety and depression than the locus of control construct. Further, stepwise regression analysis with both SOC and LOC found that the sense of coherence construct had a more significant predictive ability toward depression and anxiety than the LOC construct. In fact, locus of control did not account for variance with suggested criterion variables. Researchers concluded that Antonovsky's sense of coherence variable was a significant measure of coping toward life stressors and could be implicated in mediating anxiety, depression and coping. Further, authors suggested that sense of coherence was more effective than other dispositional constructs indicated as buffers to stress. These findings are germane to the present study.

In the same vein, a more recent study sought to clarify the health relevant status of the SOC in relation to other salutogenic factors: LOC, self-efficacy, fighting spirit and coping style (Johnson, 2004). In her study the researcher surveyed 409 undergraduate students and administered measuring instruments to assess each of the salutogenic factors. The sample consisted of 133 men and 276 women with a mean age of 23. Data analysis suggested that SOC held significant relations with other self-efficacy, LOC, and fighting spirit. Comparatively SOC demonstrated stronger relations with emotional coping and detached coping than LOC. Researchers indicated that SOC was the only salutogenic factor that significantly correlated with health. Researchers regressed salutogenic factors to ascertain their predictive value to health. Results indicated that the main predictor of health was SOC, though the LOC was also a significant secondary predictor. When negative affect was controlled for, SOC demonstrated the strongest predictor of health. Authors concluded that “SOC has a unique association to general health” beyond the impact of negative affectivity. Researcher concluded that SOC is a strong global coping factor related to health. The author cautioned however, that due to the developmental nature of the SOC and use of a student sample, generalizability of findings was limited. Older adult research would confirm findings.

Within stress related research, sense of coherence has demonstrated a positive relationship to coping, well being and problem solving skills. Conversely sense of coherence has also demonstrated negative relationships with physiological responses, stress and dysfunctional thinking. Because of these features, sense of coherence could contribute a fresh perspective to work related and career decision-making research. Only recently has SOC been considered in career related investigations. Several recent studies are of interest.

Höge & Büssing (2004) noted that the sense of coherence (SOC) construct had migrated from health related research into the domain of work psychology. Noting its salutogenic value, the researchers conducted a study to explore the effects of work stress, SOC and negative affectivity (NA) with work strain characteristics. Researchers sampled 205 hospital employees (doctors, nurses and health workers) and administered several measuring instruments. The sample was

comprised of 79 % female and 21 % male with a mean age of approximately 34 years. SOC was characterized as a salutogenic factor whereas negative affectivity was conceptualized as a superordinate personality trait that reflects an individual's tendency toward dysfunctional emotions. Data analysis found that SOC and negative affectivity maintained a statistically significant relationship ( $r = -.61$   $p < .01$ ). SOC demonstrated statistically significant inverse relationships with both work stress and strain. Negative affectivity similarly demonstrated significant inverse relationships with both work stress and strain. Further analysis found that SOC exerted a significant direct effect on strain. Moreover, higher SOC served to buffer stress related to work environments. Researchers noted that SOC may operate at a superordinate level, subsuming other factors. Research has yet to bare this out.

Another study exploring the role of sense of coherence in career settings was conducted by Rothmann and Coetzee (2003). In their study, researchers sought to clarify the relationship between salutogenic dispositional characteristics and performance and quality of the work life of adult subjects. These researchers surveyed 102 subjects (members of self managed teams) with an average age of 40. 66% of the subjects were male and 44% female. Subjects were administered measuring instruments to assess dispositional characteristics: SOC, LOC and self-efficacy. The above also administered assessments to measure quality of work life and team member effectiveness. Analysis of the data revealed that SOC, internal LOC and self-efficacy demonstrated statistically significant relationships to job satisfaction, growth satisfaction, social satisfaction and satisfaction in total. However, SOC was the only dispositional variable significantly statistically and inversely related to tension. Rothmann and Coetzee (2003) noted that external LOC maintained 'practical significance' in positively correlating to tension. Results indicated that individuals with high SOC and general self-efficacy will experience greater satisfaction in their working in team environments, opportunities for growth and working with others. Conversely, individuals with greater external LOC would have less satisfaction, commitment and growth satisfaction. Authors concluded that salutogenic factors could contribute to greater clarity in work related tasks and, for these reasons, should recruit further study in work and organisational domains.

Where recent studies have considered the role of SOC within work contexts one recent study considered it in relation to unemployment. In particular, Starrin, Jönsson and Rantakeisu (2001) completed a study of the sense of coherence and its relationship to factors within the unemployment experience of adult subjects. In particular, researchers postulated that individuals maintain perceptions of shame and financial hardship as a result of unemployment would have a more difficult experience of unemployment and lower SOC. These researchers sampled 1249 unemployed adults (49% female, 51 % male, mean age approximately 40 years) from a Swedish re-employment training cohort. Subjects were administered a series of questionnaires aimed at assessing financial hardship and shaming experiences and individual sense of coherence. Preliminary data analysis found that sense of coherence maintained a significant positive relationship with both age and level of education. Moreover, data revealed that individuals experiencing shame as a result of unemployment demonstrated significantly lower SOC. Data also revealed that individuals experiencing financial hardship as a result of unemployment demonstrated significantly lower SOC. Findings did not imply causality, however researchers indicated that longitudinal and qualitative research could assist in clarifying the role of SOC in unemployment.

The research pertaining to sense of coherence within the career decision-making milieu is virtually non existent. However, one study considered sense of coherence with negative career thoughts. Authors speculated that career specific beliefs could be influenced by a more global cognitive orientation to life. In order to evaluate this supposition Lustig and Strauser (2002) utilized a freshman student population to examine the relationship between sense of coherence and career thoughts. One hundred and forty six subjects were administered several assessments to ascertain demographic information, sense of coherence and negative career thoughts. Analysis of the data suggested that individuals recording stronger sense of coherence also demonstrated lower levels of negative career thoughts. Researchers also noted that this trend was consistent with earlier research whereby higher sense of coherence was positively associated with positive thinking (Antonovsky, 1993; Korotkov, 1998). Lustig and Strauser (2002) noted that SOC global scores accounted for 14% of the variance in the CTI

global and subscale scores. Less SOC strength was associated with greater dysfunctional career thinking. This finding suggests that individuals with greater sense of coherence resources would most likely buffer the stress of career decision-making favorably. This stress buffering tendency of SOC would assist individuals in dealing more effectively with career decision-making. Lustig and Strauser (2002) also noted that SOC contributed to the variance of each CTI subscale. For example SOC accounted for 10% of decision-making confusion (DMC) variance. This finding suggests that individuals with greater SOC would be less confused about career decision-making and have fewer negative emotions about career choice. SOC also contributed 13% of the variance with commitment anxiety (CA). This finding suggests that individuals with greater SOC would have less anxiety about committing to a career choice. SOC also accounted for a 9% variance with external conflict (EC) this finding would suggest that individuals with a stronger sense of coherence would be less influenced by the views of others and could come to their own decision about their career choice. The overall contribution of the research was that cognitive expectancy appeared to influence career thinking. This finding could in turn suggest that one's sense of coherence could assist in career decision-making and potentially career decidedness. Lustig and Strauser (2002) concluded that despite being a preliminary study with the sense of coherence in career choice research, sense of coherence was an important construct for further career decision-making research. Authors also suggested that in order to further contribute to the literature pertaining to sense of coherence and career thoughts that non student research should be used. In particular, Lustig and Strauser (2002) noted that subjects be considered for further research who originate from existing career decision-making environments.

### **4.3 CHAPTER SUMMARY**

The aim of this chapter was to present the literature pertaining to salutogenic functioning constructs, vis-à-vis locus of control and sense of coherence. As such, each construct was discussed conceptually, as were their dimensions, behavioral dynamics and bodies of literature.



Locus of control has largely been framed as a salutogenic cognitive expectancy that corresponds to the perception that personal agency or external factors contribute to personal outcomes. Internal locus of control has been associated to behaviors consistent with goal oriented actions. External locus of control has been associated to goal avoidance behaviors because of the attribution that action does not equal goal achievement. Within the extant literature, internal locus of control has demonstrated a stress mediating capacity. Locus of control also maintains a body of research within the career development literature. These features make locus of control a suitable salutogenic construct for the present thesis.

Sense of coherence has largely been framed as a salutogenic cognitive expectancy that influences how an individual appraises his world. As such, it is a global belief that life and its stressors are predictable and that there is a strong probability that things will work out as well (Antonovsky, 1987). Sense of coherence has been described as having three theoretically and empirically intertwined sub domains: comprehensibility, manageability and meaningfulness. Individuals demonstrating strong sense of coherence mediate stress effectively and respond with greater resources and proactive behavior.

Whereas locus of control has been researched within stress and career decision-making literature sense of coherence has predominantly been considered in stress related research. It has only been recently that it been utilized in career choice research. Within the literature both internal locus of control and sense of coherence have demonstrated associations with coping, problem solving and self-talk. However, whereas internal locus of control and sense of coherence both mediate the effects of stress, the sense of coherence construct has demonstrated superior stress buffering properties. Given its nature, sense of coherence may contribute a fresh perspective to career indecision. As such salutogenic factors such as internal LOC and SOC may be of interest in further career decision-making research as it pertains to the career indecision of adults.

## **CHAPTER 5            THEORETICAL INTEGRATION**

The aim of the current chapter is to theoretically integrate the literature on negative career thoughts, career decision-making self-efficacy, locus of control and sense of coherence in order to formulate a theoretical hypothesis for empirical study. This integration is contextualized and conceptualized as are its dimensions and behavioral dynamics. A personality profile is also provided, as is a chapter summary.

### **5.1    CONTEXTUALIZATION**

In order to understand the significance of the current thesis some context should be given. Where career development research has explored the contribution of cognitive factors in career decision-making, this undertaking has almost universally considered college student based populations (Gordon, 1998; McWhirtner, Rasheed & Crothers, 2000) leaving career indecision of non student adults virtually unexamined (Quimby & O'Brien, 2004; Weinstein, Healy & Ender, 2002). This feature may limit the generalizability of research to older non-student adult populations. Adult, non-student based career decision-making research could broaden the literature.

Within the present literature review almost all career choice studies have utilized high school subjects (Gati & Saka, 2001; Kerpelman & Mosher, 2004; Kraus & Hughey, 1998; Lewis, 1981; McWhirtner, Rasheed & Crothers, 2000; Ochs & Roessler, 2004; Patton & Creed, 2001; Taylor, 1982; Taylor & Betz, 1983), or college based samples (Albert & Luzzo, 1999; Bergeron & Romano, 1994; Carr, 2004b; Enright, 1996; Heppner & Hendricks, 1995; Lounsbury, Tatum, Chambers, Owens & Gibsons, 1999; Lustig & Strauser, 2002; Luzzo & Ward, 1995; Paulsen & Betz, 2004; Peng, 2001; Peng & Herr, 2000; Reed, Lenz, Reardon & Leierer, 2000; Saunders, Peterson, Sampson & Reardon, 2000; Savickas & Carden, 1992; Stead, Graham, Watson & Foxcroft, 1993; Stead & Watson, 1993; Sweeney & Shill, 1998; Symes, 1998) in order to understand the nature of career indecision. The problem with this trend is that students are developmentally different in age, life experience and cognitive processes than older non-student adults.

Within the reviewed literature, the majority of students were below the age of 25: Carr (2004b) mean 20; Heppner and Hendricks (1995) mean 20; Larson, Butler, Wilson, Medora and Allgood (1994) mean 19; Luzzo and Ward (1995) mean 24.78; Ochs and Roessler (2004) range 16-19; O'Hare and Tamburri (1986) mean 20.16; Savickas and Carden (1992) mean 18.19; Savickas and Carden (1992) mean 19.09; Serling and Betz (1990) mean 18.9; Stead, Graham, Watson and Foxcroft (1993) mean 21.8; Patton and Creed (2001) mean 15.14; Stead and Watson (1993) mean 19.6. This trend has been noted in the extant career decision-making literature and is at issue. Since not all adult groups are homogenous (Savickas, 1994) young adult research may miss the developmental issues that influence older adult career decision-making (Hall, 1992).

Career decision-making is mediated by developmental factors (Hall, 1992; Patton & Creed, 2001; Super, 1983; Super, Savickas & Super, 1996). As such, individuals must navigate specific life stages (growth, exploration, establishment, maintenance and disengagement) as they grow older (Super, 1983). As individuals developmentally mature (interests, understanding and abilities) their self-concept changes through the integration and synthesis of new information. This developmental process guides their career decision-making from early childhood toward retirement. Super (1990) suggests that individuals below the age of twenty five maintain different developmental tasks than mid-twenty or older adults. For example, young adults may be navigating the *exploration* stage of career development and as such be performing specification or implementation tasks related to that stage. In particular, these persons would be considering tentative vocational choices and the educational requirements related to those tentative choices. In contrast, older adults (25-44) would be entering the *establishment* stage of Super's model. The individuals' task during this stage is to stabilize in their career choice. This task is conducted through use of skills and talents in work environments and the confirmation that one's career choice is suitable. Older adults (45+) would similarly have different developmental stages (*maintenance or disengagement*) and tasks than young adults (Super, 1990; Super, Savickas & Super, 1996).

Fundamental distinctions demarcate the boundary of career indecision of students (typically in the exploration stage) and older non-student adults. In particular, college students do not represent the norm for young adult behavior. In a current study by Desruisseaux (1998), research suggested that in the U.S. approximately 75% of the student population complete high school and of that, 50% enroll in college. Within the first year of college 27% drop out. Of the remaining students, only 55% graduate with a degree. Canadian statistics do not fare much better with 50% student attrition during college (Perry, 2003). That career indecision is researched within such a narrow band of the student population is problematic. In particular, statistics clearly imply that indecision is typical for students. Non-educational employment and academic withdrawal options are normal for many students. These factors are not clearly represented in the literature.

Student based career indecision research is also demarcated along task orientation lines. In particular, students' tasks primarily pertain to their academic role. As such they typically face academic competition, unfamiliar academic tasks, pressure to excel, new social environments and pressure related to success and failure (Perry, Hladkyj, Pekrun & Pelletier, 2001). Career decision making research during this time may reflect students who are prematurely career decided (needing more information, avoiding conflict, etc.) or undecided (deferring choice, developmental issues, etc.) (Sampson, Reardon, Peterson & Lenz, 2004). Conversely, career decision-making for older adults often occurs through transitional periods such as unemployment (Amundson & Borgan, 1996; Osipow, 1999; Phillips & Blustein, 1994). Loss of work or transition during this time means rethinking one's career and life direction with huge existential questions (Frankl, 1986). Whereas a young adult may simply reevaluate and explore their academic or life direction, they are at the beginning of their career and as such could review multiple options.

By contrast, older adults may have invested a lifetime acquiring skills related to a profession. To change may mean to acquire a whole new skill set. Moreover, career change may not be proactive but rather crisis oriented (Amundson & Borgan, 1996; Joseph & Greenberg, 2001). Organisational change, downsizing or rightsizing may mean loss of earning, status, identity and meaning (Feather, 1997;

Judge, Thoresen, Pucik & Welbourne, 1999; Osberg, Wien & Grude, 1995). Career decision-making during unemployment may be stressful (Hanish, 1999; Starrin, Jönsson & Rantakeisu, 2001; Vinokur & Schul, 2002). Salutogenic factors that buffer the stress may assist in navigating organisational change (Judge, Thoresen, Pucik & Welbourne, 1999). This has yet to be explored with non-student adults.

That developmental factors may mediate career choice is further substantiated in scientific research. In particular, research has found that younger subjects have demonstrated greater career indecision than their older adult counterparts. One study conducted by Luzzo and Ward (1995) found that career choice was influenced by age. Findings suggested that older students were more occupationally clear and congruent than younger subjects. Similarly, older subjects demonstrated more internal appraisals of personal control than younger adults. Another study by Peng and Herr (2000) surveyed students with several assessments in order to ascertain career indecision levels. Multivariate data analysis found a main effect for age. In particular, older students were more decided than younger students. Luzzo (1995) and Luzzo, Funk and Strang (1996) similarly noted that older subjects reported greater career decision-making attitudes skills and confidence than younger subjects.

Research has also found that age and developmental stages may influence cognitive appraisal. For example, Multon, Brown and Lent (1991) conducted a meta-analysis of 39 studies relating efficacy beliefs to performance and persistence. They concluded that age was a significant factor in outcome performance. Older students performed better on specific tasks than younger subjects. Researchers concluded that older students could have more life experiences and more defined self-appraisal abilities than younger students. These appraisals, they suggested, could influence the research process.

Lewco (1994) similarly noted that age-related appraisal may even affect individual test responses. For example, he notes that developmental factors may influence cognitive appraisal of test items where by younger and older students may read

the same test items from different perspectives based upon life experiences. In essence, developmental perspective could skew subject's responses.

The meta-analysis conducted by Hanish (1999) similarly found that age was related to appraisal of stress and coping. In her research she noted that younger individuals maintained lower levels of stress than older adults when facing unemployment. Hanish also noted that older adults were more likely to experience anxiety than younger subjects when facing this stressor.

It is clear that much of the current career indecision literature is based upon young adults. It is also clear that young adults may face differing developmental stages and roles than older adults. These developmental differences may affect career decision-making in unique ways based upon the nature of the subject sample. For this reason it may be beneficial to expand career choice literature through the exploration of the career indecision problem space of older, non-student, adult populations. This has been recommended in the literature (Austin, Wagner & Dahl, 2003; 2004; Gati & Saka, 2001; Gordon, 1998; Luzzo, Funk & Strang, 1996; Sampson, Peterson, Lenz, Reardon & Saunders, 1996; Taylor & Popma, 1990; Weinstein, Healy & Ender, 2002). Broadening the literature in this way would make research more representative of the larger adult population.

## **5.2 CONCEPTUALIZATION**

Career decision-making is complex and interactive (Gordon, 1998; Savickas, 1995). Career psychologists have studied the nature of career decision-making and career decidedness in hopes of clarifying the factors that influence career choice. Whereas multiple general factors influence career decisions, internal factors that mediate this process are of interest to career literature (Giesbrecht, 1997; Mitchell & Krumboltz, 1991; Wong, 1998). In particular, research pertaining to cognitive factors that influence career choice may broaden our understanding of career indecision (Borgan, 1991; Lent, Brown & Hackett, 1996; Saunders, Peterson, Sampson & Reardon, 2000). The thesis utilizes cognitive factors related to career thoughts and salutogenic coping to explore career choice with adults.

With respect to career decidedness literature, research has suggested that career thinking relates to career indecision. In particular, negative career thoughts are significantly related to, and predictive of, career indecision (Austin, Wagner & Dahl, 2003; 2004; Reed, Lenz, Reardon & Leirer, 2000; Saunders, 1997, Saunders, Peterson, Sampson & Reardon, 2000). Furthermore, research has demonstrated that career decision-making self-efficacy is significantly related to, and predictive of, career indecision (Bergeron & Romano, 1994; Taylor & Betz, 1983; Taylor & Popma, 1990). These career thinking factors have not been previously researched together. Adult based research with these constructs will enhance the career decision-making literature. Such research between negative career thoughts and career decision-making self-efficacy has been suggested (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b).

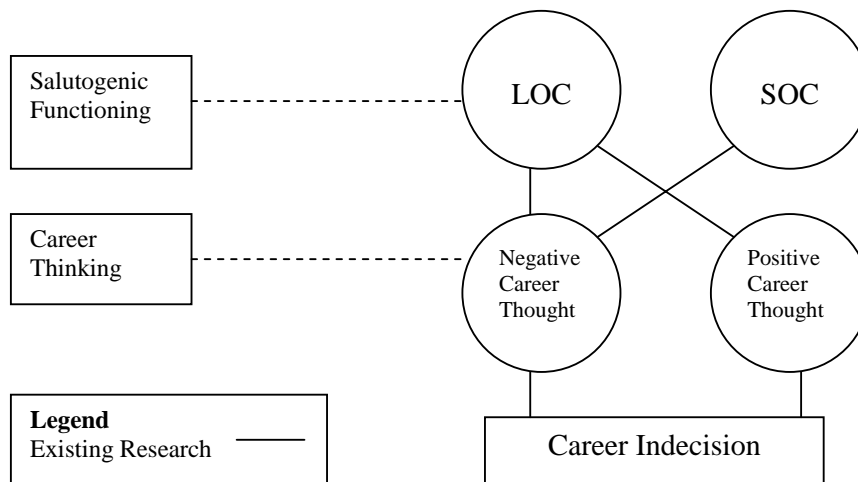
Within the salutogenic literature review, cognitive factors have demonstrated their stress mediating properties. In particular, cognitive expectancies such as locus of control and sense of coherence have been shown to mediate stress effectively. Research has demonstrated that sense of coherence is a more effective mediator of stress than locus of control.

Within career development literature, career thinking and salutogenic functioning constructs have been linked in separate bodies of research. Negative career thoughts have demonstrated an empirical relationship to locus of control (Saunders, 1997; Saunders, Peterson, Sampson & Reardon, 2000) and sense of coherence (Lustig & Strauser, 2002). Career decision-making self-efficacy has also demonstrated an empirical relationship with locus of control (Brown, Reedy, Fountain, Johnson & Dichiser, 2000; Luzzo, 1995; Luzzo, Funk & Strang, 1996; Taylor & Popma, 1990). However, career decision-making self-efficacy has not been researched with sense of coherence within career choice literature. Moreover, though salutogenic constructs have migrated to career development literature, locus of control and sense of coherence have not been researched together in the same adult centered career development study.

A diagram of current student based career indecision research utilizing negative career thoughts, career decision-making self-efficacy, locus of control (LOC) and

sense of coherence (SOC) is noted below. See figure 5.1 (Note: salutogenic factors are listed at the top of the diagram to reflect individual perceptual/appraisal stress buffering qualities which theoretically precede task specific career related cognitions).

*Figure 5.1* Model of existing student-based research between career thinking and salutogenic functioning.



### 5.3 DIMENSIONS

Four constructs are proposed to explore the career indecision problem space of unemployed adults. Career thinking, vis-à-vis negative career thoughts and career decision-making self-efficacy, represent “career specific” cognitive constructs that influence career choice. Salutogenic functioning, vis-à-vis internal locus of control and sense of coherence, represent the salutogenic general cognitive expectancies that mediate the stress of unemployment and may relate to career thoughts and contribute to career choice.

Within the career decision-making and salutogenic literatures, locus of control is a central construct. As a cognitive expectancy construct, locus of control has been liberally used in career decidedness research. As such, it strongly relates to career indecision (Fuqua, Blum & Hartman, 1988; Larson, Piersel, Imao & Allen, 1990; Taylor, 1982). In particular, individuals demonstrating external locus of



control have also demonstrated greater career indecision. Individuals demonstrating internal locus of control have stronger career clarity. Locus of control has also related to career thoughts in the literature.

Locus of control has also been linked to negative and positive career thoughts. Stronger levels of negative career thinking correspond to greater career indecision (Austin, Wagner & Dahl, 2004; Reed, Lenz, Reardon & Leirer, 2000; Saunders, 1997; Saunders, Peterson, Sampson & Reardon, 2000). In particular, research has demonstrated that greater negative thinking corresponds to a more external locus of control orientation. Conversely, lower negative career thinking relates to an internal locus of control (Saunders, 1997; Saunders, Peterson, Sampson & Reardon, 2000). Within the context of career indecision, greater levels of negative career thoughts have been found to be more predictive of indecision than strong external levels locus of control (Saunders, 1997; Saunders, Peterson, Sampson & Reardon, 2000).

Similarly, lower levels of career decision-making self-efficacy correspond to greater career indecision (Bergeron & Romano, 1994; Taylor & Betz, 1983; Taylor & Popma, 1990). In particular, research has demonstrated that lower career decision-making self-efficacy corresponds to a more external locus of control orientation. Conversely, higher levels of career decision-making self-efficacy correspond to stronger internal locus of control appraisals (Brown, Reedy, Fountain, Johnson & Dichiser, 2000; Luzzo, 1995; Luzzo, Funk & Strang, 1996; Taylor & Popma, 1990). Within the context of career indecision, higher levels of career decision-making self-efficacy were more predictive of career decision-making behaviors than internal locus of control (Luzzo, 1995).

Locus of control has also demonstrated stress mediating properties in salutogenic literature. Research has found that internal locus of control has related to stress reduction (Kilpatrick, Dubin & Marcotte, 1974; Van Der Merwe & Greef, 2003; Waters & Moore, 2002) where external locus of control has related to increased stress and anxiety (Hack & Degner, 2004; Larson, Piersel, Imao & Allen, 1990; Manuck, Hinrichsen & Ross, 1975; Peakock & Wong, 1996).

Sense of coherence has also demonstrated its stress mediating properties. Within the literature stronger sense of coherence relates to better coping and less stress (Berg & Hallberg, 1999; Hedov, Annernen & Wikblad, 2002; Hintermair, 2004; Kalimo, Pahkin & Mutanen, 2002; Kalimo & Vuori, 1990). Low sense of coherence has related to greater stress and anxiety in research (Flannery, Perry, Penk & Flannery, 1994; McSherry & Holm, 1994). Within the literature, weaker levels of sense of coherence have been found to predict stress more effectively than external locus of control (Flannery, Perry, Penk & Flannery, 1994). These findings suggest that sense of coherence may relate more effectively than locus of control to career thoughts within the stressor of unemployment. This has yet to be established.

Preliminary evidence for this supposition is found in the career development literature. Where, high levels of sense of coherence have been linked to stress mediation, low levels have been linked to greater stress as well as negative self talk and negative personal attributions (McSherry & Holm, 1994). Other research has suggested that low levels of sense of coherence correspond to greater negative career thoughts (Lustig & Strauser, 2002).

Though research with the subcomponents of the sense of coherence has been discouraged in the literature (Antonovsky, 1979; 1993; Korotkov, 1998), their relationship to career thinking constructs is expected. In particular, comprehensibility, manageability and meaningfulness should maintain similar relationships with negative career thoughts as the general sense of coherence score. As such, greater negative career thinking would equate with lower levels of comprehensibility, manageability and meaningfulness. Conversely, lower levels of negative career thinking would equate with higher levels of comprehensibility, manageability and meaningfulness. Currently, the extant research has not explored these relationships.

Subcomponents of the sense of coherence are also expected to relate to career decision making self-efficacy. In particular, comprehensibility, manageability and meaningfulness should maintain similar relationships with career decision making self-efficacy as the global sense of coherence score. As such, greater CDMSE

should correspond to greater comprehensibility, manageability and meaningfulness. Conversely, lower CDMSE should correspond to lower comprehensibility, manageability and meaningfulness. Currently, the extant research has not explored these relationships.

Further research between career thinking vis-à-vis negative career thoughts and career decision-making self-efficacy, and sense of coherence would broaden the career development literature.

#### **5.4 BEHAVIORAL DYNAMICS**

The current thesis considers the relationship between career thinking and salutogenic functioning constructs. As such, unemployment will provide the backdrop against which locus of control and sense of coherence will mediate stress. Career indecision will provide the context for negative career thoughts and career decision-making self-efficacy. Adults will provide a non-student forum for research.

Negative career thoughts are pervasive dysfunctional cognitions that pertain to career decision-making. These cognitions are believed to impair career choice (Sampson, Reardon, Peterson & Lenz, 2004). The current thesis anticipates that negative career thoughts will demonstrate behavioral dynamics with other constructs within a career indecision milieu. The career development literature has demonstrated that negative career specific thoughts have been directly linked to career indecision. Greater negativity in career thoughts more strongly associates with and predicts career indecision (Austin, Wagner & Dahl, 2004; Reed, Lenz, Reardon & Leirer, 2000; Saunders, 1997, Saunders, Peterson, Sampson & Reardon, 2000). According to Sampson, Peterson, Lenz, Reardon and Saunders, (1996), negative career thoughts can manifest in greater confusion, anxiety or externalized locus of control.

This relationship with a salutogenic cognitive expectancy has been confirmed in the literature (Saunders, 1997; Saunders, Peterson, Sampson & Reardon, 2000). Similarly, greater negative career thoughts have been associated with lower

sense of coherence (Lustig & Strauser, 2002). Follow up research pertaining to these constructs has yet to be conducted. Concurrently, where negative career thoughts represent one aspect of career thoughts, career decision-making self-efficacy represents a positive career specific cognition. Reason would suggest that these constructs would demonstrate an inverse relationship. However, research conducted between negative career thoughts and career decision-making self-efficacy is virtually nonexistent. Research to establish their relationship has been suggested (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b).

Self-efficacy pertains to an individual's belief about their ability to perform specific tasks. Within the career development literature career decision-making self-efficacy pertains to one's confidence to perform career decision-making tasks. Greater career decision-making efficacy is believed to promote career decision-making and clarity. Within the extant literature self-efficacy has demonstrated specific behavioral dynamics. In particular, strong self-efficacy is associated with greater initiation and sustaining of tasks (Luzzo, 1995, Luzzo, 1996) and career specific attitudes and skills (Luzzo, Funk & Strang, 1996). Conversely, low self-efficacy relates to avoidant coping (Williams, 1995), avoidance of tasks (Bandura, 1986; Luzzo, 1996) and avoidance of career decision-making tasks (Luzzo, 1996; Luzzo & Ward, 1995). Research has consistently demonstrated that career decision-making self-efficacy is associated with and predictive of career indecision (Bergeron & Romano, 1994; Taylor & Betz, 1983; Taylor & Popma, 1990).

Research also implies that career decision-making self-efficacy could relate to negative career thoughts. For example, within this body of literature career decision-making self-efficacy has demonstrated a relationship with anxiety. As such, individuals with low career decision-making self-efficacy have exhibited greater anxiety (Jerusalem & Mittag, 1995; Taylor & Betz, 1983). Similarly, low career decision-making self-efficacy relates to greater maladaptive attributions (Betz, Klein & Taylor, 1996). This research would support that a relationship could exist between career decision-making self-efficacy and negative career thoughts.

Career decision-making self-efficacy has also demonstrated a relationship with cognitive expectancy. Low career decision-making self-efficacy has consistently related to locus of control (Luzzo, 1995; Luzzo, Funk & Strang, 1996; Taylor & Popma, 1990). Career decision-making self-efficacy has not been researched with other cognitive expectancies such as sense of coherence.

Locus of control pertains to one's cognitive expectancy of the degree to which an individual's actions affect a desired outcome. Within positive psychology research, internal locus of control has demonstrated its salutary effects through promoting well being (Morrison, O'Connor & Morrison, 2001) and stress mediation (Van Der Merwe & Greef, 2003; Waters & Moore, 2002). External locus of control has been associated to avoidant coping (Wanberg, 1997). Locus of control has also related to personal agency behaviors. As such, externals withdraw from agentic behaviors (Lefcourt, 1982; Wanberg, 1997) and perform poorly at problem solving (Larson, Piersel, Imao & Allen, 1990). Internals more readily engage and sustain salutary behaviors (Ellis & Velten, 1992) and goal commitment (Kilpatrick, Dubin & Marcotte, 1974). As referenced, locus of control has been extensively researched in the career development literature and demonstrated relationships with negative career thoughts and career decision-making self-efficacy within career development literature. External locus of control has associated with greater negative career thinking and lower career decision-making self-efficacy. Internals maintain lower negative career thoughts and greater CDMSE. That locus of control is malleable contingent upon age and crisis events (Smith, 1970) such as unemployment may make the LOC construct relate more weakly to career thought constructs than other salutogenic constructs in adult based research. This has yet to be determined.

Sense of coherence is another salutogenic cognitive expectancy that life events are comprehensible, meaningful and manageable. Developmentally set by adulthood (Fiorentino & Pomazal, 1998; Ryland & Greenfield, 1998), sense of coherence is stable and unmoved through stressors such as unemployment (Antonovsky, 1998a). High levels of sense of coherence are related to effective coping with stressors (Felton, 1996; Flannery, Perry, Penk & Flannery, 1994; McSherry & Holm, 1994) and personal agency (Berg & Hallberg, 1999). These

features would make sense of coherence an ideal construct for further exploration within adult career decision-making research. That sense of coherence mediates stress more effectively than locus of control (Flannery, Perry, Penk & Flannery, 1994) may suggest that it would relate to career thinking more effectively than locus of control. This has yet to be determined.

Research suggests that low levels of sense of coherence have demonstrated a significant degree of association with negative thinking and cognitive distortions (Kalimo & Vuori, 1990). Similarly, low levels of sense of coherence have significantly related to anxiety (McSherry & Holm, 1994), a significant marker of negative career thoughts. When compared to locus of control, sense of coherence exhibits a stronger degree of association to anxiety (McSherry & Holm, 1994). The literature confirms that low levels of sense of coherence relate to negative career thoughts (Lustig & Strauser, 2002). However, no research has established the relationship between sense of coherence and career decision-making self-efficacy.

## **5.5 PERSONALITY PROFILE**

The career decision-making literature universally reflects student based populations. Little research exists for the non-student adult career decision-making milieu. As such, the career indecision problem space with adults is unexplored.

As most adults face their career decisions within a transitional time, they invariably face unemployment. How they mediate the stress of unemployment will influence their career choice. For this reason, establishing the relationship between stress mediating cognitive expectancies and career specific cognitive factors will shed light on the career indecision problem space of adults.

Within an unemployed, career undecided adult population, adults should hold degrees of relationship with salutogenic constructs: locus of control and sense of coherence. Individuals holding internal locus of control will mediate stress better than those with external locus of control. Similarly, individuals with stronger sense

of coherence will mediate stress better than those with weaker sense of coherence.

Within the career decision-making context, locus of control and sense of coherence should also relate to career thought constructs. In particular, internal locus of control should relate more strongly to low levels negative career thoughts than externals in career undecided adults. Similarly, internals should relate more significantly to higher levels of career decision-making self-efficacy than externals in this population.

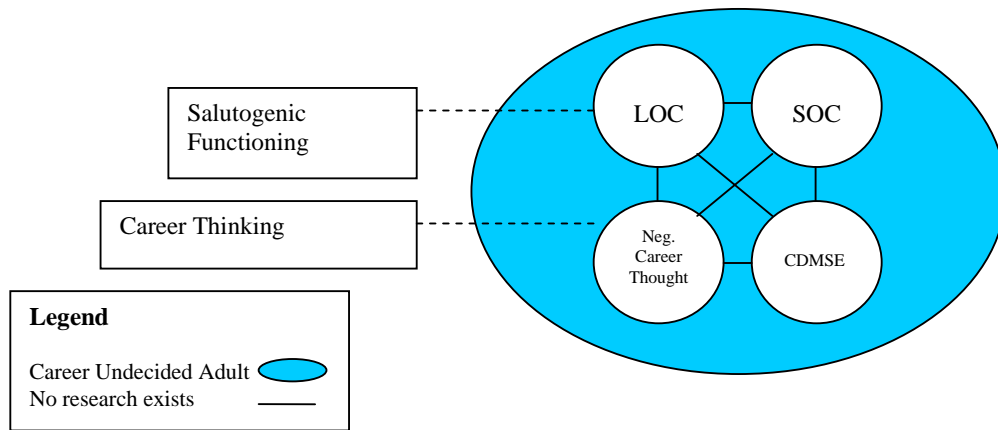
Higher levels of sense of coherence should relate to lower levels of negative career thoughts than low sense of coherence within an unemployed, career undecided population. Similarly, higher levels of sense of coherence should relate to greater levels of career decision-making self-efficacy than lower SOC within this adult population. Within this adult population, negative career thoughts should demonstrate an inverse relationship with career decision-making self-efficacy.

The literature suggests that sense of coherence mediates stress better than locus of control. When compared together, sense of coherence should demonstrate a greater relationship to negative career thoughts and career decision-making self-efficacy than locus of control.

Since no research has explored career indecision in unemployed adults, any association between career thinking and salutogenic functioning is purely theoretical. Further research would bare these relations out. The theoretical hypothesis is “What is the relationship between career thinking and salutogenic functioning?”

The research schema to test the hypothesis is noted below. See figure 5.2

Figure 5.2 Research model exploring career thinking and salutogenic functioning with career-undecided non-student adults.



## 5.6 CHAPTER SUMMARY

The aim of the chapter was to theoretically integrate the literature on career thinking, vis-à-vis negative career thoughts, career decision-making self-efficacy, and salutogenic functioning, vis-à-vis locus of control and sense of coherence in order to formulate a theoretical hypothesis for empirical study.

Within the chapter, the contribution of career thinking to career development research was discussed. In particular, the integration of negative career thoughts and career decision-making self-efficacy was conceptualized with locus of control and sense of coherence within the career indecision problem space of students. Similarly, the relationships between negative career thoughts, career decision-making self-efficacy, locus of control and sense of coherence were discussed as were their dimensions and behavioral dynamics. A personality profile framed the potential relationships between career thoughts and salutogenic constructs within an unemployed, career undecided, adult population. A theoretical hypothesis was provided.



## **CHAPTER 6            EMPIRICAL STUDY**

The present chapter describes how the empirical study was conducted. The aim of the present chapter is to aid in determining the psychometric relationship between career thinking, vis-à-vis negative career thoughts, career decision-making self-efficacy and salutogenic functioning, vis-à-vis locus of control and sense of coherence. Moreover, this chapter discusses the population, sampling technique, sample characteristics, measuring instruments, data collection and processing and hypotheses. A chapter summary is also presented.

### **6.1    POPULATION AND SAMPLE**

A sample signifies a small portion of a larger body of interest and represents characteristics and qualities of that population (Babbie, 2001). This section delineates the population and sample of the current study.

#### **6.1.1            Population**

Career indecision has been largely studied within student populations (Gordon, 1998; McWhirtner, Rasheed & Crothers, 2000), leaving the majority of adults outside of career development research for several reasons (Weinstein, Healy & Ender, 2002). Many adults do not make career choices in academic contexts (Desruisseaux, 1998; Perry, 2003) but rather in the stress of life transitions (Amundson & Borgan, 1996; Osipow, 1999; Phillips & Blustein, 1994). Similarly, older adults make career choices under the influence of distinct developmental, cognitive and salutogenic factors than their younger student counterparts (Patton & Creed, 2001; Super, 1983; Super, Savickas & Super, 1996). For these reasons the present career development research focused upon adults that were not part of a college or university setting.

The population of research was determined as Canadian adults who were making career decisions in the midst of life transitions vis-à-vis unemployment. Specific characteristics were sought to represent the larger population. In particular, the

research population was designated as unemployed, non-student, Canadian adults (both male and female), and demonstrating career indecision.

### **6.1.2 Sampling Technique**

The researcher elected to use a non-probability sampling technique to select participants. According to Babbie (2001), non-probability sampling can be used when methods of probability sampling are not available. Since no sampling frame readily existed for unemployed, career undecided, non-student adults, a purposive sampling technique was used. Purposive sampling is deemed appropriate when certain elements of a population are known and valuable to the study (Babbie, 2001). This sampling method was most appropriate to ensure a homogenous and representative sample that would generalize the larger adult population (Field, 2002).

In order to ensure representativeness of the larger adult population (Cone & Foster, 1993), specific inclusion criteria were used to select research participants. In particular, subjects were required to be non-student adults who were unemployed and career undecided at the time of research. Subjects were also to be voluntary participants in research. Subjects were excluded from the study by their refusal to participate in research or by lack of completion of measuring instruments.

A recruitment strategy was devised in partnership with Human Resources Development Canada (HRDC) funded career decision-making programs in order to locate a robust sample that met inclusion criteria. The researcher solicited eight of a possible 12 community based career decision-making programs to participate in the current research project (Reed, Lenz, Reardon & Leierer, 2000). These programs represented all four major cities along the Fraser Valley corridor of British Columbia, and the unemployed adults within them. Two of the 12 career decision-making programs were rejected from the sampling process because they were designed specifically for non-Caucasian people groups (Punjabi and First Nations) and therefore did not fit the subject cohort. As assessment tools in the study were designed and normed for English speaking and reading groups, the

two ethnic career decision-making programs were deselected. Similarly, the other two career development programs that are not part of the study represented smaller, more remote communities with small populations. It was believed that the eight career decision-making programs demonstrated sufficient representation and homogeneity for a robust sample.

It is also of significance that research did not include job search programs. The fundamental difference between career decision-making programs and job search programs in the Fraser Valley is of significance. Job search programs assume that a person has been decisive in selecting an occupational field and is actively engaged in becoming employable in their field (Keim, Strauser & Ketz, 2002). Career decision-making programs, on the other hand, assume that a person is yet unclear about their career choice and is attending to find vocational clarity (Austin, Wagner & Dahl, 2003). A central assumption of the study was that salutogenic factors may mediate the stressor of unemployment (Antonovsky, 1987). If a subject was enrolled in a job search program their decisiveness could reduce stress and confusion and confound research. By isolating the unemployed adult population to career decision-making programs, it was believed that subjects would still retain stress related to vocational indecision. It is assumed that despite exercising volition to register for the course, subject's vocational choice would remain relatively uncertain. Through this lens, the relationship between career thinking and salutogenic functioning could be more precisely evaluated.

Securing the specific career decision-making programs most representative of the majority of cities ensured that the purposive sample would contain a homogenous unemployed, career undecided, non-student, adult cohort.

### **6.1.3 Sample Characteristics**

Sample size is of primary importance as larger samples are more likely to represent the population of interest (Field, 2002). Smith and Glass (1987) suggest that in order to minimize capitalizing on chance, 30 subjects be utilized for each predictor variable in the study. Given that the present study has two predictor variables, sample size could have been fewer than one hundred subjects.

However, in order to create a more representative sample, the study sought to collect a larger sample. Paraphrasing Darlington (1990), Howel (1997) suggests that in order to collect a good research sample; “more is better”. Therefore, at the completion of the study, the researcher sampled two hundred and twenty five subjects (n=225). It was anticipated that the sample of this size would control for and reduce the chances of a type II error (Salkind, 2000).

Subjects participating in the present study varied in individual characteristics but met inclusion criteria. All subjects were unemployed, career undecided, and non-student Canadian adults. The subject group was comprised of approximately 54% women and 46% men with an average age of roughly 37 years. Individuals maintained varying levels of education, from university level (approximately 35%) to high school or less (approximately 65%). Participants also demonstrated varying length of unemployment from recent to long term. Within the research sample approximate percentages for length of unemployment were 53% (3 months or less), 14% (4-6 months) and 33% (greater than 6 months).

## **6.2 MEASURING INSTRUMENTS**

The Career Thoughts Inventory (Sampson, Peterson, Lenz, Reardon & Saunders, 1996a) and Career Decision-Making Self-efficacy short form (CDMSE- SF, Betz & Taylor, 1994) represented negative and positive career thinking respectively. The I-E locus of control scale (Rotter, 1966) and Orientation to Life Questionnaire (OLQ) (Antonovsky, 1979) represented salutogenic functioning. A biographical questionnaire was also administered. Measurement instruments are discussed by focusing on the rationale, aim, dimensions, administration, validity, reliability and justification of each instrument.

### **6.2.1 Career Thoughts Inventory (CTI)**

The CTI (Sampson, Peterson, Lenz, Reardon & Saunders, 1996a) measures career thinking in terms of the level of negative career thoughts.

### 6.2.1.1 *Rationale*

It is expected that persons with greater career indecision will score higher on the career thoughts inventory whereas persons who are career decided will score lower on the career thoughts inventory (Sampson, Peterson, Lenz, Reardon & Saunders, 1996a).

### 6.2.1.2 *Aim*

The aim of the CTI is to measure dysfunctional thinking, related to assumptions, attitudes, behaviors, beliefs, feelings, plans or strategies related to career choice, that inhibits effective career decision-making (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b, p. 2).

### 6.2.1.3 *Dimensions*

The CTI total score is a “single global indicator of dysfunctional thinking in career problem solving and decision-making” as well as three subscales (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b, p.2). Subscale scores within the CTI reflect three factor domains that support the overarching global domain. Construct scores within the CTI are designed to reflect decision-making confusion, commitment anxiety, and external conflict.

Decision-making confusion (DMC) refers to the “inability to initiate or sustain decision-making as a result of disabling emotions and/or a lack of understanding about decision-making itself” (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b, p.28). As antecedents of indecision these emotions or informational gaps impede persons from moving towards positive career choice. In some cases these factors facilitate indecision. Sampson, Peterson, Lenz, Reardon and Saunders (1996) suggest that higher levels of DMC will overwhelm the individual in such a way that career choice ability is diminished. Similarly, because of the emotional nature of the DMC subfactor persons with higher levels may be unable to engage problem solving and simply recycle through career decision. The result of this process is career indecision.

The Commitment Anxiety (CA) scale reflects the “inability to make a commitment to a specific career choice, accompanied by generalized anxiety about the outcome of decision-making. This anxiety perpetuates indecision” (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b, p.28). Anxiety is an antecedent to career indecision and impedes the behaviors used in career decision-making. Potential behavioral dynamics of this factor may be the inability to specify a choice after several alternatives have been established, let go of one career choice in favor of a better choice, let go of indecision because of a secondary gain from undecidedness, prioritize alternatives, commit to a best choice, or break from an undecided cycle of career decision-making.

The External Conflict (EC) scale reflects the “inability to balance the importance of one's own self-perceptions with the importance of input from significant others, resulting in a reluctance to assume responsibility for decision-making” (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b, p.28). According to Sampson et al. (1996b) the behavioral dynamics related to external conflict are varied. For example persons with difficulty accepting personal responsibility are also more external in their locus of control, more dependent and less self-sufficient. Similarly, these individuals tend towards weak identity development and have difficulty differentiating which suggestions from others have more importance. The resulting inability to decide for oneself impairs career decision-making resulting in career indecision.

#### *6.2.1.4 Administration*

The CTI (Sampson, Peterson, Lenz, Reardon & Saunders, 1996a) can be administered individually or in group settings. The CTI measuring instrument contains 48 items.

A simple but comprehensive set of instructions is placed on the test booklet cover in order to direct subjects. Utilizing a four level item response, participants are encouraged to circle one of four responses to specific sentences depending on their personal belief. Items responses are indicated by capital letters SD (strongly

disagree), D (disagree), A (Agree) and SA (strongly agree). All items are phrased as negative statements requiring subject endorsement. Items within the questionnaire are designed to assess the level of negative thinking pertaining to career decision-making domains.

All CTI items are written at an elementary school level (Grade 6.4) suggesting that most subjects would be able to read and respond appropriately. Time required to complete the assessment is estimated at 7-15 minutes depending on the subject reading speed.

Values for the CTI global scale and subscales can be determined by summing the items. The CTI ranges in score from "0" to "144". High scores suggest that an individual maintains greater negative thinking which may inhibit career decision-making. Global CTI values are associated with stronger negative thinking pertaining to the career decision-making milieu. Greater subscale values indicate negative thinking within their domain. Greater DMC values indicate inability to initiate or sustain career decision-making due to emotions or lack of decision-making knowledge. Greater CA values indicate greater anxiety and inability to commit to a choice. Greater EC values indicate difficulty with balancing one's beliefs against those of significant others.

#### *6.2.1.5 Validity and reliability*

The CTI was originally designed and normed for high school students, college students and adults across three development studies (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b). The internal consistency of the CTI total score and construct scales was determined by calculating coefficient alphas for each of the respective norm groups. The internal consistency (alpha) coefficients for the CTI Total score ranged from 0,97 to 0,93 for all norm groups. However, for the adult group in particular the alpha was 0,97. Alpha coefficients for the construct scales ranged from 0,94 (dmc), 0,91(ca) and 0,81 (ec) for the adult group alone (Sampson, Peterson, Lenz, Reardon & Saunders, 1999).

Convergent validity of the CTI was determined against several career decision-making instruments. These measuring instruments included: My Vocational Situation (Holland, Daiger & Power, 1980), Career Decision Scale (Osipow, Carney, Winer, Yanico & Koschier, 1987), Career Decision Profile (Jones, 1989), and Revised NEO Personality Inventory (Costa & McCrae, 1992). Surveying a sample of adults and students (n=352) the researchers found evidence for convergent validity. Positive constructs such as vocational identity, certainty, knowledge of training, etc. were consistently inversely correlated with CTI scales and directly correlated with indecision. The authors also suggested that for adult sample alone, CTI scales were consistently inversely correlated with comfort, with choice, decidedness and lack of information need but positively correlated with anxiety (Sampson, Peterson, Lenz, Reardon & Saunders, 1999).

Researchers surveyed two different university samples to ascertain the predictive validity of the CTI. In particular, 199 clients (persons seeking guidance with career decisions) and 149 non-clients (persons not seeking guidance with career decisions) revealed significant differences in CTI global and construct scales for each group, with clients having higher scores as predicted (Sampson, Peterson, Lenz, Reardon & Saunders, 1999).

The CTI development team originally tested the reliability of the instrument over a four-week test-retest analysis with high school and college samples only. The coefficient of stability for the CTI total score was high ( $r = 0,86$ ) for the college student sample. The combined college and high school stability coefficients for the construct scales measured 0,77 for CTI global, 0,77(dmc), 0,75 (ca) and 0,63 (ec) showing that adequate stability exists for the use of the instrument (Sampson, Peterson, Lenz, Reardon & Saunders, 1999).

#### 6.2.1.6 *Justification*

Negative career thinking can impede career choices resulting in vocational indecision. As the CTI is a solid measure of dysfunctional career thinking and distinct subdomains within it, the CTI was selected for the present research to



determine negative career thoughts. The measurement of positive career thinking is discussed in the next section.

Several career related measuring instruments had been evaluated at the onset of the study. However, it was determined that instruments that particularly focused on cognitive aspects of career decision making were most appropriate for the study. In particular, the Career Attitudes and Strategies Inventory (CASI)(Holland & Gottfredson, 1994) and Career Factors Inventory (CFI)(Chartrand & Robbins, 1997) were considered along side of the Career Thoughts Inventory (CTI) (Sampson, Peterson, Lenz, Reardon & Saunders, 1996a).

The CASI (Holland & Gottfredson, 1994) was developed and normed as an inventory for understanding adult careers (average age of norm sample: 38 years). The instrument was designed to assess attitudes, feelings, experiences and obstacles that influence the career choice of employed and unemployed adults. Nine aspects of work adaptation are surveyed. The CASI (130 test items) is completed by most adults in 35 minutes and is self scored, self profiled and self interpreted. Factors that contributed to the interest of the instrument were its focus on career related cognitions related to adults, unemployment, and subscales related to career worries. Reliability coefficients for the CASI ranged from 0,79 to 0,92. Test-retest reliabilities on adult based samples ranged from 0,66 to 0,94 for a thirteen day interval. Convergent validity for the CASI was established in relationship with "Big-Five" personality dimensions (Goldberg, 1992), Vocational Preference Inventory (Holland, 1985) and Vocational Identity Scale (Holland et al., 1980). The CASI was not selected for the study for several reasons. Despite its empirical link to adult populations the CASI's focus was too broad for the thesis's intentions. In particular, the CASI surveys scales pertaining to Job Satisfaction, Work Involvement, Skill Development, Dominant Style, Career Worries, Interpersonal Abuse, Family Commitment, Risk Taking Style and Geographical Barriers. As such, results would provide a snapshot of a persons "current career situation" (Holland & Gottfredson, 1994, p.7) rather than a measure of dysfunctional career thinking. Similarly, the CASI demonstrated weaker psychometric data than the CTI. Moreover, the researcher believed that the CTI

had a stronger theoretical and empirical link to CIP theory and elected to use the CTI.

The CFI (Chartrand & Robbins, 1997) was also considered for the present thesis. The CFI was developed to assist people in determining their readiness of engaging in the career decision making process and to assist career undecided individuals to uncover the source of indecision. The CFI primarily surveys two general categories related to the lack of information regarding career or self-knowledge, and difficulties with the career decision making process. With this in mind, the CFI demonstrated theoretical congruence with the CIP model of career decision making. The CFI also was appropriate for use with adults who were “non-traditional age”, employed but career planning, and unemployed individuals seeking work. The CFI (21 test items) and takes approximately ten minutes to administer. Psychometric data regarding the CFI indicated that it is a solid instrument. Internal consistency for all norm groups ranged from 0,92 (for college students) to 0,83 for an adults sample. Test-retest reliability was 0,82 (career information), 0,76 (self knowledge), 0,79 (career choice anxiety) and 0,84 (indecisiveness) for college student at a two week interval. A three month test-retest reliability indicated alphas of 0,57; 0,63; 0,62; 0,66 for same categories respectively, for a high school sample. No test-retest data was available for an adult sample. Convergent validity for the CFI has been established with the Career Development Inventory (Lewis & Savickas, 1995) and Career Decision Scale (Chartrand & Robbins, 1991). Though the CFI demonstrated theoretical congruence with the CIP model of career decision making it was not selected for the present study. One reason for this choice related to the psychometric properties of the CFI. In particular, the CFI demonstrated weaker internal reliability with adult samples compared with the CTI. Moreover, test-retest data was not available for adult samples, but also remained weaker for student samples compared with the CTI. The researcher believed that the CTI would demonstrate better theoretical and empirical congruence than the CFI regarding the CIP model of career decision making, and nature of doctoral research.

The CTI is an empirically valid and reliable measure of negative career thinking among adults making it ideal for the present study. A key feature of the CTI is that

it was designed to survey adults who are considering changes in occupation or employment, seeking employment due to unemployment or underemployment, or reentering the labor market after a substantial period (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b). For this reason the CTI was regarded as a suitable measure of negative thinking that would facilitate the exploration of career indecision with unemployed adults.

Another reason justifying the CTI for the present study relates to its design. Primary factor analysis confirmed that the CTI measured a global factor of confusion as well as three distinct subfactors among the normative groups (Sampson, Peterson, Lenz, Reardon & Saunders, 1999). However, during this analysis only a two-factor solution (decision-making confusion and external conflict) was suggested for the adult sample. Sampson, Peterson, Lenz, Reardon and Saunders (1999) clarified these findings by suggesting that for adult populations who are employed or not seeking employment, commitment anxiety is not an active construct. However for adults who are in the midst of career decision-making the commitment anxiety factor would apply. The authors concluded that the three-factor solution would be the most appropriate design to use for the tool as it is the most generalizable explanation across all populations (Sampson, Peterson, Lenz, Reardon & Saunders, 1999). Given the design of the current research these comments are encouraging. By isolating adults within a career decision-making milieu, the study removed factors that may confound research. In particular, the CTI more accurately measured negative career thoughts along all of its subscales and in turn reflected adult career indecision more fully.

The CTI has demonstrated substantial psychometric properties and strong theoretical and empirical links to the CIP model of career decision making. Moreover, the CTI has been linked to career indecision within student based populations. However, within the career decision-making literature, little research has explored the role of negative career thoughts with positive career thoughts or salutogenic factors among career undecided adults. For this reason research the CTI was selected to represent negative career thinking in the exploration of career indecision with non-student adults.

## **6.2.2 Career Decision-Making Self-Efficacy *Short Form* (CDMSE-SF)**

The CDMSE-SF measures career thinking in terms of career decision-making self-efficacy.

### **6.2.2.1 *Rationale***

It is expected that individuals demonstrating career decidedness will score higher on the CDMSE-SF. Similarly, it is anticipated that persons who were career undecided will score lower on the CDMSE-SF (Betz & Taylor, 1994).

### **6.2.2.2 *Aim***

The aim of the CDMSE-SF is to measure an individual's self-efficacy related to career choice competencies (Betz & Taylor, 1994, p.8).

### **6.2.2.3 *Dimensions***

The CDMSE-SF (Betz & Taylor, 1994) measures "an individual's degree of belief that he/she can successfully complete tasks necessary to make career decisions" (Betz & Taylor, 1994, p.8). These tasks pertain to accurate self appraisal, gathering occupational information, goal selection, plan-making and problem-solving. The CDMSE-SF measures a single global factor of career decision-making self-efficacy (Betz, Klein & Taylor, 1996) and is an accurate measure of self-efficacy towards career decision making tasks and activities (Taylor & Popma, 1990).

### **6.2.2.4 *Administration***

The CDMSE-SF may be administered individually or in groups. The CDMSE-SF measuring instrument contains 25 items.

A simple but comprehensive set of instructions begins the CDMSE-SF in order to direct subjects. Brief written instructions, read by the subject, indicate that

subjects are to read the statements in each item and mark a corresponding number based on their confidence to complete the task assigned in the item. Item responses range in ascending order from "0" to "9". A zero score indicates that the individual has "no confidence at all", whereas a nine indicates a subjects "complete confidence". Scores between the polar zero and nine suggest a range of confidence levels between the poles. For the convenience of the subject, Betz and Taylor (1994) also provided an example to illustrate how to complete items.

The CDMSE-SF total can be found by summing all items. The CDMSE-SF total can range from 0-225. Higher CDMSE-SF totals indicate a significant sense of efficacy for career decision-making tasks. Greater efficacy would lead subjects toward task specific behaviors. Lower CDMSE-SF scores indicate a weak degree of confidence for career decision-making tasks. Low CDMSE-SF scores correspond to subjects career decision-making task avoidance behaviors.

#### 6.2.2.5 *Validity and reliability*

The CDMSE-SF (Betz & Taylor, 1994) was originally designed for use by career counsellors within academic and career environments. Though research has been predominant in academic settings, recent study has been conducted with non-traditional (older) students (Quimby & O'Brien, 2004) and non-student adults (Brown, Reedy, Fountain, Johnson & Dichiser, 2000). Empirical evidence of the reliability and validity of the CDMSE-SF suggest that it is a solid measure of self-efficacy toward career related tasks (Betz & Luzzo, 1996).

Internal stability for the CDMSE-SF has been established and is strong. Theoretically intertwined subscales were empirically assessed as 0,73 (self appraisal), 0,78 (occupational information), 0,83 (goal setting), 0,81 (planning), and 0,75 (problem solving). The coefficient alpha for the total CDMSE-SF was established as 0,94 (Betz, Klein & Taylor, 1996). Test-retest reliability with an interval of 1.5 months revealed a value of 0,83 supporting the CDMSE-SF (Luzzo, 1993a). Review of the short form measuring instrument has repeatedly confirmed it as a reliable "global measure" of CDMSE (Betz & Luzzo, 1996; Luzzo, 1996).

Validity of the CDMSE-SF has been established in the literature. Regarding the content validity of the short form, factor structures have demonstrated weak results (Betz, Klein & Taylor, 1996) indicating that the CDMSE-SF is best used as a generalized measure of self-efficacy (Betz & Luzzo, 1996). Concurrent validity has also been empirically supported through research with other career development instruments. Where the most important relationship with CDMSE is career indecision (Betz & Luzzo, 1996) the CDMSE has maintained strong relationships with two key measuring instruments. In particular, the total score for CDMSE-SF has demonstrated estimates of -0,68 with career choice certainty scale and -0,63 with career indecision scale of the Career Decision Scale. The total score for CDMSE-SF has also demonstrated an estimate of 0,63 with the My Vocational Identity scale. These findings suggest that the CDMSE-SF is a brief and psychometrically sound measure of career decision making self-efficacy and shows promise for both research and counselling (Betz, Klein & Taylor, 1996).

#### 6.2.2.6 *Justification*

Self-efficacy is domain specific confidence in one's ability to perform various tasks (Bandura, 1997). As such, individuals can demonstrate strong self-efficacy in some areas and weak self-efficacy in others (Betz, 2004). Within the domain of career development three self-efficacy measuring instruments have gained prominence in the literature. Discussion of the Occupational Self-efficacy Scale (OSES), the 50 item CDMSE and 25 item CDMSE will frame reasons for the selection of the CDMSE-SF for the current study.

The OSES (Betz & Hackett, 1993) was originally developed to examine self-efficacy expectations within the field of career development. The scale contains 20 items that ascertain the subject's level of confidence related to specific occupations. In particular, efficacy expectations are related to educational requirements related to an occupation, and job duties related to an occupation. Internal consistency for the OSES were reported as 0,94- 0,95 for the total score and 0,92 and 0,89 for the job duties and educational requirements respectively (Betz & Hackett, 1998). Test-retest scores over a one week interval were 0,55 and 0,70 for overall OSES level and strength scores respectively. Validity for the

OSES was established in comparison with other measures. Correlations between the title and task measures was 0,73. Similarly, relations with a task specific occupational self-efficacy scale were 0,51 for males and 0,56 for females. Self-efficacy has also demonstrated relationships with personality factors. In particular the OSES has maintained a correlation of -0,22 with locus of control. Though the OSES was designed for counselling and research purposes, it was not selected for the present research for several reasons. First, the OSES did not represent theoretical congruence with the nature of doctoral research. In particular, the OSES represented self-efficacy toward specific occupations and confidence toward training or tasks related to those careers. Though these positive career thoughts represented self-efficacy within career domains they did not represent the specific area of self-efficacy related to career decision making. Second, the OSES had only been researched with student population where the CDMSE-SF had recently entered career development research with adult samples. For this reason it was believed to be more consistent with the direction of research.

Seminal research into the nature of career indecision within student based samples used the original 50 item CDMSE (Taylor & Betz, 1983). Psychometric properties regarding this instrument have been assessed in career development literature (Betz & Taylor, 1994). Internal stability of the instrument has been measured as 0,88 (self appraisal), 0,89 (occupational information), 0,87 (goal setting), 0,89 (planning), and 0,86 (problem solving). The internal consistency for the 50 item CDMSE was established as 0,97 (Betz, Klein & Taylor, 1996).

Validity for the CDMSE has also been empirically established in the literature. Analysis of the instrument has revealed a weak factor structure and suggests that the CDMSE measures a general domain of career decision making self-efficacy (Luzzo, 1996). Current validity data found values of -0,45 with the indecision scale (Betz & Klein, 1996) and 0,56 with the certainty scale of the Career Decision Scale. Similarly, values of 0,58 were established with My Vocational Identity (Betz, Klein & Taylor, 1996).

In general, the nature of the self-efficacy construct was theoretically congruent with the nature of the doctoral research. In particular, career decision making self-

efficacy represented a general positive cognitive factor related to career decision making that rounded out the 'career thinking' domain of research. The CDMSE-SF was selected as the representative measure for several reasons.

The CDMSE-SF was selected for the present research on theoretical and empirical grounds. In particular, the CDMSE-SF is representative measure of self-efficacy pertaining to the specific domain of career decision-making tasks and behaviors (Betz & Taylor 1994). The literature has suggested that the CDMSE-SF is a "highly homogeneous construct" (Betz, Klein and Taylor, 1996, p.55) and a solid generalized measure of self-efficacy within the career decision-making domain (Luzzo, 1996). For this reason, the CDMSE-SF was deemed an appropriate measure for research.

The CDMSE also demonstrated solid psychometric properties. When compared to the 50 item CDMSE the CDMSE-SF maintained similar internal reliability. Moreover, the validity structure of the short form suggested that it possessed characteristics that were comparable to, or better than the long form (Betz, Klein & Taylor, 1996). Similarly, the short form was half of the item length of the long form. This feature would shorten the overall assessment time for subjects.

Lastly, as CDMSE research has predominantly evaluated student-based samples, adult-based research would be informative to the career development literature. Recent studies that have considered adult samples (Brown, Reedy, Fountain, Johnson & Dichiser, 2000; Quimby & O'Brien, 2004) have utilized the CDMSE-SF as their measurement instrument of choice regarding career decision making self-efficacy. For the sake of theoretical and comparative consistency the CDMSE-SF was selected for the present study.

### **6.2.3 I-E Locus of Control Scale (I-E LOC)**

The I-E LOC scale (Rotter, 1966) measures salutogenic functioning in terms of locus of control.



### 6.2.3.1 *Rationale*

It is expected that individuals demonstrating salutogenic coping will score lower on the I-E LOC scale. Similarly, it is anticipated that persons who demonstrated poor coping with unemployment will score higher on the I-E LOC scale (Waters & Moore, 2002).

### 6.2.3.2 *Aim*

The aim of the I-E LOC scale (Rotter, 1966) is to assess cognitive expectancy in areas related to personal control (achievement, dominance, affiliation).

### 6.2.3.3 *Dimensions*

The I-E LOC scale (Rotter, 1966) measures the degree to which an individual attributes personal outcomes to be within their control. As such, the scale represents a unidimensional continuum between internal and external expectations of control. Lower scores on the scale represent an internal LOC. Higher scores on the scale represent external LOC. The I-E LOC scale represents one general factor of locus of control. The I-E LOC scale is a homogeneous measure (Lefcourt, 1982) that is linked to one general construct (Fournier & Jeanrie, 2003).

### 6.2.3.4 *Administration*

The I-E LOC scale (Rotter, 1966) may be administered individually or in groups. The I-E LOC scale contains 29 items.

A simple but clear set of instructions begins the I-E LOC scale in order to direct subjects. Brief written instructions, read by the subject, indicate how the individual may proceed. Specifically, persons are instructed to select an alternative (a or b) which the individual believes to be more true of themselves for each item on the questionnaire. Questions pose a forced choice structure with internal and external item pairs (Lefcourt, 1980).

Values for the I-E LOC scale (Rotter, 1966) are found by summing the items. The I-E LOC scale contains six filler items, which are excluded from the summing process. As values are reported in the external direction higher values represent externalized locus of control. Values for the instrument range from 0-23. Though no universal mean score has been established, Phares (1976, in Auxier, 1994) noted that the average score ranges from 5,48 to 10,00 depending on subject population.

#### 6.2.3.5 *Validity and reliability*

Validity and reliability studies pertaining to the I-E LOC scale are not common. However, the I-E measure has demonstrated acceptable internal consistency and test-retest reliability (Cilliers & Kossuth, 2004; Fournier & Jeanrie, 2003). Research with LOC measure reported that its internal consistency ranged between 0,62 to 0,79 (Antonovsky, 1987; De Brabander, Hellemans & Boone, 1999; Friedman, Schwartz, Schnall, Landsbergis, Pieper, Gerin, & Pickering, 2001; Latiff, 2000; Rotter, 1966). Test-retest reliability has ranged from 0,49 to 0,83 depending on the length of time between retests (Taylor & Popma, 1990). Early test-retest results were 0,72 and 0,55 for intervals of one month and two months respectively. Research has suggested that I-E locus of control scale is a reliable measure of global LOC orientation (Auxier, 1994; Cilliers & Kossuth, 2004; Fournier & Jeanrie, 2003)

The I-E LOC scale has demonstrated convergent validity in relation to similar constructs. Relevant to the present thesis, Rotter's I-E measure has manifested a relationship of 0,385 and the Antonovsky's OLQ (Rumbaut, Anderson & Kaplan, 1983). LOC has also related to other measures within organisational psychology such as the Cognitive Style Inventory (cooperative) -0,18 and MBTI thinking style, 0,22 (Van Den Broek, Vanderheyden, & Cools, 2003), need for cognition -0,64 (Patrick & Durndell, 2004), Vocational Locus of Control Scale, -0,40 (Fournier, Jeanrie & Drapeau, 1996), Internality, Powerful Others and Chance Scales (Levenson, 1981), -0,41 (Internality), 0,25 (Powerful Others) and 0,56 (Chance), and Work Locus of Control Scale (Spector, 1988), 0,38- 0,54.

Research relevant to the present study has deemed the Rotter I-E measure a valid and reliable gauge of LOC. Moreover, that career development and salutogenic research has actively used the Rotter scale contributes to its value to the present study.

#### 6.2.3.6 *Justification*

Measures of LOC have ranged from simple ipsative item responses (Heppner, Cook, Strozier, & Heppner, 1991; Long, 1998; Weinstein, Healy & Ender, 2002) to full psychometric scales. Where LOC can be measured domain specifically (Strickland, 1989) accurate appraisal of the construct must be ascertained in the domain that it applies (Fournier & Jeanrie, 2003). The nature of the present thesis considers LOC within a salutogenic framework. For this reason a general measure of LOC was sought.

One general measure of LOC that was considered was Levenson's (1981) Internality, Powerful others and Chance Scales (IPC) that was based on Rotter's test items. Where Rotter's measure was conceptualized as a general measure of LOC, Levinson's measure recognized contextual factors that could influence the general nature of LOC. As such, the IPC consists of 24 test items that ascertain LOC beliefs related to internality, chance and powerful others. Psychometric properties of the IPC are moderate (Judge, Thoresen, Pucik & Welbourne, 1999). Internal stability of the IPC has been reported as 0,64 for internality, 0,77 for powerful others and 0,78 for chance. The alpha for a condensed version of the IPC has been noted as 0,66 (Judge et al., 1999). Test-retest measures ranged from 0,60 to 0,79 for a one week interval and 0,66 to 0,73 for a seven week interval (Lefcourt, 1991). Validity for the IPC scale has been established with other measures. In particular, values of -0,41 (internality), 0,25 (powerful others), and 0,56 (chance) have been measured with the I-E LOC scale. Despite these characteristics and that Levenson's scale has been utilized in organisational change research, the Rotter's measure was selected for the present study. Reasons for this will be addressed.

Similar to Levinson's IPC measure of locus of control is the 18 item Multidimensional Health Locus of Control (MHLC) Scale (Wallston & Wallston, 1981; Wallston, Wallston & DeVellis, 1978). The MHLC measures responses along three distinct subscales similar to the IPC. Items on the MHLC require individuals to rank their responses on a six point Likert scale. Responses fall within Internal (I), Powerful Others (P) and Chance (C) factors. Subscales range from a possible 6 to 36 in degree of strength. Internal stability of the MHLC has been reported as 0,77 (Internal), 0,67 (Powerful Others) and 0,75 (Chance) (Wallston, Wallston & DeVellis, 1978). Current research confirms the reliability of the MHLC (Grunfeld, Jahanshahi, Gresty & Bronstein, 2003; Thompson, Coker, Krause & Henry, 2003; Zdanowicz, Janne & Reynaert, 2004). The MHLC has been widely researched in health related literature and has demonstrated its salutogenic function. However, despite its theoretical congruence with the current thesis and adequate psychometric properties it was not selected for research purposes. Justification for this choice is provided accordingly.

Review of the extant literature revealed that several measures of locus of control were psychometrically superior to the I-E LOC scale. However, despite these instruments the I-E LOC scale (Rotter, 1966) was deemed appropriate for the present study. One criticism of the I-E LOC relates to its ipsative nature. In particular, ipsative instruments are relative and self-referencing (Bartram, 1996). Though ipsative instruments are widely used in vocational research and are deemed valuable (Karpatschhof & Elkjær, 2000) they have been criticized for their psychometric properties (Baron, 1996). However, given these criticisms, ipsative instruments have been deemed suitable for statistical analysis when the subject pool is large enough (Smith, 2000). The subject sample of 225 individuals was believed to be appropriate to compensate for the ipsative nature of the I-E LOC. Moreover, recent research with the I-E LOC scale has suggested that it demonstrates adequate psychometric properties (Cilliers & Kossuth, 2004; Fournier & Jeanrie, 2003). These properties ensured that the LOC scale would be stable during research.

Furthermore, the thesis surveyed a broad literature pertaining to career development and positive psychology. Locus of control has been extensively

studied in both domains of research. Specifically, the I-E LOC scale has been utilized in 50 % of all LOC studies (Lefcourt, 1991) and is the most often used measure of locus of control (Fournier & Jeanrie, 2003) used in research. As such, the I-E LOC scale has proved valuable in both career indecision research and salutogenic research.

Moreover, Rotter's locus of control measure was a common link between all other constructs. Within career decision-making literature the I-E LOC scale has been widely used. Where negative and positive career thoughts have been researched in distinct bodies of literature, Rotter's instrument has represented locus of control in both bodies. In particular the I-E LOC scale (Rotter, 1966) has been researched in studies pertaining to negative thoughts (Quesnell, 1989; Saunders, 1997; Saunders, Peterson, Sampson & Reardon, 2000), and self-efficacy (Brown, Reedy, Fountain, Johnson & Dichiser, 2000; Delorenzo, 1998; Luzzo, Funk & Strang, 1996; Taylor & Popma, 1990).

Similarly, in stress related literature Rotter's locus of control scale has been studied regarding stress and along side of Antonovsky's OLQ scale (Boutet, 1995; Cilliers & Kossuth, 2004; Flannery, Perry, Penk & Flannery; 1994, Johnston, 1999; Kalimo & Vuori, 1990; Malik & Sabharwal, 1999; Peacock & Wong, 1996). In this way Rotter's (1966) measure pulled the career thinking constructs and salutogenic constructs together. It was maintained that for theoretical and comparative consistency the I-E (Rotter 1966) locus of control scale be utilized in the present thesis.

#### **6.2.4 Orientation to Life Questionnaire (OLQ)**

The Orientation to Life Questionnaire (OLQ) measures salutogenic functioning in terms of sense of coherence.

#### 6.2.4.1 *Rationale*

It is expected that individuals demonstrating salutogenic coping will score higher on the OLQ. Similarly, it is anticipated that individuals demonstrating poor coping with unemployment will manifest lower OLQ scores (Antonovsky, 1979).

#### 6.2.4.2 *Aim*

The aim of the Orientation to Life Questionnaire (OLQ) is to measure an individual's sense of coherence.

#### 6.2.4.3 *Dimensions*

The Orientation to Life Questionnaire (OLQ) measures the global degree to which an individual has a pervasive enduring and dynamic feeling of confidence that: (1) stimuli are structured, predictable and explicable; (2) one has the resources to meet the demands posed by the stimuli and (3) these encounters are worthy of investment and confrontation (Antonovsky, 1987). The OLQ measures a single general factor of sense of coherence rather than distinct theoretical subdomains (Antonovsky, 1987, Felton, 1996; Frenz, Carey & Jorgensen, 1993; Korotkov, 1998).

#### 6.2.4.4 *Administration*

The Orientation to Life Questionnaire (OLQ) may be administered individually or in groups. The OLQ measuring instrument contains 29 items.

A simple but comprehensive set of instructions begins the OLQ in order to direct subjects. Brief written instructions, read by the subject, describe that the series of questions relate to various aspects of their lives and that each has seven possible answers. Individuals are directed to select the appropriate answer. Responses to the OLQ range from "1" through "7". Number '1' represents that individuals "never have this feeling" where "7" indicates that individuals "always have this feeling". Subjects are also directed to select only one response to each item. Values for the

OLQ are found by summing the items. Values for the OLQ range from 29-203. Higher values are indicative of a stronger sense of coherence. Lower scores are indicative of weaker sense of coherence. Weaker sense of coherence is linked to poorer coping, decision-making and faulty cognitive strategies. Stronger sense of coherence is associated with coping, well being and influencing decision-making.

#### 6.2.4.5 *Validity and reliability*

Antonovsky (1998b) noted that the OLQ is a reliable and valid measuring instrument of the sense of coherence that has been extensively researched. Data from research on over ten thousand people (primarily adult) from over twenty countries have contributed evidence to its reliability and validity. This sentiment has been echoed by other researchers commenting that the OLQ measure is a well operationalized measure of sense of coherence (Cillers & Kossuth, 2004; Wissing & Van Eeden, 1994) and a solid measure of SOC (Korotkov, 1998; Strümpfer & Wissing, 1999 ) indicating a single global concept (Johnson, 2004).

The OLQ is designed to assess a global measure of SOC rather than distinct subcomponents of it. As such, the comprehensibility, manageability and meaningfulness subscales are theoretically and empirically inseparable (Antonovsky, 1998b; Korotkov, 1998). Factor analysis conducted on the OLQ has indicated that one single latent factor exists (Antonovsky, 1993; Frenz, Carey & Jorgensen, 1993; Korotkov, 1998).

According to Antonovsky (1998b), the internal consistency of the OLQ has been reported to be substantial. Alpha coefficients for the OLQ have ranged from 0,82 to 0,95 in the extant literature. Similarly, internal consistency has ranged from an average of 0,91 for published articles, 0,85 for theses and dissertations and 0,88 for unpublished studies (Antonovsky, 1993). Research within career decision making literature indicated that the alpha coefficient of the OLQ was 0,91 within their research sample (Lustig & Strauser, 2002). This finding is consistent with the literature.

According to Antonovsky (1998b) reliability studies with the OLQ are scant but do contribute scientific evidence the reliability of the OLQ. In particular, test-retest measures have consistently indicated the reliability of the OLQ. The literature has indicated that one week and thirty day test-retest stability was  $r = 0,92$  to  $r = 0,93$  respectively (Frenz, Carey & Jorgensen, 1993). Mid range test-retest studies have found a stability of  $r = 0,80$  for Dutch students and  $r = 0,97$  for Afrikaaner farmers at 6 and 5 weeks respectively, and  $r = 0,80$  for a US sample of adults averaging 55 years of age at the six month mark (Antonovsky, 1993). Researchers have also indicated that a reliability of 0,54 has been reported over a two year period (Felton, 1996).

Validity of OLQ measure has been established through construct and convergent measures. Early research of Antonovsky's 29 item OLQ was measured against a 22 item OLQ measure among a student based population. Data analysis suggested that alphas for both tests were respectable measuring 0,90 and 0,88 respectively. Correlation between the 22 item SOC measure and Antonovsky's OLQ were  $r = 0,64$  (Rumbaut, Anderson & Kaplan, 1983). In a similar study of a student based sample ( $n = 488$ ) as the University of California, a 104 item scale and the OLQ manifest a correlation of  $r = 0,75$  (Antonovsky, 1993).

Convergent evidence for the validity of the OLQ has been established through its examination with other external factors. In particular, OLQ has maintained significant convergent relationships with anxiety (-0,69; -0,50; -0,85; -0,85; 0,75) (Antonovsky, 1993; Flannery, Perry, Penk & Flannery, 1994; Frenz, 1990; Frenz, Carey & Jorgensen, 1993; Hart, Hittner & Paras, 1991), depression (-0,60; -0,60) (Frenz, 1990; Frenz, Carey & Jorgensen, 1993), well being (0,40; 0,48) (Antonovsky, 1993; Harris, 1997), self-efficacy (0,575; 0,50) (Felton, 1996; Frenz, Carey & Jorgensen, 1993), negative affectivity (-0,61; -0,61) (Höge & Büssing, 2004; Johnson, 2004), tension (-0,33) (Rothmann & Coetzee, 2003), strain (-0,61) (Höge & Büssing, 2004), perceived stress (-0,67; -0,27; -0,73) (Antonovsky, 1993; Flannery, Perry, Penk & Flannery, 1994; Frenz, Carey & Jorgensen, 1993), with stress work stress (-0,34) (Höge & Büssing, 2004), Internal LOC (0,40; 0,48; 0,55) (Antonovsky, 1993; Flannery, Perry, Penk &



Flannery, 1994; Johnson, 2004), life interest (0,37) (Frenz, Carey & Jorgensen, 1993) and dysfunctional career thinking (-0,35) (Lustig & Strauser, 2002).

#### 6.2.4.6 *Justification*

While there is no particular 'gold standard' measure of SOC (Antonovsky, 1993) the 29 item OLQ (Antonovsky, 1979) was appropriate for the present study for several reasons. Numerous measures of the SOC construct have been utilized within salutogenic research (Antonovsky, 1993). However, it was determined that non-English versions of the OLQ were not suitable for the current study due to the English speaking nature of the sample. Similarly, modified 17, 19 and 22 item versions were not suitable for research due to the lack of psychometric data available on them.

Within salutogenic literature, both a 29 item OLQ and 13 item OLQ (OLQ-13) have established empirical value and acceptable psychometric properties (Cilliers & Kossuth, 2004; Strümpfer & Wissing, 1999). In particular, the OLQ-13 has demonstrated internal consistencies ranging from 0,74 to 0,91. The average alpha coefficient has been 0,82 in published studies, 0,81 in dissertations and theses and 0,78 in unpublished studies (Antonovsky, 1993). Current research has found alphas of 0,78 (Johnson, 2004), 0,85 (Höge & Büssing, 2004; Starrin, Jönsson & Rantakeisu, 2001), consistent with previous research. Reviewing the psychometric properties of the OLQ-13, Antonovsky (1993) suggested that the instrument maintained convergent relationships with anxiety (-0,75), neuroticism (-0,36) life event stressors (-0,24), work stressors (-0,40), well being (0,23), emotional distress (-0,63), and with somatic complaints (-0,46). Test-retest reliability was 0,77 at a six month interval.

Though comparable in their psychometric properties the 29 item OLQ was selected over the OLQ-13 for the present study. Both instruments had demonstrated solid relationships with factors related to the present study: stress, anxiety, self-efficacy and internal locus of control. Similarly, both had extensive research with adult based samples. However, for the sake of continuity the 29 item OLQ was selected.

Research utilizing the sense of coherence within the domain of career development is new and therefore limited. The lone study exploring sense of coherence within a career decision making milieu utilized the 29 item OLQ (Lustig & Strauser, 2002). Results found a statistically significant relationship between SOC and dysfunctional career thinking ( $r = -0,35$ ) confirming earlier suggestions that SOC relates to negative self talk (McSherry & Holm, 1994). Internal consistency for this sample was strong (0,91). However, this exploratory research utilized a student based sample. The present research seeks to explore career indecision with adults. Using the 29 item OLQ with an older, non-student sample would provide comparable psychometric information to the first study. Moreover, use of this instrument would provide psychometric consistency regarding research between sense of coherence and negative career thinking.

#### **6.2.5 Biographical Questionnaire**

A biographical questionnaire assessed general characteristics of the sample (Babbie, 2001). In particular, age, length of unemployment and level of education were ascertained. Information was used in post hoc analysis.

### **6.3 DATA COLLECTION**

At the onset of study, the author secured research privileges with program directors of adult career decision making programs funded by the Government of Canada. Program directors agreed to allow research activities at their facilities and offered to train relevant staff as “research assistants” (RA) for the thesis project. The researcher met with RA’s to discuss a systematic delivery of research packets. Prior to the onset of the study, the researcher compiled several hundred standardized envelopes, each containing a comprehensive instruction sheet, informed consent and measuring instruments. These envelopes served as individual subject research packets. Each RA participated in a brief orientation to the study introducing the doctoral student and the contents of the research packets. Each RA was also instructed in a systematic way of delivering research packets to voluntary participants. Discussion with RA’s about confidentiality, informed consent and the voluntary nature of the study was also conducted as

part of the orientation. Research assistants were given limited information pertaining to the nature of research in order to limit experimenter effects.

The steps involved in research administration were minimal and standardized to prevent confounding from treatment effects. Each research site was given enough research packets for subjects at the beginning of the research study. RA's were to invite subjects to participate in a research project at the beginning of their career decision-making program. RA's were to also mention that participation in the study was voluntary and anonymous and that questionnaires could be completed in 30-45 minutes.

Subjects who agreed to participate were handed a research packet, told to open the packet, read all instructions, complete the informed consent (Miles & Huberman, 1994), biographical questionnaire and measuring instruments, and to place all forms back in the envelope once completed. This step ensured that packets contained signed informed consents (Cone & Foster, 1993). Persons asking questions about assessments during research were directed back to the instruction sheet to solve their questions. Upon subject completion of research RA's were to collect and batch all research packets for pick-up by the researcher. Persons not wanting to participate in the study were not pressured to do so.

Upon completion of each sites research the author returned to collect all research packets and debrief the research process with the RA's. Debriefing consisted of discussing any problems that arose during the administration of research packets. No problems were reported. In this way, a systematic and smooth delivery and completion of research was ensured.

#### **6.4 DATA PROCESSING**

The structure of research mitigated that data analysis would be quantitative in nature. Measuring instruments for career thinking and salutogenic functioning generated substantial numeric data that represented total scores and subscale scores for the CTI, CDMSE-SF, I-E LOC scale and OLQ. This data needed to be

explored to be of value to the current research (Field, 2002). Data analysis was conducted with the SPSS 13 for Windows statistical software package (2004).

That research was primarily relational suggested that correlational analysis was appropriate for inter-instrument data interpretation (Salkind, 2000). However, as some data was predictive in nature, regression analysis was recommended (Field, 2002) as stronger effects are related to fewer variables (Harris, 1997).

To minimize the risk of Type I and Type II errors a statistical power analysis had been performed. The general rule of thumb for correlation or regression statistics is, for a medium effect size, approximately 30 subjects per variable should lead to 80% power (VanVoorhis & Morgan, 2001). Cohen (1992) suggested that 85 pairs of scores are suitable for correlational analysis for a 0,30 (medium) effect size at 80% power. Moreover, for a power of 0,80, a medium effect size (0,15) and significance of  $\alpha = 0,01$ , a sample size of 126 is suitable for multiple regression using 5 independent variables. The sample size for the current research (N=225) guaranteed adequate power for the statistical analysis.

Data was processed in four general steps.

#### Step 1. Descriptive Statistics.

- Descriptive statistics are presented for the Career Thoughts Inventory, Career Decision Making Self-Efficacy Short Form, I-E Locus of Control Scale, Orientation to Life Questionnaire and biographical variables.

#### Step 2. Reliability of the Measuring Instruments.

- The reliability of Career Thoughts Inventory, Career Decision Making Self-Efficacy Short Form, I-E Locus of Control Scale, and Orientation to Life Questionnaire is discussed.
  - Normality of distributions for each measuring instrument were conducted by the Kolmogorov-Smirnov (KS) test. Though the KS test

is generally used for non-parametric data it is suitable for parametric data to establish normality (Field, 2002).

- Chronbach's alphas for each measuring instrument were conducted to confirm internal consistency. Results are discussed.
- Factor analysis executed on career thinking, vis-à-vis negative career thoughts and career decision making self-efficacy, and salutogenic factors, vis-à-vis locus of control and sense of coherence is discussed. The suitability of the factor solution was conducted using the Kaiser-Meyer-Olkin measure of sampling adequacy (Tabachnick & Fidell, 1996) and is discussed. Results of a principal components analysis with Varimax rotation (Kaiser, 1960) are also discussed. Use of Varimax rotation was deemed appropriate given the small number of variables (Field, 2002).

### Step 3. Correlations Between the Constructs.

- Pearson Product Moment Correlations were used to establish the relationship between career thinking factors vis-à-vis negative career thoughts and career decision making self-efficacy. Correlations, p-values and effect sizes are discussed.
  - The total global scale score for CTI and three subscales (dmc, ca & ec) were used. Low scores are positive.
  - The total global scale score for the CDMSE-SF was used. High scores are positive.
- Pearson Product Moment Correlations were used to establish the relationship between salutogenic factors vis-à-vis internal locus of control and sense of coherence. Correlations, p-values and effect sizes are discussed.
  - The total global scale score for the I-E LOC was used. Low scores are positive.
  - The total global scale score for the OLQ and three subscales (c, ma & me) were used. High scores are positive.

- Pearson Product Moment Correlations were used to establish the relationship between career thinking vis-à-vis negative career thoughts, and salutogenic functioning vis-à-vis internal locus of control and sense of coherence respectively. Correlations, p-values and effect sizes are discussed.
  - The total global scale score for CTI and subscales (dmc, ca & ec) were used. Low scores are positive.
  - The total global scale score for the I-E LOC was used. Low scores are positive.
  - The total global scale score for the OLQ and three subscales (c, ma & me) were used. High scores are positive.
  
- Pearson Product Moment Correlations were used to establish the relationship between career thinking vis-à-vis career decision making self-efficacy, and salutogenic functioning vis-à-vis internal locus of control and sense of coherence respectively. Correlations, p-values and effect sizes are discussed.
  - The total global scale score for the CDMSE-SF was used. High scores are positive.
  - The total global scale score for the I-E LOC was used. Low scores are positive.
  - The total global scale score for the OLQ and three subscales (c, ma & me) were used. High scores are positive.
  
- Pearson Product Moment Correlations were used to establish post hoc relationships between biographical information (age, level of education & length of unemployment) and career thinking, vis-à-vis negative career thoughts and career decision making self-efficacy, and salutogenic functioning, vis-à-vis internal locus of control and sense of coherence. Correlations, p-values and effect sizes are discussed.
  - The total global scale score for CTI and subscales (dmc, ca & ec) were used. Low scores are positive.

- The total global scale score for the CDMSE-SF was used. High scores are positive.
- The total global scale score for the I-E LOC was used. Low scores are positive.
- The total global scale score for the OLQ and three subscales (c, ma & me) were used. High scores are positive.

#### Step 4. Predictive Value of the Constructs.

- Forward stepwise multiple regression was used to determine the predictive relationship of salutogenic functioning vis-à-vis internal locus of control and sense of coherence with career thinking vis-à-vis negative career thoughts. Unique variances, p-values and effect sizes are discussed.
  - The total global scale score for the I-E LOC was used. Low scores are positive.
  - The total global scale score for the OLQ was used. High scores are positive.
  - The total global scale score for CTI was used. Low scores are positive.
- Forward stepwise multiple regression was used to determine the predictive relationship of salutogenic functioning vis-à-vis internal locus of control and sense of coherence with career thinking vis-à-vis career decision making self-efficacy. Unique variances, p-values and effect sizes are discussed.
  - The total global scale score for the I-E LOC was used. Low scores are positive.
  - The total global scale score for the OLQ was used. High scores are positive.
  - The total global scale score for CDMSE was used. Low scores are positive.

- Forward stepwise multiple regression was used to determine the significant post hoc predictive relationships with biographical information (age, level of education & length of unemployment) and career thinking.
  - The total global scale for the CTI was used. Low scores are positive.
  - The total global scale for the CDMSE-SF was used. High scores are positive.

## 6.5 HYPOTHESES

Hypotheses are educated guesses (Salkind, 2000, p.29). Congruent to the aims of research, hypotheses regarding the relationship between career thinking, vis-à-vis negative career thoughts and career decision making self-efficacy, and salutogenic functioning, vis-à-vis internal locus of control and sense of coherence, were posited. The following hypotheses were tested:

- H0: No psychometric relationship exists between career thinking and salutogenic functioning.
- H1: A statistically significant relationship exists between negative career thoughts and career decision-making self-efficacy.
- H2: A statistically significant relationship exists between locus of control and sense of coherence.
- H3: A statistically significant relationship exists between career thinking, vis-à-vis negative career thoughts and career decision-making self-efficacy, and salutogenic functioning, vis-à-vis of locus of control and sense of coherence.
- H4: Internal locus of control will significantly predict negative career thoughts.



H5: Internal locus of control will significantly predict career decision making self-efficacy.

H6: Sense of coherence will significantly predict negative career thoughts.

H7: Sense of coherence will significantly predict career decision making self-efficacy.

## **6.6 CHAPTER SUMMARY**

The aim of the present chapter is to aid in determining the psychometric relationship between career thinking, vis-à-vis negative career thoughts, career decision-making self-efficacy and salutogenic functioning, vis-à-vis locus of control and sense of coherence in career undecided adults.

The chapter began with a description of the population and sample used in the study. As such, standardized sampling techniques and research procedures ensured an efficient and effective investigation representing an unemployed, career undecided, adult population.

Measuring instruments were also discussed. The career thoughts inventory (Sampson, Peterson, Lenz, Reardon & Saunders, 1996a) and career decision-making self-efficacy short form (Betz & Taylor, 1994) represented career thinking. The I-E locus of control scale (Rotter, 1966) and orientation to life scale (Antonovsky, 1979) represented salutogenic functioning. Each scale was discussed at length. As such, the rationale, aims, administration, validity, reliability and justification for inclusion were given for each.

The chapter also discussed how data collection was conducted during the study. Data processing was also framed for congruence with the aims of the quantitative research. Similarly, null and statistical hypotheses were presented consistent with the research questions and aims of research. Results are presented in Chapter 7.

## **CHAPTER 7        RESULTS**

The aim of the current chapter is to present the results pertaining to the empirical study. Descriptive statistics depict the adult sample used in research. Psychometric relationships between career thinking, vis-à-vis negative career thoughts and career decision-making self-efficacy, and salutogenic functioning, vis-à-vis locus of control & sense of coherence are reported, interpreted and integrated. The relationships between and predictive value of constructs are described. A chapter summary is also presented.

### **7.1    DESCRIPTIVE STATISTICS**

Descriptive statistics represent quantitative data in manageable and understandable formats (Maleske, 1995). Descriptive statistics are presented regarding career thinking, vis-à-vis negative career thoughts and career decision making self-efficacy, and salutogenic functioning, vis-à-vis internal locus of control and sense of coherence. Descriptive statistics regarding biographical information are also provided.

#### **7.1.1        Career Thoughts Inventory**

Descriptive data is provided regarding negative career thinking. Data is presented in table format, discussed and interpreted regarding the present thesis. Data is also integrated with the present section.

Table 7.1

*Descriptive Statistics for the Career Thoughts Inventory*


---

	<u>N</u>	<u>Min</u>	<u>Max</u>	<u>M</u>	<u>SD</u>
CTI global	225	0	111	49.81	20.565
dmc	225	0	37	11.85	7.233
ca	225	0	30	13.71	5.162
ec	225	0	15	4.79	3.045

---

The CTI and its subscales were analyzed (N=225). Regarding the global scale, scores ranged from zero to 111. The mean score for the global scale was 49.81. The standard deviation was 20.565. The score for decision-making confusion ranged from 0 to 37 with a mean of 11.85 and a standard deviation of 7.233. The score for commitment anxiety ranged from 0 to 30 with a mean of 13.71 and a standard deviation of 5.162. The score for external conflict ranged from 0 to 15 with a mean of 4.79 and a standard deviation of 3.045.

Descriptive data for the present thesis was consistent with adult normative data reported by Sampson, Peterson, Lenz, Reardon and Saunders (1996). Descriptive data reported on the CTI normative study identified mean scores and standard deviations for the CTI total and each subscale. In particular, the mean score and standard deviation was 36.33 and 22.09 for CTI global respectively, 8.20 and 7.00 for decision making confusion respectively, 9.34 and 5.51 for commitment anxiety respectively, and 2.95 and 2.12 for external conflict respectively.

It is noted that scores for the adult sample (Sampson et al., 1996) were slightly lower than those of the thesis. Two factors may have contributed to this anomaly. In particular, the majority of the CTI adult norm group was educated at a post secondary level (77.5%) compared to the thesis group (35%). The thesis research found a significant inverse correlation between education and negative career thinking, meaning that individuals with greater education demonstrated less dysfunctional career thinking. This feature is congruent with the descriptive data. Secondly, whereas the thesis group was 100% unemployed at the time of research, only 25% of the CTI adult norm group was unemployed (Sampson et al., 1996, p.45). This factor may have contributed to higher mean scores for the thesis group as their focus was universally upon unemployment and career decision making. However, inflated thesis group scores were not expected to contaminate the research. Rather, data was considered dependable and had utility in testing hypotheses.

### 7.1.2 Career Decision Making Self-efficacy SF

Descriptive data is provided regarding career decision making self-efficacy. Data is presented in table format, discussed and interpreted regarding the present thesis. Data is also integrated with the present section.

Table 7.2

*Descriptive Statistics for the Career Decision-Making Self-Efficacy SF*

---

	<u>N</u>	<u>Min</u>	<u>Max</u>	<u>M</u>	<u>SD</u>
CDMSE-SF	225	63	221	158.34	34.59

---

The Career Decision-Making Self-Efficacy –short form was analyzed (N=225). As such, the CDMSE-SF ranged in score from 63 to 221. The mean for the CDMSE-SF was 158.34. The standard deviation was 34.59. Descriptive statistics were

consistent with normative data regarding the CDMSE-SF (Betz, Klein & Taylor, 1996).

Original normative data suggested that the mean CDMSE-SF score was slightly higher than the thesis group. In particular, mean scores for the CDMSE-SF ranged between 178 and 184 with standard deviations ranging between 27.7 and 31.6 in separate studies. That original normative data was ascertained on a student based population may contribute to the difference with thesis data. One possible reason for higher scores for the student norm group relates to education. The thesis found a significant linear relationship between education and career decision making self-efficacy. That the CDMSE-SF norm sample was based upon students presupposed that all subjects were attending higher education compared to the 35% of the thesis group who had attended higher education. These factors may have contributed to lower scores for the thesis group. Never the less, CDMSE-SF scores were within an acceptable range of the original CDMSE-SF descriptive data. Thesis data was considered dependable and therefore had utility in testing hypotheses.

### 7.1.3 I-E Locus of Control Scale

Descriptive data is provided regarding internal locus of control. Data is presented in table format, discussed and interpreted regarding the present thesis. Data is also integrated with the present section.

Table 7.3

#### *Descriptive Statistics for the I-E LOC Scale*

---

	<u>N</u>	<u>Min</u>	<u>Max</u>	<u>M</u>	<u>SD</u>
I-E LOC scale	225	0	21	9.28	4.08

---

The I-E LOC scale was analyzed (N=225). As such, the I-E LOC scale ranged in score from 0 to 21. The mean for the I-E LOC scale was 9.28. The standard deviation for the I-E LOC scale was 4.08.

Original descriptive data regarding the I-E LOC scale found that scores ranged depending on the population that was sampled. However, scores for the I-E LOC total have been noted as low as 6.82 to 9.56 for undergraduate college students (Lefcourt, 1982). Within career decision making literature the I-E LOC scale has been recorded scores with both negative career thoughts and career decision making self-efficacy. In particular, the I-E LOC scale mean score and standard deviation were 11.65 and 3.91 respectively within negative career thought research (Saunders, Peterson, Sampson & Reardon, 2000). Moreover, the I-E LOC scale mean score and standard deviation were 11.4 and 3.4 respectively (Taylor & Popma, 1990) for career undecided students, and 10.46 and 3.35 respectively (Brown, Reedy, Fountain & Dichiser, 2000) non-student adults, within career decision making self-efficacy research. The descriptive statistics for the I-E LOC scale within the present study are consistent with the extant literature and with career development research. For this reason thesis data was considered dependable and therefore had utility in testing hypotheses.

#### **7.1.4 Orientation to Life Questionnaire**

Descriptive data is provided regarding sense of coherence. Data is presented in table format, discussed and interpreted regarding the present thesis. Data is also integrated with the present section.

Table 7.4

*Descriptive Statistics for the Orientation to Life Scale*


---

	<u>N</u>	<u>Min</u>	<u>Max</u>	<u>M</u>	<u>SD</u>
OLQ	225	48	191	131.92	24.967
c	225	17	69	43.98	10.285
ma	225	16	70	47.45	9.863
me	225	11	58	40.72	8.301

---

The current thesis found descriptive data regarding the OLQ (N=225). As such, the score for the total OLQ ranged from 48 to 191. The mean for the OLQ was 131.92. The standard deviation for the OLQ was 24.967. The score for the comprehensibility subscale ranged from 17 to 69. The mean for the comprehensibility subscale was 43.98. The standard deviation for the comprehensibility subscale was 10.285. The score for the manageability subscale ranged from 16 to 70. The mean for the manageability subscale was 47.45. The standard deviation for the manageability subscale was 9.863. The score for the meaningfulness subscale ranged from 11 to 58. The mean for the meaningfulness subscale was 40.72. The standard deviation for the meaningfulness subscale was 8.301.

Descriptive statistics were consistent with normative data regarding the OLQ (Antonovsky, 1993). Data from the extant literature suggested that the mean OLQ score for adults ranged from 129.5 to 152.5, with standard deviations ranging from 14.9 to 36.4 for healthy adults. Within career development literature the SOC ranged in score from 82-196 with a mean score of 146.5. The standard deviation was reported as 22.1 (Lustig & Strauser, 2002). As the SOC was conceptualized as theoretically and empirically integrated (Antonovsky, 1979; 1987; Korotkov, 1998), subscale ranges and standard deviations were not available in the majority of research leaving comparative data scant.

It is noted that scores regarding the OLQ are lower for the thesis group than for normative and career decision making groups. One reason for this pertains to level of education of the sample. The thesis found a significant linear relationship between level of education and SOC confirming earlier research (Callahan & Pincus, 1995; Richardson, Adner & Nordström, 2001). As such, individuals with greater education demonstrate greater SOC. Since the thesis sample predominantly manifest high school education or less (65%), SOC scores may have reflected this trend through lower SOC scores on average. Never the less, as scores were within an acceptable range of the original 29 item OLQ descriptive data, thesis data was considered dependable and therefore had utility in testing hypotheses.

### 7.1.5 Biographical Variables

Descriptive data is provided regarding biographical variables. Data is presented in table format, discussed and interpreted regarding the present thesis. Data is also integrated with the present section.

Table 7.5

#### *Descriptive Statistics for Subject Sample*

---

	<u>N</u>	<u>Min</u>	<u>Max</u>	<u>M</u>	<u>SD</u>
Age	223	18	62	37.47	10.75
Education	224	3	14	12.03	1.784
Unemployment	219	0	111	12.81	29.52

---

The research sample consisted of 121 females and 104 males. Participants ranged in age from 18 years to 62 years with a mean age of 37.47 years, and



standard deviation of 10.75. Subjects also reported length of unemployment. As such, subjects ranged between zero months of unemployment to 244 months of unemployment. Zero months consisted of the subject losing employment directly prior to the career decision-making intervention. The mean for months of unemployment was 12.81 months with a standard deviation of 29.523. Subjects also indicated their highest level of education attained. The minimum level indicated was grade three. The maximum level of education indicated was grade 14. The demographic questionnaire used in the study indicated grades one through twelve to represent elementary through high school education. Grade thirteen represented the final year of high school for previous Ontario residents. Grade fourteen indicated “college or university” respectively. The mean level of education was 12.03 years with a standard deviation of 1.784.

## **7.2 RELIABILITY OF THE MEASURING INSTRUMENTS**

Precision and accuracy are important to research and contribute to reliability of scientific investigation (Babbie, 2001). Reliability was established in the empirical study through a defined sampling technique, valid and reliable measurement instruments and defined data collection. Accuracy of research was further established by considering the reliability of measuring instruments.

### **7.2.1 Career Thoughts Inventory**

The extant research has confirmed the reliability and validity of the CTI. However, reliability of the CTI was established in the present study. A cursory review of the distribution histogram, and statistical test of normality confirmed that data was normally distributed. Further, an alpha coefficient was established for the CTI global scale in order to determine its internal consistency. The alpha coefficient for the CTI was reported as  $\alpha=0,90$ . This finding suggests that the CTI maintained suitable internal consistency. Normative data reported an alpha of 0,97 regarding an adult based sample (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b). The lower thesis based alpha may be attributed to differences between it and the normative sample. In particular, level of education and length of unemployment

were key issues separating sample groups. The internal consistency of the CTI was determined to be reliable for the present thesis.

### **7.2.2 Career Decision Making Self-efficacy SF**

The extant research has confirmed the reliability and validity of the CDMSE-SF. However, reliability of the CDMSE-SF in the present study was established. A cursory review of the distribution histogram and statistical test of normality confirmed that data was normally distributed. Further, an alpha coefficient was ascertained for the CDMSE-SF in order to determine its internal consistency. In particular, the alpha was reported as  $\alpha=0,95$ . This finding suggests that the CDMSE-SF maintained appropriate internal consistency and is consistent with normative data reported on the CDMSE-SF ( $\alpha=0,95$ ) (Betz, Klein & Taylor, 1996). The data from the CDMSE-SF was deemed reliable for the present thesis.

### **7.2.3 I-E Locus of Control Scale**

The extant research has confirmed the reliability and validity of the I-E LOC. However, reliability of the I-E LOC in the present study was established. A cursory review of the distribution histogram and statistical test of normality confirmed that data was normally distributed. Further, an alpha coefficient was ascertained for the I-E LOC in order to determine its internal consistency. In particular, the alpha was reported as  $\alpha= 0,74$ . This finding suggests that the I-E LOC maintained appropriate internal consistency and is congruent with the extant literature. In particular, internal consistency for the I-E LOC scale has ranged between 0,62 to 0,79 (Antonovsky, 1987; De Brabander, Helleman & Boone, 1999; Friedman, Schwartz, Schnall, Landsbergis, Pieper, Gerin, & Pickering, 2001; Latiff, 2000; Rotter, 1966). As such, the data of the I-E LOC scale was determined to be reliable for the present thesis.

### **7.2.4 Orientation to Life Questionnaire**

The extant research has confirmed the reliability and validity of the OLQ. However, reliability of the OLQ was established in the present study. A cursory

review of the distribution histogram and statistical test of normality confirmed that data was normally distributed. Further, an alpha coefficient was also determined for the OLQ in order to determine its internal consistency. In particular, the alpha was reported as  $\alpha=0,85$ . This finding suggests that the OLQ maintained appropriate internal consistency and is congruent with earlier research. In particular, internal consistency for the OLQ scale has averaged 0,91 for published articles, 0,85 for theses and dissertations and 0,88 for unpublished studies (Antonovsky, 1993). Research within career decision making literature indicated that the alpha coefficient of the OLQ was 0,91 within their student research sample (Lustig & Strauser, 2002). The data from the OLQ was deemed reliable for the present thesis.

### **7.2.5 Factor Analysis**

Factor analysis was executed on career thinking, vis-à-vis negative career thoughts and career decision making self-efficacy, and salutogenic factors, vis-à-vis locus of control and sense of coherence with the adult non-student sample. Research has suggested that sample sizes of 300 provide stable factor solutions (Tabachnick & Fidell, 1996) however, data analysis found that the value of Kaiser-Meyer-Olkin measure of sampling adequacy was 0.813 (greater than 0.5) suggesting that the sample size of  $n=225$  was more than adequate. Further, KMO values between 0.8- 0.9 are regarded as great (Hutcheson & Sofroniou, 1999) suggesting that factor analysis would yield discrete and reliable factors. Moreover Bartlett's test of sphericity was significant ( $p < .000$ ) indicating that factor analysis was suitable for research.

Principal components analysis with Varimax rotation yielded three components with eigenvalues greater than 1 (Kaiser, 1960). Factors were positive career thinking, salutogenic functioning and negative career thinking. These three factors accounted for a cumulative 76.95 % of the variance after rotation. Positive career thinking, salutogenic functioning and negative career thinking contributed 32.56%, 23.83 % and 20.56% of the variance respectively. Though career thinking was conceptualized as both negative and positive career thoughts, analysis suggested that two distinct factors existed. Where salutogenic functioning was

conceptualized as locus of control and sense of coherence, one factor was indicated.

It should be noted that within the salutogenic functioning factor, sense of coherence demonstrated significant values in factor loading where locus of control manifest a weak factor loading within the component. A value of 0.4 was used as a cut off point for interpretation (Steven's, 1992). Locus of control demonstrated a value of -0.455 indicating a weak contribution to the factor. These findings are consistent with the literature (Judge, Erez, Bono & Thoresen, 2002).

### 7.3 CORRELATIONS BETWEEN CONSTRUCTS

Correlations between career thinking constructs and salutogenic functioning constructs were established. The results of data analysis are reported.

#### 7.3.1 Career Thoughts Inventory

The CTI represented negative career thinking in the present thesis. Its correlation with other variables is presented in table format (Table 7.6), discussed and interpreted regarding the present thesis.

Table 7.6

*CTI and other Measuring Instrument Correlations (N=225)*

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	CDMSE-SF	I-E LOC	OLQ	c	ma	me
CTI	-0,578	0,349	-0,625	-0,558	-0,567	-0,502
dmc	-0,582	0,294	-0,595	-0,514	-0,539	-0,508
ca	-0,425	0,236	-0,513	-0,479	-0,487	-0,366
ec	-0,316	0,281	-0,429	-0,371	-0,385	-0,368

---

Note: All correlations are significant to  $p < .01$  (2 tailed)

Data analysis found that the CTI maintained significant correlations with career thinking and salutogenic functioning variables. Significance for all correlations was determined at  $p < .01$  (2-tailed).

The correlation for career thinking factors was significant ( $r = -0,578$ ) between the CTI and CDMSE-SF. Correlations between the CTI subscales and CDMSE-SF were equally significant. In particular, subscales correlations were reported as  $r = -0,578$  (Decision-making confusion- dmc),  $r = -0,425$  (Commitment anxiety- ca) and  $r = -0,316$  (External conflict- ec) with CDMSE-SF. According to Cohen (1992), these values represent large effect sizes. In practical terms, individuals with greater negative career thinking also demonstrated less confidence regarding career decision making tasks. Moreover, individuals with greater confusion regarding career decisions, maintained greater anxiety or who had conflicted decision making because of external factors also maintained less confidence regarding career decision making tasks. Data analysis confirmed H1- that a statistically significant relationship exists between negative career thoughts and career decision-making self-efficacy. This finding was expected due to the similar but polar natures of negative and positive career thoughts. Never the less, this finding is new to the career development literature.

The CTI and its subscales also demonstrated significant correlations with salutogenic factors. In particular, the CTI maintained a correlation of 0,349 with locus of control. Similarly, correlations of 0,294 (dmc), 0,236 (ca) and 0,281 (ec) were established between the CTI subscales and LOC. These values represent medium effect sizes (Cohen, 1992). In behavioral terms, individuals with greater dysfunctional career thinking also manifest greater external appraisal of control. Individuals with greater confusion regarding career choices similarly hold greater externality. Moreover, individuals with greater career related anxiety or external conflict regarding career choices also manifest greater externality. Results would fit with common sense in that LOC should demonstrate a statistical relationship with career related conflict pertaining to external control. Further, LOC's link with anxiety in the literature (Thompson, 2002) would suggest a link with career related anxiety pertaining to commitment. Moreover, these findings are congruent with

career development literature. In particular, research has found both anxiety and external appraisals of control in student base career indecision (Fuqua, Blum & Hartman, 1988; Gordon, 1998; Saunders, Peterson, Sampson & Reardon, 2000; Serling & Betz, 1990; Skorupa & Agresti 1998; Stead Graham, Watson & Foxcroft, 1993; Sweeney & Shill, 1998; Taylor, 1982; Taylor & Popma, 1990). Present research has found that this is true for non-student adult career indecision. These findings are new to the career development literature. These findings are also consistent with proposed career decision making taxonomies (Gordon, 1998; Sampson, Reardon, Peterson & Lenz, 2004).

The adult-based findings in the present thesis were stronger than those found in earlier research. In particular, Saunders, Peterson, Sampson & Reardon (2000) found a correlation of  $r = -0,26$ ,  $p < .01$  between CTI global and I-E LOC scale in student based research. Data analysis for the CTI subscales was not reported in the noted study.

The CTI and its subscales also maintained significant correlations with sense of coherence. In particular, the CTI total and OLQ total maintained a correlation of  $-0,625$ . The OLQ total also manifest correlations of  $-0,595$  (dmc),  $-0,513$  (ca) and  $-0,429$  (ec) with CTI subscales. These values represent large effect sizes indicating robust practical significance (Cohen, 1992). In behavioral terms, individuals with greater negative career thinking hold lower sense of coherence. Individuals with greater confusion regarding career decisions, who have greater anxiety regarding careers or who have greater external conflict regarding career choices also manifest lower sense of coherence. These findings are, in part, congruent with the extant literature. In particular, SOC has maintained a negative relationship to anxiety (Bernstein & Carmel, 1991; Frenz, Carey & Jorgensen, 1990; Geyer, 1997) and external appraisals of control (Flannery, Perry, Penk & Flannery, 1994; Jackson & Rothmann, 2001; Johnson, 2004). In the same way, SOC demonstrates an empirical relationship with anxiety related to career choice and career related conflicts pertaining to external control. These findings are new to career development literature.

Though analysis of data using OLQ subscales is not recommended (Antonovsky, 1979; Korotkov, 1998), it was conducted to add breadth to research. Medium and large effect sizes were evident (Cohen, 1992). In particular, the CTI total manifest correlations of -0,558 (c), -0,567 (ma), and -0,502 (me) with OLQ subscales. In essence, individuals with greater negative career thinking demonstrated less understanding of the stressor of career choice, had fewer resources to deal with that stressor and was less likely to see career decision making as worthy of investing time in addressing. Moreover, individuals with greater decision making confusion manifest less comprehensibility (-0,514) manageability (-0,539) and meaningfulness (-0,508). In essence, individuals with greater confusion regarding career decisions demonstrated less understanding of the stressor of career choice, had fewer resources to deal with that stressor and were less likely to see career decision making as worthy of investing time in addressing. Individuals with greater career related anxiety also manifest less comprehensibility (-0,479) manageability (-0,487) and meaningfulness (-0,366). In behavioral terms, individuals with greater anxiety related to career choice commitments demonstrated less understanding of the stressor of career choice, had fewer resources to deal with that stressor and were less likely to see career decision making as worthy of investing time in addressing. Further, Individuals with greater career related conflict pertaining to external factors also manifest less comprehensibility (-0,371), manageability (-0,385) and meaningfulness (-0,368). In practical terms, individuals with greater career related conflict due to external factors demonstrated less understanding of the stressor of career choice, had fewer resources to deal with that stressor and were less likely to see their career decision making as worthy of investing time in addressing.

The statistics in the present adult based thesis are more robust than those found by Lustig and Strauser (2002) in their student based research. In particular, in their study, correlations between OLQ and CTI scales were  $r = -0,35$ ,  $p < .01$  (CTI global),  $-0,31$ ,  $p < .01$  (dmc),  $-0,37$ ,  $p < .01$  (ca),  $-0,29$ ,  $p < .01$  (ec) respectively (Lustig & Strauser, 2002). Data analysis for the OLQ subscales was not reported in the noted study.

### 7.3.2 Career Decision Making Self-efficacy SF

The CDMSE-SF represented positive career thinking in the present thesis. Its correlation with other variables is presented in table format (Table 7.7), discussed and interpreted regarding the present thesis.

Table 7.7

*CDMSE-SF and Other Measuring Instrument Correlations (N=225)*

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	CTI	dmc	ca	ec	I-E LOC	OLQ	c	ma	me
CDMSE-SF	-0,578	-0,582	-0,425	-0,316	-0,307	0,552	0,411	0,502	0,511

---

Note: All correlations are significant to  $p < .01$  (2 tailed)

Data analysis found that the CDMSE-SF maintained significant correlations with career thinking and salutogenic functioning variables. Significance for all correlations was determined at  $p < .01$  (2-tailed).

Career decision making self-efficacy demonstrated significant correlations with locus of control and sense of coherence. In particular, the data suggested that a correlation of -0,307 existed between CDMSE-SF and I-E LOC. According to Cohen (1992), this value represented a medium effect size. In practical terms, individuals with greater levels of confidence in career decision making tasks also maintain more internal attributions of personal control. This finding was consistent with earlier career decision making research (Luzzo, 1995; Luzzo, Funk & Strang, 1996; Taylor & Popma, 1990). The finding is inconsistent with one study pertaining to non-student adults however. In particular, despite a correlation between the CDMSE and I-E LOC ( $r = -0,02$ ) results were not found to be statistically significant (Brown, Reedy, Fountain, Johnson & Dichiser, 2000). This



incongruence may have been due to the abused female sample used in the noted study. Further investigation is warranted.

The CDMSE-SF also demonstrated a significant positive correlation with OLQ (0,552) meaning that individuals who have greater levels of confidence in their career decision making abilities also manifest greater sense of coherence. Moreover, the CDMSE-SF demonstrated significant positive correlations with the OLQ subscales. In particular, correlations of 0,411, 0,502 and 0,511 were found for comprehensibility, manageability and meaningfulness respectively. These values represented large effect sizes (Cohen, 1992). In essence, individuals with greater career decision making self-efficacy also maintain stronger perceptions that stressor of career decision making is predictable, ordered and makes cognitive sense, and that they have internal and external resources to cope with career choice stress, and that this stressor is worthy of investing time and energy to address. The relationship between sense of coherence and general self-efficacy has been established in the literature (Felton, 1996; Jackson & Rothmann, 2001; Johnson, 2004; Rachman, 1990; Rothmann & Coetzee, 2003; Viviers & Cilliers, 1999). However, the relationship between sense of coherence and the 'task specific' career decision making self-efficacy has not been established. As such, these findings are new to the career development literature.

### **7.3.3 I-E Locus of Control Scale**

The I-E LOC scale represented salutogenic functioning in the present thesis. Its correlation with other variables is presented in table format (Table 7.8), discussed and interpreted regarding the present thesis.

Table 7.8

*I-E LOC and Other Measuring Instrument Correlations (N=225)*

	CTI	dmc	ca	ec	CDMSE- SF	OLQ	c	ma	me
I-E LOC	0,349	0,294	0,236	0,281	-0,307	-0,404	-0,404	-0,340	-0,289

Note: All correlations are significant to  $p < .01$  (2 tailed)

Data analysis found that the I-E LOC maintained significant correlations with career thinking variables and salutogenic factors. Significance for all correlations was determined at  $p < .01$  (2-tailed).

The I-E LOC demonstrated significant correlations with the OLQ and its subscales. In particular, LOC maintained a correlation of -0,404 with the OLQ total score indicating a large effect size (Cohen, 1992). Similarly, negative correlations were established between LOC and the comprehensibility (-0,404), manageability (-0,340) and meaningfulness (0,289) subscales of the OLQ. These values represented medium and large effect sizes (Cohen, 1992). In practical terms, individuals demonstrating greater internality manifest greater sense of coherence. Moreover, individuals with greater internality also maintain stronger perceptions that stressors are predictable, ordered and make cognitive sense, that they have internal and external resources to cope with stress, and that stressors are worthy of investing time and energy to address. Results are consistent with earlier research finding a correlation (-0,404) between the I-E and OLQ (Rumbaut, Anderson & Kaplan, 1983) and of 0,32 between internal locus of control and the OLQ total (Jackson & Rothmann, 2001; Rothmann & Coetzee, 2003). Data analysis for the OLQ subscales was not reported in the noted studies. Results confirm H2 that a statistically significant relationship exists between locus of control and sense of coherence.

### 7.3.4 Orientation to Life Questionnaire

The OLQ represented salutogenic functioning in the present thesis. Its correlation with other variables is presented in table format (Table 7.9), discussed and interpreted regarding the present thesis.

Table 7.9

*OLQ and Other Measuring Instrument Correlations (N=225)*

---

	CTI	dmc	ca	ec	CDMSE-SF	I-E LOC
OLQ	-0,625	-0,595	-0,513	-0,429	0,552	-0,404
c	-0,558	-0,514	-0,479	-0,371	0,411	-0,404
ma	-0,567	-0,539	-0,484	-0,385	0,502	-0,340
me	-0,502	-0,508	-0,366	-0,368	0,511	-0,289

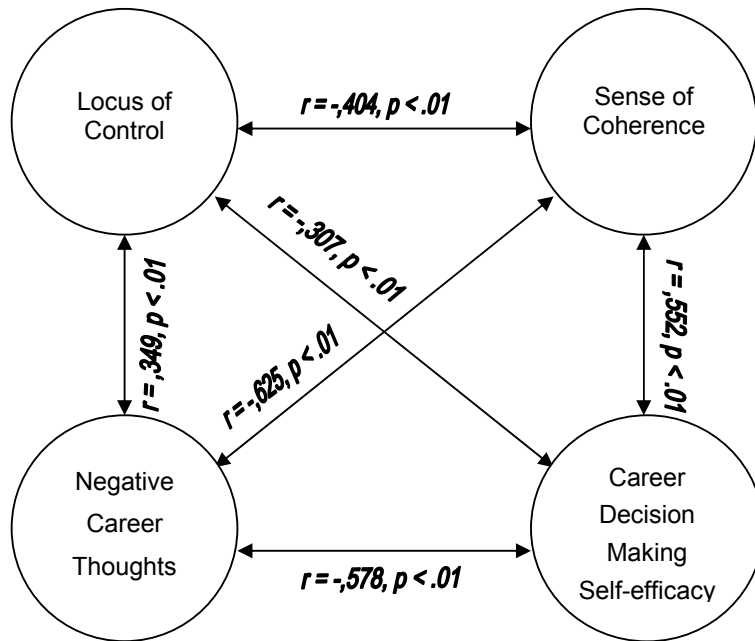
---

Note: All correlations are significant to  $p < .01$  (2 tailed)

Data analysis found that the OLQ and its subscales maintained significant correlations with career thinking and salutogenic factors. Significance for all correlations was determined at  $p < .01$  (2-tailed).

Statistically significant correlations were established between career thinking and salutogenic functioning in the present thesis. These findings contribute to the confirmation of Hypothesis 3. In particular, a statistically significant relationship exists between career thinking, vis-à-vis negative career thoughts and career decision-making self-efficacy, and salutogenic functioning, vis-à-vis of locus of control and sense of coherence. A diagram (consistent with figures 5.1. & 5.2.) of intercorrelations is provided in Figure 7.1.

Figure 7.1 Correlations between Locus of Control, Sense of Coherence, Negative Career Thoughts and Career Decision Making Self-efficacy.



### 7.3.5 Biographical Variables

Data was analyzed for the biographical information. The correlations between age, level of education, length of unemployment and research variables are presented in table format (Table 7.10), discussed and interpreted regarding the present thesis.

Table 7.10

*Biographical Factors and Measuring Instrument Correlations (N=225)*

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	CTI	dmc	ca	ec	CDMSE- SF	I-E- LOC	OLQ	c	ma	me
Age	-0,012	-0,062	-0,179**	-0,151*	0,048	-0,227*	0,108	0,137*	0,09	0,05
Education	-0,202**	-0,216**	-0,145*	-0,148*	0,389**	-0,119	0,316**	0,237**	0,215**	0,330**
Unemployment	0,030	0,043	0,032	0,007	-0,135*	-0,085	-0,122	-0,061	-0,07	-0,183**

---

p<.01= \*\*

p<.05= \*

Age demonstrated several significant relationships with career thinking and salutogenic variables. Regarding career thinking, age manifest a significant inverse correlation with the commitment anxiety ( $r = -0,179$ ) and external conflict ( $r = -0,151$ ) subscales of the CTI. Though significant, these values were at the lower band of practical significance (Cohen, 1992). As higher scores on the CTI represent greater dysfunction, results indicate that older adults demonstrate less career related anxiety. Results also indicate that older adults also manifest less conflict related to significant others. This finding would suggest that conflicts related to significant others (parents, teachers, etc.) are more prevalent for younger adults than older adults. Results lend credence to career indecision taxonomies (Gordon, 1998; Sampson, Reardon, Peterson & Lenz, 2004) whereby younger adults face greater career related anxiety due to the lack of knowledge of career domains, or because they are pressured to make career choices by educational institutions or parents before they are developmentally ready. No significant correlation was found between age and the CTI total. This would indicate that dysfunctional career thoughts do not increase or diminish with age. Moreover, no significant correlation was found between age and CDMSE. This finding is inconsistent with earlier research (Luzzo, Funk & Strang, 1996; Ochs & Roessler, 2004; Weiner & Oei, 1999). Further investigation into the relationship between age and CDMSE is warranted.

Age also demonstrated modest significant correlations with salutogenic functioning. In particular, increase in age related to increased internal locus of control ( $r = -0,227$ ). This finding demonstrated a medium effect size (Cohen, 1992) and is consistent with the extant literature (Luzzo, Funk & Strang, 1996; Luzzo & Ward, 1995; Mirowsky, 1995) where older adults generally manifest internal locus of control. Other research has failed to confirm this result (Bond & Bunce, 2003). Further research is warranted to clarify this anomaly.

Age also demonstrated a modest significant correlation with the comprehensibility subscale of the OLQ ( $r = 0,137$ ). Though significant, this value was at the lower band of practical significance (Cohen, 1992). In essence, greater age manifest in greater understanding of the stressor of unemployment and career decision making. However, since the correlation between age and the global scale and

subscales of the OLQ were insignificant, and due to the slightly significant correlation, findings are questionable. The extant literature has found conflicting data regarding the relationship between age and the sense of coherence. Some research has established that age demonstrates a linear relationship to SOC (Fiorentino & Pomazal, 1998; Larsson & Kallenberg, 1996; Nilsson, Holmgren & Westman, 2000; Ryland, Tegarden & King, 1998; Starrin, Jönsson & Rantakeisu, 2001). Other research has demonstrated that age does not statistically relate to SOC (Johnson, 2004). Further research regarding these factors may clarify these findings.

Level of education demonstrated small and medium practical significant relationships with both career thinking and salutogenic functioning (Cohen, 1992). In particular, education maintained inverse relationships with the CTI global scale ( $r = -0,202$ ), decision-making confusion ( $r = -0,216$ ), commitment anxiety ( $r = -0,145$ ) and external conflict ( $r = -0,148$ ) subscales. In behavioral terms this means that individuals with less education manifest greater dysfunctional career thinking. Less education meant that individuals had greater confusion regarding their career decisions, had greater anxiety related to those career choices and demonstrated greater conflict with significant people in their lives. A consistent finding is that education level held a positive relationship with CDMSE ( $r = 0,389$ ). In practical terms, less education related to less confidence pertaining to career decision making tasks. Similar statistically significant data between negative and positive career thinking corroborate the findings.

Regarding salutogenic functioning, level of education also maintained a positive correlation with OLQ ( $r = 0,316$ ) and the comprehensibility ( $r = 0,237$ ), manageability ( $r = 0,215$ ) and meaningfulness ( $r = 0,330$ ) subscales. These small and medium effect size findings suggest that individuals with greater education also manifest greater sense of coherence. Moreover, individuals with greater education perceive unemployment and career decision making as predictable and ordered, believe that they have internal and external resources to cope and are worthy of investing time in addressing. This finding is consistent with some of the literature (Richardson, Adner & Nordström, 2001; Starrin, Jönsson & Rantakeisu, 2001; Svartnik, Lidfeldt, Nerbrand, Samsioe, Schersten & Nilsson, 2000). Other

research has demonstrated no significant statistical relationship between education and SOC (Holmberg, Thelin, & Stiernström, 2004; Larsson & Kallenberg, 1996; Nilsson, Holmgren & Westman, 2000). No significant correlation was discovered with level of education and LOC.

Length of unemployment demonstrated a slightly significant relationship with positive career thinking vis-à-vis CDMSE-SF ( $r = -0,135$ ) only. Though significant, this value represented the lower band of practical significance (Cohen, 1992). Findings suggest that individuals with greater lengths of unemployment demonstrated less career decision-making self-efficacy. These results are consistent with current research. In particular, lower levels of CDMSE have been empirically linked to unemployment (Brown, Reedy, Fountain, Johnson & Dichiser, 2000; Weiner & Oei, 1999). Though the present thesis did not find a relationship between length of unemployment and negative career thinking, such a finding has been noted elsewhere in the literature (Keim, Strauser & Ketz, 2002). Further investigation is warranted.

Length of unemployment did not demonstrate a significant relationship with salutogenic functioning. Rather, length of unemployment demonstrated a significant correlation with and the meaningfulness subscale of the OLQ ( $r = -0,183$ ) only. This value represented a small effect size (Cohen, 1992). In behavioral terms, individuals with greater length of unemployment appraise their situation as being devoid of meaning and therefore less worthy of investing time and energy to address. Meaning has been considered a buffer to stress appraisals related to work environments (Geisbrecht, 1997). It could be that longer periods of unemployment reduce appraisals of job finding expectation. This in turn would reduce meaning and the energy to respond. This has yet to be researched. Never the less, findings are consistent with research in which SOC did not associate with level of work experience (Virtanen, Rantalaiho & Koivisto, 2003). No significant empirical relationship was established with internal locus of control.



## **7.4 PREDICTIVE VALUE OF THE CONSTRUCTS**

Data analysis further established the relationship between career thoughts and cognitive expectancy constructs. In particular, the predictive values of locus of control and sense of coherence on negative career thoughts and career decision-making self-efficacy were respectively analyzed.

The theoretical relationship between constructs within the career indecision problem space of unemployed adults is that salutogenic functioning buffers the stress of unemployment and may affect career specific cognitions. Following this line of reasoning, salutogenic factors were regressed toward career thoughts. As such, locus of control and sense of coherence were regressed against negative career thoughts and career decision-making self-efficacy independently. Following directives from the literature, the OLQ was regressed as a global scale only (Antonovsky, 1993; Frenz, Carey & Jorgensen, 1993; Korotkov, 1998).

### **7.4.1 LOC, OLQ and Career Thoughts Inventory**

The predictive relationship of salutogenic factors with negative career thoughts was established. Results are presented in table format (Table 7.11), discussed and interpreted regarding the present thesis.

Table 7.11

*Stepwise Multiple Regression Analysis for Salutogenic Variables Predicting Negative Career Thoughts*

	<u>CTI</u>	
	$\beta$	Sig.t
I-E	.116	2.03
SOC	-.578	-10.19

The thesis regressed the predictor variables (I-E LOC scale and the OLQ) against the dependent variable (CTI). Results indicated that the OLQ significantly predicted the CTI whereas the I-E LOC scale did not. In particular, despite a significant correlation ( $r = 0,349$ ,  $p < .01$ ) with the CTI, the I-E LOC scale only accounted for 1% unique variance ( $R^2\Delta = .01$ ,  $p > .01$ ) in the criterion measure,  $F(1,222) = 4.15$ ,  $p > .01$ . On the other hand, the OLQ maintained a significant correlation ( $r = -0,625$ ,  $p < .01$ ) with the CTI and accounted for 28% ( $R^2\Delta = .28$ ,  $p < .001$ ) of the variance in negative career thinking,  $F(1,222) = 103.90$ ,  $p < .001$ . Effect size is useful in demonstrating the practical significance of relationships (Steyn, 2002). Using Cohen's (1992) effect size formula for multiple regression, the effect sizes for the relationship of I-E LOC and OLQ with CTI were calculated. In particular,  $f^2 = .01$  for I-E LOC and was not significant. However, the effect size for OLQ was  $f^2 = .39$ . According to Cohen (1992) a large effect size is  $f^2 = .35$ . As such, the OLQ effect size is significant.

Data suggest that locus of control did not predict negative career thinking. As a result, Hypothesis 4 was rejected. In particular, internal locus of control did not significantly predict negative career thoughts. This finding is consistent with career development and salutogenic research where LOC has maintained poor predictive relationships (Flannery, Perry, Penk & Flannery, 1994; Luzzo, 1995). However,

data analysis confirmed Hypothesis 6 that sense of coherence will significantly predict negative career thoughts. Data analysis suggests that sense of coherence is a better predictor of negative career thoughts than locus of control. This finding is consistent with the literature whereby sense of coherence has strongly related to dysfunctional thinking (Karlson, Seger, Osterberg, Gunnel & Orbaek, 2000; Lustig & Strauser, 2002). However, the predictive value of the OLQ toward negative career thoughts is new to the literature.

#### 7.4.2 LOC, OLQ and Career Decision Making Self-efficacy SF

The predictive relationship of salutogenic factors with career decision making self-efficacy was established. Results are presented in table format (Table 7.12), discussed and interpreted regarding the present thesis.

Table 7.12

*Stepwise Multiple Regression Analysis for Salutogenic Variables Predicting Career Decision-making Self-efficacy*

	<u>CDMSE-SF</u>	
	$\beta$	Sig.t
I-E	-.101	-1.661
SOC	.512	8.417

The analysis of thesis data regressed the predictor variables (I-E LOC scale and the OLQ) against the dependent variable (CDMSE-SF). Results indicated that the OLQ significantly predicted the CDMSE-SF whereas the I-E LOC scale did not. In particular, despite a significant correlation with the CDMSE-SF ( $r = -0,307$ ,  $p < .01$ ), the I-E LOC scale only accounted for .3% unique variance ( $R^2\Delta = .003$ ,  $p > .01$ ) in

the criterion measure,  $F(1,224) = 1.05, p > .01$ . On the other hand, the OLQ maintained a significant correlation ( $r = 0.552, p < .01$ ) with the CDMSE-SF and accounted for 29.8% of the variance with career decision making self-efficacy ( $R^2\Delta = .298, p < .001$ ),  $F(1,224) = 103.76, p < .001$ . Effect size was calculated following recommendations from the literature (Kirk, 1996). Effect sizes for the relationships of I-E LOC and OLQ with CDMSE-SF were conducted using Cohen's (1992) multiple regression formula. The effect size for the I-E LOC was not practically significant  $f^2 = .003$ . However the effect size for OLQ was  $f^2 = .42$  indicating a large practical significance (Cohen, 1992).

Data suggests that locus of control did not predict career decision making self-efficacy. As a result, H5 was rejected. In particular, internal locus of control did not significantly predict career decision making self-efficacy. This finding is congruent with earlier research (Luzzo, 1995). However data analysis confirmed H7, that sense of coherence will significantly predict career decision making self-efficacy. Data suggest that sense of coherence is a better predictor of career decision making self-efficacy than locus of control. This finding is new to the career development literature.

Data suggest that a significant relationship between career thinking and salutogenic functioning exists. In particular, significant empirical correlations were established between career thinking, vis-à-vis negative career thoughts and career decision making self-efficacy, and salutogenic functioning, vis-à-vis internal locus of control and sense of coherence. Moreover, despite limited predictive relationships with LOC and career thinking, sense of coherence maintained significant statistical predictive relationships with both negative career thoughts and career decision making self-efficacy. That SOC is recognized as a solid salutogenic factor (Höge & Büssing, 2004; Johnson, 2004) further establishes the relationship between career thinking and salutogenic functioning. These relationships confirm H3 that a statistically significant relationship exists between career thinking, vis-à-vis negative career thoughts and career decision making self-efficacy, and salutogenic functioning, vis-à-vis internal locus of control and sense of coherence.

The empirical research suggests that the null hypothesis (H0) is rejected. As such, a psychometric relationship exists between career thinking and salutogenic functioning.

### 7.4.3 Biographical Variables

The predictive value of biographical factors toward career thinking factors was established. Post hoc analyses were conducted with the CTI first and then CDMSE-SF. The results of the analysis are reported.

Results indicated that age of subjects and length of unemployment did not significantly correlate with CTI. Similarly, neither were significant predictors of the CTI. As such, age accounted for .1% unique variance in the criterion variable ( $R^2\Delta = .001$ ,  $p > .01$ ),  $F(1,219) = .193$ ,  $p > .01$ . Concurrently, unemployment accounted for .1 % of variance in the criterion variable ( $R^2\Delta = .001$ ,  $p > .01$ ),  $F(1,215) = .395$ ,  $p > .01$ . Despite maintaining a significant correlation with CTI, level of education did not effectively predict negative career thoughts ( $R^2\Delta = .000$ ,  $p > .01$ ),  $F(1,220) = .013$ ,  $p > .01$ . Effect sizes were calculated regarding the relationships of age, education and unemployment with CTI. Results were  $f^2 = .001$ ,  $f^2 = .000$  and  $f^2 = .001$  for age, education and unemployment respectively. According to Cohen (1992) these are not significant values

Post hoc analyses were also conducted for career decision-making self-efficacy. Results indicated that where age of subjects did not significantly correlate with CDMSE-SF, length of unemployment did. However, neither were significant predictors of the CDMSE-SF. As such, age maintained non-significant unique variance in the criterion measure ( $R^2\Delta = .001$ ,  $p > .01$ ),  $F(1,219) = .338$ ,  $p > .01$ . Likewise, unemployment demonstrated non-significant unique variance in the criterion measure ( $R^2\Delta = .007$ ,  $p > .01$ ),  $F(1,215) = 2.276$ ,  $p > .01$ . However, level of education demonstrated a significant correlation with CDMSE-SF ( $r = 0.389$ ,  $p < .01$ ). Similarly, level of education accounted for 5.2% of the variance in the career decision making self-efficacy ( $R^2\Delta = .052$ ,  $p < .001$ ,  $\beta = .233$ ,  $\text{Sig.}t = 3.991$ ),  $F(1,220) = 17.85$ ,  $p < .001$ ). The nature of education's predictive role in career decision making self-efficacy has yet to be explored. Effect sizes were conducted

regarding the relationships of age, education and unemployment with CDMSE-SF. Results were  $f^2 = .001$ ,  $f^2 = .05$  and  $f^2 = .007$  for age, education and unemployment respectively. Statistical values do not represent practical significance for either age or unemployment. However, whereas Cohen (1992) suggests that  $f^2 = .02$  represents a small practical significance, the  $f^2$  value for education represents a small effect size.

## **7.5 CHAPTER SUMMARY**

The aim of the current chapter was to present the results pertaining to the empirical study. As such, psychometric relationships between career thinking, vis-à-vis negative career thoughts & career decision-making self-efficacy, and salutogenic functioning, vis-à-vis locus of control & sense of coherence were reported, interpreted and integrated. Descriptive statistics described the adult sample used in research and measuring instruments.

The relationships between and predictive value of career thinking and salutogenic factors were described. As such, significant correlational relationships were established between all career thinking and salutogenic factors confirming several hypotheses. Predictive relationships were established between the sense of coherence and negative career thoughts and career decision making self-efficacy respectively. Locus of control did not maintain a predictive value of career thinking, vis-à-vis negative career thoughts and career decision making self-efficacy. Results confirmed and negated several hypotheses. Post hoc analysis was reported on biographical data.

## **CHAPTER 8            CONCLUSIONS, LIMITATIONS & RECOMMENDATIONS**

The aim of the present chapter is to formulate recommendations from research findings pertaining to Industrial and Organisational psychology and to discuss implications for further research. Conclusions and limitations of the research are also examined. Discussion of the outcomes and implications of the study ensure that the aims of research were met. A chapter summary is also presented.

### **8.1    CONCLUSIONS**

The purpose of the present thesis was to take a first step in exploring the nature of career indecision with non-student adults. As an extension of student based career decision making research, the thesis considered career specific factors known to influence career decidedness and paired them with salutogenic factors known to mediate stress. In doing so, the thesis brought two arenas of psychology together to explore adult career indecision. Moreover, the relationship between career thinking and salutogenic functioning was established in within the milieu of career indecision with non student adults. In doing so, the research confirmed existing findings and extended the literature in numerous ways. The existence of congruence and incongruence with the career development literature implies a fresh perspective regarding the nature of career decision making with non-student adults.

#### **8.1.1            Metatheoretical Concepts**

One aim of the study was to conceptualize career decision making and salutogenic coping as metatheoretical concepts. Motivation for this aim pertains to the changing nature of organisational culture and the increasing frequency of career decision making for adults. In particular, globalization and corporate streamlining have lead to increasing insecurity within business and employment environments (Foot, 1998). Delaying middle management, restructuring, mergers, outsourcing and corporate downsizing have contributed to increases in unemployment in the name of corporate viability (Neault, 2002; Osberg, Wein & Grude, 1995; Peterson & González, 2000; Rothmann & Coetzee, 2003). A recent

review by the US Department of Labor found that 7.6 million Americans were unemployed and that the national unemployment rate was 5.1% in May 2005. Canadian statistics do not fare much better. National statistics suggest that 7.2 % of all adults in Canada were unemployed in 2004 (Statistics Canada). Moreover, the average length of employment in Canada was 8.75 years for full time employment in 2002 (Statistics Canada), with increases in part-time, nonstandard and contractual employment (Adams, Betcherman & Bilson, 1995). These insecure business trends cause individual employment and career change to be normative for non-student adults (Bandura, 1997).

The implication of these trends is that adults are increasingly uncertain about their career choices and frequently make their career decisions within the domain of unemployment. This development means that adults face unique stress and anxiety of unemployment (Hanish, 1999; Joseph & Greenberg, 2001; Starrin, Jönsson & Rantakeisu, 2001) that mitigates their career choices. Investigating unemployment coping factors and 'career specific' cognitive factors that influence career choice is important to understanding the nature of career indecision of adults (Savickas, 2001; Vinokur & Schul, 2002). At a metatheoretical level, these factors emerge from larger domains of psychology.

The thesis established that career decision making research is part of the larger career development literature. In particular, career decision making was framed as a complex and multidimensional domain with an evolving research body (Gordon, 1998, Sampson, Reardon, Peterson & Lenz, 2004). Moreover, career indecision was framed as a multidimensional domain influenced by both general and cognitive factors (Savickas, 1995).

Research findings further suggested that adult career indecision is virtually unexplored in the career development literature. The majority of career indecision research has pertained to student samples (Gordon, 1998; McWhirtner, Rasheed & Crothers, 2000) and little career development research has been conducted with unemployed adults (Quimby & O'Brien, 2004; Weinstein, Healy & Ender, 2002).



Stress is ubiquitous for unemployed adults (Hanish, 1999). Salutogenic factors that buffer stress were of interest to the present research regarding their role within career indecision. The literature review noted that salutogenic factors emerge from the superordinate domain of positive psychology (Nakamura & Csikszentmihalyi, 2003) wherein dozens of factors are noted to promote positive human functioning (Seligman & Peterson, 2003). Particular salutogenic factors of interest were constructs with cognitive and stress buffering properties (Patton & McMahon, 1999). The literature review found that several constructs demonstrated stress mediating and agency producing qualities. Moreover, these salutogenic factors were extensively researched among adult populations. Review of the literature found that two constructs in particular, had contributed to career decision making research with students. These constructs were deemed to have contributive value for exploring adult career indecision.

### **8.1.2 Career Thinking**

Another aim of the study was to conceptualize career thinking, vis-à-vis negative career thoughts and career decision-making self-efficacy (CDMSE) as constructs of career decision-making. This aim was explicitly addressed in the literature review. Empirical research contributed to meeting this aim and extended the literature by exploring the nature of career indecision with non-student adults.

Within career decision making literature career indecision has demonstrated key associations with cognitive factors. In particular, career indecision has empirically related to, and been predicted by dysfunctional career thinking (Austin, Wagner & Dahl, 2003; 2004; Enright, 1996; Kleiman, Gati, Peterson, Sampson, Reardon & Lenz, 2004; Skorupa & Agresti, 1998; Stead, Graham, Watson & Foxcroft 1993; Sweeney & Shill, 1998; Wright, 2001). Moreover, career decidedness has empirically related to, and been predicted by career decision making self-efficacy (Betz & Luzzo, 1996; Betz & Voyten, 1997; Fouad & Sprea, 1996; Strauser, Lustig, Keim, Ketz & Malesky, 2002; Taylor & Betz, 1983) among students. Research has further suggested that characteristics such as anxiety and negative self talk are common features of negative career thinking and low levels of positive thinking (Betz, 2004; Peterson, Sampson, Reardon & Lenz, 1996). This

suggests that, despite theoretical differences between constructs, an overlap exists within the domain of career indecision. Factor analysis confirmed theoretical assumptions by indicating two distinct factors for negative career thoughts and career decision making self-efficacy respectively

These findings are consistent with career decision taxonomies (Gordon, 1999; Sampson, Reardon, Peterson & Lenz, 2004). In particular, career decidedness is aided by low levels of negative career thoughts and higher levels of career decision making self-efficacy respectively. Conversely, indecision is promoted by dysfunctional career thinking and low levels of career decision making self-efficacy respectively.

The thesis confirmed findings regarding career thinking's role in career decision making that had been presented in the literature review. In particular, beside a strong theoretical convergence between negative and positive career thoughts, a significant empirical relationship was also established. As a key factor of career decision making, negative career thoughts maintained significant internal consistency indicating a solid general construct. This is consistent with normative data from the literature (Sampson, Peterson, Lenz, Reardon & Saunders, 1996b). Moreover, the global scale maintained significant internal empirical relationships with decision making confusion, commitment anxiety and external commitment subscales. These relationships make sense from a theoretical and psychometric point of view, in that these scales comprise the greater global construct.

As a key factor in career decision making research, career decision making self-efficacy (as measured by the CDMSE-SF) also manifest a significant internal consistency indicating a solid general construct. This too, was consistent with normative data (Betz, Klein & Taylor, 1996). Regarding career thinking, the present research found a significant empirical relationship between negative career thinking and career decision making self-efficacy. Though this finding is new to career development literature it was expected. Low levels of CDMSE and maladaptive attributions have been posited in the literature (Betz, 2004; Betz, Klein & Taylor, 1996).

Career decision making self-efficacy also demonstrated statistically significant relationships with the decision making confusion, commitment anxiety and external conflict subscales of the CTI instrument. These findings make intuitive sense. In particular, greater confusion pertaining to career decision making should correspond with less confidence in career decision making tasks. That low levels of CDMSE correspond to greater appraisals of barriers and less problem solving confidence is theoretically congruent with this thesis (Bandura, 1999, Betz, 2004, Lent, Hackett & Brown, 2000). Similarly, low levels of CDMSE have generally corresponded to greater levels of anxiety in the literature (Jerusalem & Mittag, 1995; Taylor & Betz, 1983). Less confidence in career decision making could contribute greater anxiety for unemployed adults. This idea is consistent with the unemployment literature (Hanish, 1999). The current research supports these findings. Furthermore, CDMSE has consistently demonstrated an inverse statistical relationship with locus of control in the literature (Brown, Reedy, Fountain, Johnson & Dichiser, 2000; Luzzo, 1995; Luzzo, Funk & Strang, 1996; Taylor & Popma, 1990). That the external conflict subscale of the CTI reflects a domain of external control, suggests that research is consistent with these findings.

Age, level of education and length of unemployment also contributed to the conceptualization of career thinking. In particular, age maintained significant correlations with career related anxiety and external conflict subscales of the CTI. These findings suggest that non student adults demonstrate less anxiety regarding career choices. Moreover, these adults also maintain less conflict related to significant external controls. This finding is makes theoretical and empirical sense. In particular, younger adults are more prone to receive advice and pressure from significant adults. This may result in higher scores for students. Empirical support for this supposition is found in CTI normative data. In particular, mean scores for non student adult samples were 36.33 compared to college students ( $M= 47.01$ ) and high school students ( $M= 48.78$ ). Further support is garnered from internal thesis data. In particular, age demonstrated a significant correlation with internal locus of control. This offers a convergent finding to the age/ external conflict result found in research.

Age did not relate significantly career decision making self-efficacy in the present study. This finding was consistent with earlier findings (Luzzo, 1995). However conflicting findings have also been found in the literature. Weiner and Oei (1999) found that older adults demonstrated less confidence pertaining to career decisions. Discrepancy between findings could be attributed to the nature of the sample used in research. In particular, Weiner and Oei (1999) sampled employed and unemployed non-student adults, whereas Luzzo (1995) sampled students. Less CDMSE within the Weiner and Oei (1999) study could reflect greater lengths of unemployment, age or psychological distress noted in the study. That the present thesis found no relationship with CDMSE is confusing. However, this finding is consistent with internal data that found no significant empirical relationships with global dysfunctional career thinking, or decision making confusion with age. In essence, age did not correspond to career thinking.

Level of education contributed to understanding the nature of career thinking with non-student adults. In particular, greater education related to lower levels dysfunctional career thinking and less confusion, anxiety and external conflict pertaining to career choice. These findings were consistent with normative research and internal data. Regarding the latter, as negative career thoughts and CDMSE represent the domain of career thinking, similar empirical relations with level of education offer convergent information. Moreover, normative data could offer support for this finding. In particular, 77.5 % of the adult norm sample maintained university level education. This sample also demonstrated lower levels of dysfunctional career thinking than the less educated thesis group. In essence less education related to greater levels of dysfunction. These findings could contribute evidence for the general finding.

Level of education also empirically related to and predicted career decision making self-efficacy. In particular, greater education corresponded to greater confidence pertaining to career decision making tasks. Education accounted for 5.2% of the variance with CDMSE. Confirmation for this finding is noted in the literature. In particular, higher CDMSE has been reported for higher grade levels in student research (Kerpelman & Mosher, 2004). Moreover, from a salutogenic perspective, education may be considered a generalized resistance resource

(GRR) to deal with stressors. Where GRR's have empirically related to levels of education (Fiorentino & Pomazal, 1998), thesis findings would make theoretical sense. Furthermore, results are consistent with internal career thinking data in particular, the relationship between negative career thoughts and education level. As such greater levels of education may assist in reducing career decision making confusion, anxiety and external appraisals of control while bolstering confidence for career decision making tasks.

Length of unemployment contributed to the understanding of career thinking. In particular, length of unemployment did not correspond with negative career thoughts. This finding is inconsistent with the literature. Though data between unemployment and dysfunctional career thinking is scant in the literature, one study has considered this interaction. In particular, Keim, Strauser and Ketz (2002) noted that greater length of time away from the workforce corresponded with greater negative career thinking. Discrepancy between this study and the thesis may be due to the sample used. For example, Keim, Strauser and Ketz (2002) used an all female sample that focused on education, employment search or neither. Lowest dysfunctional career thinking was noted for the 'neither work nor education' group. Dysfunctional career thoughts were higher for the education and employment groups. In this case, focus upon education or unemployment may have lead to empirical relationships. In particular, confusion, anxiety or external pressures related to unfamiliar tasks may have contributed to findings as much as length of unemployment. The thesis group was neither focusing on employment or education but rather career decision making.

Length of unemployment did demonstrate a significant empirical relationship with CDMSE. In particular, greater durations of unemployment corresponded with less confidence pertaining career decision making tasks. This finding makes intuitive sense. Adults who remain unemployed despite their career decisions may become disillusioned regarding their career choice ability. The result would be a loss of confidence. This finding was consistent with prior research. In particular, Weiner and Oei (1999) found that greater lengths of unemployment corresponded to less CDMSE. Researchers concluded that loss of confidence could be the result of extended lengths of unemployment. Findings are also consistent with

other research where unemployment corresponded to less confidence in career decision making (Brown, Reedy, Johnson, Fountain & Dichiser, 2000).

### **8.1.3 Salutogenic Functioning**

A further aim of the thesis was to conceptualize internal locus of control (LOC) and sense of coherence (SOC) as constructs of salutogenic functioning. This aim was explicitly addressed in the literature review. However, empirical research contributed to meeting this aim and extended the literature by exploring the nature of career indecision with non-student adults.

Antonovsky (1979) suggested that salutogenic factors are health promoting and stress buffering in nature. Within salutogenic literature several constructs maintain this capacity. However, within career development literature two specific constructs have established links with career indecision and career thinking. For this reason, locus of control and sense of coherence were conceptualized regarding salutogenic functioning.

Within the literature both LOC and SOC have demonstrated empirical relationships with psychological well being (Chamberlain, Petrie & Azriah, 1992; Grob, Little, Wanner, Wearing & Euronet 1996; Morrison, O'Connor & Morrison, 2001; Nasermodeli, Sekine, Hamanishi & Kagamimori, 2003; Pallant & Lae, 2002; Ryland & Greenfield, 1991; Turner, Barling & Zacharatos, 2002) meaning that more internal locus of control and greater levels of sense of coherence relate to stronger personal well being. Moreover, LOC and SOC have also demonstrated empirical links with stress mediation (Glass, McKnight & Valdimarsdottir, 1993; Hack & Degner, 2004; Hedov, Annernen & Wikblad, 2002; Hintermair, 2004; Kalimo, Pahkin & Mutanen, 2002; Litt, 1988; Thompson, 2002; Van Der Merwe & Greef, 2003; Waters & Moore, 2002), meaning that internal LOC and greater SOC buffer stress effectively. These qualities were deemed important for exploring adult career indecision where unemployment (and the stress thereof) was a standardized characteristic.

Findings of the present study replicated and extended the literature in several ways. In particular, locus of control and sense of coherence demonstrated a statistically significant empirical relationship. This finding was consistent with current research pertaining to these variables (Jackson & Rothmann, 2001; Rothmann & Coetzee, 2003). In essence internality related to greater sense of coherence. That both LOC and SOC were reliable in the present study lends credence to the findings. Moreover, locus of control also maintained significant inverse empirical relationships with the theoretical subscales of the sense of coherence. This finding makes theoretical sense in that both constructs reflect a salutogenic orientation and should retain an empirical relationship. Factor analysis suggested that salutogenic functioning was comprised of both locus of control and sense of coherence. However, locus of control was a weak contributor to the higher order construct.

Salutogenic functioning also demonstrated empirical relationships with age, level of education and length of unemployment. In particular, greater age corresponded to more internal orientation regarding locus of control. This finding is consistent with the literature (Luzzo, Funk & Strang, 1996; Luzzo & Ward, 1995; Mirowsky, 1995). One theoretical suggestion for this finding relates to the nature of LOC. In particular, repeated appraisals of control contribute toward internality. This characteristic operates as function of life experience and age. In essence greater age contributes to greater life experience which may influence appraisals of control. Research contrary to these findings (Bond & Bunce, 2003) noted that locus of control was a potential confound as part of their research. As such, their findings are tentative.

Within the present thesis sense of coherence did not empirically correspond to age. Only a minor relationship was detected with a theoretical subscale of SOC (comprehensibility). Findings were consistent with other research failing to detect a relationship between age and sense of coherence (Johnson, 2004). Findings are inconsistent however, with theoretical assertions (Antonovsky, 1979) and research findings that sense of coherence increases with age (Due & Holstein, 1998; Fiorentino & Pomazal, 1998; Larsson & Kallenberg, 1999; Nilsson, Holmgren & Westman, 2000; Ryland, Tegarden, & King, 1998; Starrin, Jönsson &

Rantakeisu, 2001). The discrepancy between Johnson (2004), the present thesis and other literature, regarding age and SOC may pertain to age of subjects in the samples. In particular, Johnson (2004) utilized a student based sample with a mean age of 23. Since SOC is not developmentally set until age 30 (Antonovsky, 1979) results may have been influenced. Within the present thesis approximately 27% of the sample was under age 30. This characteristic of the research sample may have contributed to an insignificant relationship between age and sense of coherence.

Results that suggested a relationship between age and comprehensibility may be interpreted in light of the salutogenic framework. Within the literature, personal well being has been ascribed as relating to wisdom. In particular, greater wisdom may relate to greater personal well being (Diener, Lucas & Oishi, 2002). The construct of wisdom is difficult to define but does include a cognitive component pertaining to reflective judgment about the world and one's experiences. Moreover, wisdom follows a developmental path which includes chronological age and education among other antecedents (Baltes, Glück & Kunzmann, 2002). That SOC also relates to greater well being has been established. That comprehensibility refers to a cognitive aspect of SOC whereby stressors are appraised as predictable, against a backdrop of life experiences, makes a theoretical link between wisdom and comprehensibility, and thereby age and comprehensibility. Moreover, as age theoretically corresponds to overall SOC, subcomponents of SOC should equally correspond.

#### **8.1.4 Integration**

Two further aims of the thesis were to integrate the literature on career thinking and salutogenic functioning in order to formulate an empirical hypothesis, and to determine the psychometric relationship between career thinking and salutogenic functioning in career undecided adults. Overall, the theoretical integration of career thinking and salutogenic functioning was explicitly addressed in the literature review. Empirical research confirmed and extended findings from the extant literature and contributed to meeting the second aim. Research also



extended the literature by exploring the nature of career indecision with non-student adults.

The common domain exploring the relationship between career thinking and salutogenic functioning is career indecision. Career indecision has been strongly related to anxiety (Fuqua, Blum & Hartman, 1988; Gordon, 1998; Holland & Holland, 1977; Larson, Piersel, Imao & Allen, 1990; O'Hare & Tamburri 1986; Serling & Betz, 1990; Skorupa & Agresti 1998; Stead, Graham, Watson & Foxcroft, 1993) and stress and poor coping (Larson, Piersel, Imao & Allen, 1990; O'Hare & Tamburri, 1986) and greater pressure and barriers (Larson, Heppner, Ham & Dugan, 1988). Career indecision has also strongly related to dysfunctional thinking greater self defeating beliefs (Sweeney & Shill, 1998), irrational thinking (Enright, 1996; Skorupa & Agresti, 1998; Stead, Graham, Watson & Foxcroft 1993), poor career beliefs (Enright, 1996), and lower career decision-making self-efficacy beliefs (Taylor & Betz, 1983). These findings are congruent with theoretical career decision taxonomies (Gordon, 1998; Sampson, Reardon, Peterson & Lenz, 2004).

What is germane to the literature is that the multidimensional nature of career indecision is newly being explored (Gordon, 1998; Sampson, Reardon, Peterson & Lenz, 2004). What is also germane is that conclusions drawn from research have been based upon a universal student population (Gordon, 1998). As such, because of developmental issues, these results may not reflect the larger, non student adult population.

That adult career decisions are generally made in the stress of unemployment has been established. That salutogenic factors buffer the effects of anxiety and stress has also been discussed. It is because of these salutogenic characteristics that makes these factors ideal for career indecision research with non-student adults. Moreover, theoretical and empirical relationships between career thinking and salutogenic factors aided in exploring the nature of career indecision with adults. Findings confirmed and added to the body of research pertaining career development research and the superordinate domain of Industrial and Organisational psychology.

Psychometric relationships were established between career thinking and salutogenic functioning, and in doing so, replicated and extended findings from career development literature. In particular, empirical relationships were established between career thinking, vis-à-vis negative career thoughts and career decision making self-efficacy, and salutogenic functioning, vis-à-vis internal locus of control and sense of coherence.

#### *8.1.4.1 Negative Career Thoughts & Salutogenic Functioning*

Career thinking, vis-à-vis negative career thoughts demonstrated a strong empirical relationship with salutogenic functioning. In particular, where global dysfunctional career thinking increased, locus of control manifest an external orientation. Moreover, internal locus of control corresponded to less confusion pertaining to career decision making, less anxiety pertaining to career choice commitment and less conflict pertaining to external factors. These findings make empirical and theoretical sense. In particular, significant psychometric relationships have been established between greater dysfunctional career thinking and locus of control (Saunders, Peterson, Sampson & Reardon, 2000). Thesis findings are consistent with this research. However, findings of the present research extend beyond the Saunders et al. (2000) study in that results were stronger for the adult sample ( $r = 0,349$ - adult,  $r = 0,26$ - student) comparatively.

One explanation for this finding pertains to the nature of the sample. As noted, 100% of the thesis sample was non-student adults, whereas 100% of the Saunders et al. (2000) sample was undergraduate college students. As such, age and level of education were two possible contributors to results. However, age of thesis sample did not appear to influence results as greater age (for the thesis sample) did not relate to dysfunctional career thoughts and had a significant inverse relation to LOC whereby internality increased with age. The thesis sample was older than the student sample but also demonstrated a greater externality/dysfunctional thought relationship. One explanation for findings then, pertains to level of education. In particular, the 65% of the thesis sample did not have a college level education compared to the 100% college education of the student

sample. Thesis research found that higher education levels significantly corresponded to less dysfunctional career thinking. The implication of this finding would suggest an explanation for lower empirical results for the Saunders et al. (2000) study.

Comparative data was not available to explain relationships between internal locus of control and lessened decision making confusion, anxiety or external conflict. However, these relationships make intuitive sense and are explained theoretically. That internal locus of control corresponds to less confusion pertaining to career choice process is consistent with the literature. In particular, internal LOC has significantly related to confidence regarding career choice tasks in the literature (Luzzo, 1995; Taylor & Popma, 1990). This is also consistent with the thesis findings that internal LOC related to greater confidence pertaining to career decision making tasks (CDMSE). Moreover, age has related to greater confidence toward career choice tasks and internal LOC in career development literature (Luzzo, Funk & Strang, 1996). The present thesis found similar results with LOC. In essence, older adults manifest internal locus of control and demonstrate less confusion & greater confidence toward career choice tasks.

Within career development research with students locus of control and anxiety frequently correspond to indecision (Fuqua, Blum & Hartman, 1988; Gordon, 1998; Saunders, Peterson, Sampson & Reardon, 2000; Serling & Betz, 1990; Skorupa & Agresti 1998; Stead, Graham, Watson & Foxcroft, 1993; Sweeney & Shill, 1998; Taylor, 1982; Taylor & Popma, 1990). That the thesis found similar results in congruent to these findings. The present research extended the literature however, by considering these relationships with non-student adults. In particular, despite the stress of unemployment and career indecision, non student adults would demonstrate less anxiety and internal locus of control than younger student counterparts.

The empirical relationship between internal LOC and career related conflict pertaining to external factors is theoretically consistent with the literature. In particular, external control regarding career choice is a form of external LOC. Internal LOC would then correspond to less external career related conflicts. That

age and education empirically relate to external control broaden the career development literature. In particular, adults in the midst of career transition would generally demonstrate less anxiety regarding career choice. Moreover, more educated adults would similarly hold less anxiety regarding career choice than their less skilled or educated counterparts.

Further evidence of a significant relationship between career thinking and salutogenic functioning was contributed by negative career thinking and sense of coherence. In particular, research corroborated earlier research of student based samples but added more robust data for non-student adults. Thesis research found a significant empirical relationship, concurring with seminal career thinking/SOC research (Lustig & Strauser, 2002). However, student research findings were less robust ( $r = -0,26$ ) than thesis ( $r = -0,625$ ) findings. One possible explanation for this significant difference may relate to levels of education of both samples. Recall that 65% of the thesis had less than college education. Regarding the SOC, greater education corresponded to greater sense of coherence. Regarding career negative career thoughts, greater education pertained to less dysfunction. The hypothetical explanation is that since the thesis group maintained less education they would be prone to both greater dysfunction and less sense of coherence than the student based cohort. The combination of these factors may have contributed to the robust finding.

The thesis extended career development literature by exploring the relationships between sense of coherence and confusion pertaining to the career decision making process, anxiety related to career choice commitment and conflict related external factors. No comparative data pertaining to these relationships existed in either student based or non-student adult based literature. Thesis research discovered that significant empirical relationships existed between career thinking and salutogenic factors. In particular, less robust sense of coherence corresponded to greater confusion pertaining to career decision making, greater career related anxiety and greater conflict pertaining to external factors. Research findings are theoretically consistent with other research. In particular, the decision making confusion subscale of the CTI has similar characteristics to the CDMSE-SF. As such, confusion regarding career decision making process and confidence

to perform career decision making tasks are inversely mirror a similar quality. Sense of coherence maintained a similar but inverse relationship to both scales;  $r = -0,595$  (dmc) and  $r = 0,552$  (CDMSE-SF). These findings suggest that both scales may measure a common domain. Moreover, convergent results offer confirmation of the finding that less SOC corresponds to greater confusion and less confidence for the task of career decision making.

Sense of coherence also demonstrated a significant empirical relationship with anxiety regarding career choice commitment. This finding is consistent with salutogenic research. In particular, greater sense of coherence corresponds to less anxiety (Flannery, Perry, Penk & Flannery, 1994; Jackson & Rothmann, 2001; Johnson, 2004). Findings suggest that adults with less SOC view career choice with greater stress and anxiety. These findings are new to career development literature and may have value for further research pertaining to non-student adults.

Sense of coherence also demonstrated a significant empirical relationship with career conflict pertaining to external factors. This finding is congruent with salutogenic literature. In particular, external conflict regarding career decisions reflects a form of external locus of control. The relationship between sense of coherence and locus of control has been established in the literature (Jackson & Rothmann, 2001; Rothmann & Coetzee, 2003; Viviers & Cilliers, 1999). Further, the relationship between these constructs was significantly established in the present thesis. Results are new to the career development literature and aid in clarifying the nature of career indecision with non-student adults.

Intercorrelations between theoretical subdomains of sense of coherence and dysfunctional career thinking offer further color to the nature of adult career indecision. Findings concur with other research. In particular, confusion regarding the career choice process manifest significant inverse correspondence with comprehensibility, manageability and meaning. These findings are consistent with the overall relationships between CDMSE and the same SOC subdomains. It would seem that greater confusion regarding career choices relates to less understanding of the stress of career choice. Moreover, greater confusion also

pertains to appraisals of fewer resources to cope and less meaning. These findings make intuitive sense. From a difference perspective, adults with less meaning, manageability and comprehensibility would manifest greater confusion regarding career or life decisions.

Further, anxiety regarding career choices also corresponded with less understanding, less manageability and less meaning. These findings also make intuitive sense. Adults with appraisals that the stress of unemployment and career choice are not ordered may exhibit greater anxiety regarding their choice. Moreover, adults believing that they have fewer internal and external resources to respond to unemployment or career decisions may similarly face greater anxiety. Further, adults finding less meaning within unemployment or career choice may also manifest greater anxiety.

Lastly, career conflict related to external factors also demonstrated significant empirical relationships with the theoretical subscales of the SOC. In particular, greater levels of external conflict corresponded to less appraisals of the stressor making sense. Adults with greater levels of career conflict also perceived fewer resources to deal with the conflict. Moreover, adults with greater career conflict due to external factors also deemed their situation to have less meaningfulness. Results were empirically consistent with research. Within thesis research the external conflict and LOC reflected theoretically similar domains. Empirical results between the ec subdomain and LOC with SOC subscales were comparable in nature. These findings added further information regarding the nature of career indecision with adults.

#### *8.1.4.2 Career Decision Making Self-efficacy & Salutogenic Functioning*

The relationship between career thinking, vis-à-vis career decision making self-efficacy and salutogenic functioning confirmed findings from student based research but also added to the career development literature. In particular, findings between CDMSE and locus of control and sense of coherence rendered new information pertaining to adult career indecision.

Career decision making self-efficacy demonstrated significant relationships with salutogenic functioning, vis-à-vis locus of control and sense of coherence. Specifically, CDMSE maintained a significant inverse relationship with locus of control. In essence, a more internal appraisal of personal control related to stronger confidence toward career decision making tasks. This finding makes intuitive sense. Moreover, this finding is consistent with student based literature (Luzzo, 1995; Luzzo, Funk & Strang, 1996; Taylor & Popma, 1990). However, within adult based research this finding is inconsistent (Brown, Reedy, Fountain, Johnson & Dichiser, 2000). This inconsistency may be explained based upon the nature of the sample used in the Brown et al. (2000) study. In particular, Brown et al. (2000) conducted their research with a sample of women exclusive to a battered women's shelter. This feature reflected a very narrow cross section of the adult population. Moreover, approximately 60% of the women were unemployed and 40% employed. As such, employment related to greater CDMSE and unemployment related to greater perceived barriers. The combination of sample factors may have contributed to the weak empirical relationship between CDMSE and LOC. Further empirical support for these findings was garnered from internal thesis data. In particular, CDMSE also demonstrated similar psychometric data with the external conflict subscale of the CTI. These findings concur with CDMSE/LOC data. As such, greater internality corresponds to greater confidence toward career decision making tasks for career undecided adults.

Career decision making self-efficacy also demonstrated a significant empirical relations with salutogenic functioning vis-à-vis sense of coherence. In particular, greater sense of coherence corresponded with greater confidence toward career decision making tasks. These findings are consistent with salutogenic research where general self-efficacy has corresponded to greater SOC (Felton, 1996; Jackson & Rothmann, 2001; Johnson, 2004; Rachman, 1990; Rothmann & Coetzee, 2003; Viviers & Cilliers, 1999). However, that these findings are established within career development research is new to the literature. Moreover, that these findings pertain to non-student adults assists in exploring career indecision with this population.

Further, CDMSE also demonstrated significant relationships with the theoretical subscales of SOC. In particular, greater career decision making confidence corresponded to greater appraisal that the stressor of career choice was ordered, that internal and external resources were available to address the stressor, and that there was meaning in doing so. These findings make intuitive sense. Moreover, findings are concurrent with other thesis data. In particular, that the decision making confusion subscale of the CTI reflects a similar but inverse quality of career decision making than CDMSE has been discussed. Data, similar in size and significance was found for both scales pertaining to SOC subscales. Such findings further assist in exploring career indecision of adults and are new to career development literature.

#### 8.1.4.3 *Predicting Career Thinking*

That salutogenic factors buffer stress and anxiety has been established. That stress and anxiety are a part of unemployment and career indecision has also been established. As such, the ability of salutogenic factors to predict career thinking, vis-à-vis negative career thoughts and career decision making self-efficacy could contribute to understanding career indecision with non-student adults. Results from the study confirmed findings from student based career development research but went further by exploring relationships not yet established in the literature. Significant predictive relationships between sense of coherence and career thinking constructs contributed seminal information regarding career indecision with non-student adults.

Despite significant relationships between locus of control and career thinking factors and subfactors in the present study, LOC did not contribute any significant predictive value toward either negative career thoughts or career decision making self-efficacy. This finding is consistent with career development and salutogenic research. In particular, locus of control had demonstrated non-significant predictive results toward career decision making factors or health related factors.

Within career thinking research with students LOC has also maintained correlative relationships with key factors without establishing predictive relationships with



them. Recall that Saunders et al. (2000) researched LOC with negative career thoughts with career indecision. Though research rendered useful data pertaining to the LOC regression data is most germane to this discussion. In particular, only negative career thoughts significantly predicted career indecision. Moreover, LOC did not contribute any significant predictive value toward career indecision.

Research pertaining to positive career thoughts has established similar findings to negative career thought research. Recall that Taylor and Popma (1990) examined the relationships among career decision making self-efficacy, career salience, locus of control, and vocational indecision. Data analysis recorded similar mean LOC scores for students as the present thesis. Further, a moderate correlation was found between LOC and CDMSE. However, regression analysis predicting career indecision indicated that LOC failed to make any significant contribution toward predicting career indecision. CDMSE was the only predictive factor of career indecision. These findings dovetail nicely with the Luzzo (1995) study considering the contributions of LOC and self-efficacy to predicting career maturity. Findings suggested that LOC and CDMSE both strongly associated with career decision making attitudes and skills, as did age. However, when regressed against dependent variables only the CDMSE offered significant predictive value toward CDM attitudes and skills. LOC only offered a minor contribution (4%) to the prediction of career decision making attitudes.

Within salutogenic research LOC has also maintained significant correlative relations with key constructs but has failed to contribute predictive value toward these same factors. Recall that Flannery, Perry, Penk and Flannery (1994) utilized LOC and SOC with other variables in a stress mediation study. Research found that though LOC demonstrated relationships with anxiety and depression more significant relationships were demonstrated by the SOC construct. Moreover, SOC significantly predicted anxiety and depression where LOC did not contribute any predictive value to dependent variables. Corroborating these findings was a recent study by Johnson (2004) who conducted a similar study utilizing salutogenic factors within a health relevant domain. Research found that LOC demonstrated significant relationships with SOC and other factors. However, regression analysis found that SOC was the only factor with significant predictive

power of health. Authors suggested that LOC maintained a weak and secondary predictive relationship toward health.

Possible explanations for weak predictive relationships in the present research and extant literature pertain to the nature of the LOC construct. Locus of control is conceptualized as a generalized coping resource that contributes to health and well being (Fournier & Jeanrie, 2003). However, despite its ubiquity within multi-discipline research the literature has suggested that LOC may not be relevant within applied situations. In particular, Rotter (1992) suggested that areas where a specific task competency was required would be more likely to make the LOC less applicable. More specifically, LOC would apply to the general coping of stressors such as unemployment but would be less applied to career decision making activities (p. 127). This suggestion offers a possible explanation to weak predictive results within the present research.

Another possible explanation for LOC's weak predictive quality pertains to its malleability. The literature has suggested that an individual's perceptions of personal control may be temporarily diminished by periodic environmental intrusions (Skinner, Zimmer-Gembeck & Connell, 1998) or sudden life events Thompson, Sobolew-Shubinn, Galbraith, Schwanovsky and Cruzen, (1993). In particular, these intrusions may include the crisis of career or job change (Perry, 2003). Should the quality of LOC change during this crisis problem emotions may affect the quality of decision making. These emotions can prevent problem focused coping (Spokane, 1991). Preliminary research has offered some support for this idea. In particular, recall that Weinstein, Healy and Ender (2002) examined the relationship of anxiety and coping with perceived control in a female based cohort. Results indicated that internal perceptions of control when combined with problem focused coping resulted in the lowest level of career anxiety. However, internal control combined with emotion focused coping resulted in high career anxiety. As such, problem emotions detracted from the stress buffering effects of internal LOC. Researchers concluded that negative beliefs might contribute to the diminishment of LOC's predictive value.

Significant relationships between sense of coherence and career thinking factors and subfactors were established in the present study. Moreover, SOC also contributed significant predictive value toward both negative career thoughts and career decision making self-efficacy. This finding is consistent with one study with negative career thinking. However, since SOC has only been introduced to career development research in the past few years its predictive value of career decision making self-efficacy is new to career development literature. Moreover, SOC's predictive contribution with career thinking with non-student adults extends career development research by exploring career indecision with a broader adult sample. Results are therefore more representative of the generalized adult population.

Within career decision making research with students SOC has maintained significant correlations and predictive value of dysfunctional career thoughts. Recall Lustig and Strauser (2002) established significant correlations among the sense of coherence and negative career thinking in general, and decision making confusion, commitment anxiety and external conflict. The present thesis confirmed these findings, as discussed, and corroborated the predictive value of SOC with dysfunctional career thinking found in the Lustig and Strauser (2002) study. Moreover, the thesis demonstrated more robust findings that the student based research. In particular, Lustig and Strauser (2002) found that sense of coherence accounted for 12% of the variance of negative career thinking. Authors noted that this was a medium relationship. The thesis however, found that SOC accounted for a more significant 28% of dysfunctional career thinking. These findings were corroborated by the data provided by the SOC/CDMSE predictive relationship. As CDMSE represented a similar but inverse domain of career thinking its relationship mirrored that of the SOC/CTI relationship. In particular, inter-construct correlations were similar in size and significance. Moreover, the sense of coherence demonstrated a robust predictive value of career decision making self-efficacy. In particular, SOC accounted for 29.8 % of the variance of CDMSE. Since sense of coherence is new to career development literature, no comparative data was available to reference these findings with.

A possible explanation for the predictive quality of SOC with career thinking pertains to the nature of the samples used. In particular the sample used in the

Lustig and Strauser (2002) study consisted of freshman and sophomore students. Though the average age for the sample was approximately 26 years (SD = 9.2), 50% of the sample was between age 18-22. Recall that the thesis sample demonstrated an average age of 37.5 with less than 8.5% of these subjects 22 years old or less. Since SOC is not developmentally set until age 30 (Antonovsky, 1979) younger age subjects may contribute less significant SOC scores. A more plausible explanation for significant findings related to level of education. In particular, education renders a positive correlation to SOC in the literature. Within the thesis, higher education significantly corresponded to both SOC and career thinking, more so that student based research. Moreover, 35% of the thesis sample attended college compared to 100% of the Lustig and Strauser (2002) study. As such, lower education significantly pertained to less sense of coherence and greater dysfunctional thinking for the thesis group. These findings could have contributed to greater predictive value of career thinking for SOC.

An explanation should be offered for the insignificant predictive value of locus of control compared with the robust predictive value of the sense of coherence. Emerging literature has suggested that locus of control has significantly related to other dispositional factors and as such, may act as part of a larger superordinate construct. Recall that Judge, Thoresen, Pucik and Welbourne (1999) conducted a study regarding the dispositional characteristics of managers coping with organisational change. Locus of control maintained significant relationships (corrected for sampling and measurement error) with other dispositional factors such as self-efficacy, self esteem, positive affectivity, openness to experience, tolerance of ambiguity and risk aversion. All dispositional factors were statistically and significantly related to successful coping to some degree. Factor analysis suggested that one general factor "positive self concept" were comprised of internal LOC, positive affectivity, self esteem and self-efficacy. Following this line of research, Judge, Erez, Bono and Thoresen (2002) considered locus of control with self esteem, general self-efficacy and neuroticism as indicators of a common construct. Research indicated that all factors were significantly empirically related and that all are not entirely independent. Rather the combination of factors represents a higher order concept. Moreover, within the study, results indicated that LOC was the weakest of the four constructs. As such, weak correlations and

discriminant results were found. Factor analysis within the present research corroborated these findings. As such, locus of control was a weak constituent of salutogenic functioning and narrowly passed the cutoff score for factor loading. These findings would offer some theoretical and empirical evidence for the LOC's weak predictive relationships with career thinking constructs.

A similar line of reasoning may explain the robust findings with the sense of coherence. Recall that Höge and Büssing (2004) investigated the influences of negative affectivity and sense of coherence on work stressors and strain. Results indicated that SOC demonstrated a direct effect on strain and stress creation mechanisms. Researchers suggested that their data supported the argument that sense of coherence is a construct that operates on a super ordinate level (Strümpfer, Gouws & Viviers, 1998). Moreover, researchers suggested that sense of coherence subsumes characteristics such as internal locus of control, general self-efficacy and optimism (Höge & Büssing, 2004). These findings would offer some theoretical and empirical evidence for the SOC's significant predictive relationships with career thinking constructs where locus of control did not.

As stress management and career transition are two foci of industrial and organisational psychology (Kuther, 2005), that salutogenic factors both relate to, and predict career thinking in unemployed career-transitioning adults has important implications to the field of I/O psychology. In particular, since salutogenic factors buffer stress, individuals facing organisational transitions may navigate these changes more effectively should they demonstrate greater salutogenic characteristics. Moreover, as the present research has demonstrated, individuals with greater levels of salutogenesis are more likely to demonstrate positive career transitioning cognitions. These cognitions have been linked to corresponding positive career transition behaviors in the literature. Though these findings add to I/O psychology literature and prompt further research questions they are not without limitations.

## **8.2 LIMITATIONS**

The present research explored the milieu of career indecision of non student adults and successfully established the relationship between career thinking and salutogenic functioning. However, the research is not without limitations. Limitations for the literature, sample, data gathering, data processing and results are discussed.

### **8.2.1 Literature**

The literature pertaining to positive psychology is thriving (Snyder & Lopez, 2002) and enveloping old and new factors within its research (Nakamura & Csikszentmihalyi, 2003). The present thesis sought to utilize positive psychological factors that demonstrated salutogenic and stress mediating properties in the literature. Moreover, locus of control had demonstrated its value within both salutogenic and career development research. In particular, it had empirical ties to both negative career thoughts (Saunders, Peterson, Sampson & Reardon, 2000) and career decision making self-efficacy (Brown, Reedy, Johnson, Fountain & Dichiser, 2000; Luzzo, 1995; Luzzo, Funk & Strang, 1996; Taylor & Popma, 1990). Similarly, Sense of coherence had demonstrated its salutogenic value within research, had empirical links to locus of control (Flannery, Perry, Penk & Flannery, 1994; Jackson & Rothmann, 2001; Johnson, 2004; Rothmann & Coetzee, 2003) and had recently been used in career development research with negative career thoughts (Lustig & Strauser, 2002). The present thesis brought these factors together because of their empirical ties with each other and with the construct of career indecision. The limitation with this choice is that it restricted the use of other salutogenic factors in exploring career indecision. In particular, other factors have demonstrated salutogenic characteristics and could explore organisational behavior (Judge, Thoresen, Pucik & Welbourne, 1999) and have further contributed to the understanding of the nature of adult career indecision.

Salutogenic factors with potential utility within career development research with adults were discussed in Chapter 2. In particular, optimism (Scheier & Carver,

1993), meaning (Wong, 1998), generalized self-efficacy (Bandura, 1977a), and hardiness (Kobasa, 1979a), demonstrate both stress mediating and agency producing characteristics in the literature. Elsewhere characterized as 'fortigenic' factors (Strümpfer, 1995), these and other factors such as potency (Ben-Sira, 1985) and learned resourcefulness (Rosenbaum, 1990) have demonstrated significant empirical relationships with each other and have been suggested for further research within organisational research (Coetzee & Cilliers, 2001). Another salutogenic factor with potential utility within career development research is emotional intelligence (EI) (Salovey, Mayer & Caruso, 2002; Salovey, Mayer, Caruso & Lopes, 2003). In particular, EI has been linked to organisational management research (Coetzee & Schaap, 2003), influences personal agency (Mischel & Medoza-Denton, 2003), has demonstrated significant empirical correlations with negative career thinking with non student adults (Dahl, Austin & Wagner, 2005) and has been discussed as having utility within career development environments (Shearer, 1996). All of these salutogenic factors could have been useful in exploring career indecision with non student adults. The problem with the present research was that where dozens of positive psychological factors could have been used within research (Seligman & Peterson, 2003), this undertaking would have been too daunting for subjects. Research settled on focusing upon cognitive factors germane to career development literature (Patton & McMahon, 1999).

### **8.2.2 Sample**

Limitations with the present thesis were also noted regarding the sample. Though the sampling technique sought to ensure representativeness (Cone & Foster, 1993) through sampling adults over a large geographical area, no sampling frame readily existed for unemployed, career undecided, non-student adults. As a result, the sample was non-random. Rather, subjects were surveyed through pre-existing career decision making programs funded by the Government of Canada. The implication of this feature is that research was less robust than a pure random sample (Babbie, 2001). Similarly, non random samples are more prone to sampling error due to characteristics of the sample.

Another limitation of the present research pertained to characteristics of the general sample. In particular, the researcher did not factor the sample based upon specific characteristics, but rather considered the sample as a single cohort. As such, the sample was homogenous and reflected a non-student, career undecided adult group. The limitation with this research feature is that information pertaining to interactions at the micro-factor level was not detected. Research suggests that adults are not homogenous in career decision making (Savickas, 1994) and that developmental factors mitigate career indecision (Patton & Creed, 2001; Super, Savickas & Super, 1996). However, the researcher did not restrict participation to the empirical study based upon age related life stages (Super, 1990). The mean age for the sample was 37.47 years. However, roughly 10% of participants were under the age of 24, and were therefore within the exploration life stage of Super's model. The nature of this life stage may have influenced results.

A similar limitation pertained to the single cohort model used in research. In particular, length of unemployment was not factored into discrete groupings, but rather, was considered a single continuum between 0 and 111 months. Approximately 53% of the population was unemployed for three months or less, 14 % for 4-6 months and 33% for greater than six months. That research did not analyze data pertaining to discrete groups may have missed significant information. Unemployment has related to greater stress, anxiety, worry and threats to esteem (Hanish, 1999; Joseph & Greenberg, 2001; Starrin, Jönsson & Rantakeisu, 2001). Current research has found that long term unemployment has empirically related to increased depressive characteristics and decreased re-employment (Vinokur & Schul, 2002). Long-term unemployment may contribute to greater stress and reduced career decision making. Within the current thesis the contribution of length of unemployment was considered a secondary matter and as such was researched in post hoc analysis only. Its influence on the career indecision milieu of adults was not examined.

### **8.2.3 Data Gathering**

Limitations for the present research may have pertained to data gathering. In order to minimize experimenter effects, the researcher trained research assistants



at each of 8 sites but offered minimal information pertaining to empirical study. Research assistants were to administer research packets with minimal interaction with subjects. Further, subjects were to be redirected to the instruction sheet should questions arise. The limitation with this procedure was that the prime researcher had little knowledge or control over the delivery of research packets once at the individual site. Interaction between RA's and subjects was not supervised and as such, may have influenced results. Moreover, some sites generated greater numbers of research packets than others, meaning that research was not equally distributed throughout the geographical area. This feature may have been influenced by the individual research enthusiasm of each RA. Similarly, in mining the data the doctoral student noted subject comments written upon questionnaires. Comments pertained to confusion or frustration with questionnaire items. RA's inability to advise subjects to the meaning of items may have created frustration with participants. These factors may have influenced item responses.

#### **8.2.4 Data Processing**

Thesis research endeavored to explore career decision making with non-student adults in order to broaden career development literature that has extensively focused upon students. As such, research explored a narrow band of career choice behavior. Moreover, research focused on the microcosm of adult career indecision. Two limitations are evident pertaining to this research.

Recall that career indecision is multifaceted and multidimensional (Gordon, 1998; Sampson, Reardon, Peterson & Lenz, 2004). Research did not explore the range of decidedness, indecision or indecisiveness with non student adults. Rather, research explored relationships within the career indecision problem space of this sample (Savickas, 1995). Moreover, research exploring the relationship between career thinking and salutogenic factors was primarily correlative and predictive. As a result, research did not establish causal or directional relationships. In doing so, the present research limited the breadth and robustness of its findings.

### **8.2.5 Results**

Results of the present thesis were substantive and significant. However, some limitations were noted of the findings. In particular, despite adequate internal consistency and significant correlative empirical results with career thinking and salutogenic factors locus of control demonstrated weak predictive relationships with negative career thoughts and career decision making self-efficacy. Though results are consistent with some literature, poor results may have been due to the nature of the LOC measuring instrument used in research. In particular, Rotter's I-E LOC scale is nearly forty years old. Moreover, due to the ipsative nature of the scale normative, reliability and validity data pertaining to the instrument is scant. Though data from the thesis indicated that the measure was congruent with other data, other researchers have suggested that the I-E LOC scale is inconsistent and impure (Lefcourt, 1991).

Further, researchers have also suggested that individuals can hold internal and external responses to the same topic (Fournier & Jeanrie, 2003) influencing results. Some empirical support for this supposition was found on subject questionnaires in the present thesis. In particular, some subjects were confused by the LOC instrument and wrote comments upon the measuring instrument. Comments such as "too many paradoxes", or questioning the meaning of words ("heredity?" for item 8), or adding alternative responses were found on several questionnaires. These characteristics of the I-E LOC measure could have influenced thesis results. A more current and psychometrically sound locus of control measure could have overcome this limitation.

### **8.3 RECOMMENDATIONS**

The thesis has argued that the nature of career indecision is multidimensional, is impacted by multiple factors and is currently being explored in the literature. Further, that career indecision research has universally surveyed students limits the generalizability of findings to older, non-student adult populations because of developmental considerations. The thesis further argued that older, non-student adults often face career decisions in the turmoil of organisational transition and

unemployment. This trend has demonstrated the propensity toward stress in the literature. These factors contributed to the need for the exploration of career indecision with non-student adults. Moreover, the relationship between stress mediating salutogenic factors and career specific cognitive factors confirmed and extended findings from the literature. In doing so, the thesis added new insight into the nature of career indecision for non-student adults and left room for further exploration.

How adults mediate the stress of unemployment influences their career decision making. That salutogenic factors predict career thinking implies that career decidedness will also be affected. Following this line of thought, the inclusion of salutogenic factors in the prediction of career decidedness would significantly add to the career development literature. In particular, that SOC demonstrated significant predictive value within a milieu of career indecision suggests that it may also maintain value in predicting decidedness, undecidedness and indecisive components of proposed career decidedness taxonomies (Sampson et al., 2004). Moreover, the utility of sense of coherence, negative career thoughts and career decision making self-efficacy in prediction of career decidedness states would dovetail with existing research but significantly add the career development literature.

The present thesis offered insight into the nature of career indecision for non student adults and in doing so it broadened the literature beyond the realm of younger adults. This feature of research offered findings more generalizable to the larger adult population. Though significant results were established, they were limited in that they did not reflect discrete age groupings. Career development models based upon developmental frameworks could greatly assist in further exploring career indecision with adults. Super's (1990) taxonomy would be a good model for such exploration. Adults segregated across the exploration (age <24), establishment (age 25-44), maintenance (age 45-64), disengagement (over 65) cohorts could inform the literature as to the unique nature of each group. Following the line of research in the present study, age cohorts could extend research pertaining to indecision, stress, salutogenic factors and career thinking

for each group. As such, they would further extend the career development literature for adults.

Lastly, the current research linked two general domains of psychology (career development and positive) together in the exploration of career indecision. As such, they represent the superordinate domain of Industrial and Organisational psychology. Where locus of control had demonstrated a history of research within career development research, sense of coherence had only recently entered this literature. Given its robust empirical value, sense of coherence will most likely continue as a construct of interest to this body of research. However, within salutogenic research other factors have demonstrated stress mediating and agency producing characteristics. Moreover, as salutogenic factors are subsumed by positive psychology umbrella, other positive psychology factors could assist in career development research. In particular, research in this vein may shed light into the nature of adult career indecision and broaden the career development literature. In this way, research with other salutogenic factors would significantly add to the literature for the superordinate domain of Industrial and Organisational psychology (Kuther, 2005; Martin, 2001).

#### **8.4 CHAPTER SUMMARY**

The aim of the present chapter was to discuss conclusions of the research. In particular, metatheoretical concepts, career thinking, salutogenic functioning and integration of factors were discussed as were implications of the findings.

The chapter also aimed to discuss limitations of the thesis research. As such, limitations pertaining to the literature, sample, data gathering, data processing and results were offered.

The chapter also aimed to formulate recommendations for Industrial and Organisational psychology based upon research findings. Implications for further research were posited. Discussion of the outcomes, conclusions, limitations and recommendations of the study ensured that the aims of research were met.

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