RELIABILITY AND VALIDITY OF THE CAREER DECISION-MAKING DIFFICULTIES QUESTIONNAIRE

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ABSTRACT

The Career Decision-Making Difficulties Questionnaire (CDDQ; Gati, Krausz, & Osipow, 1996) is a relatively new career inventory which purports to measure all areas of problems related to career decision making. This purported ability to identify specific features relating to the individual's career decision making difficulties indicates that the CDDQ may have the potential to be a significant new tool for the career counseling process.

This study assessed the reliability and convergent and discriminant validity of the CDDQ on a Canadian population. The sample included 139 Kwantlen University College students. Discriminant validity was assessed using a measure of anxiety, the STAI. Convergent validity was assessed using a measure of career self-efficacy, the CDSE-SF. As hypothesized, the correlation between the CDDQ and the CDSE-SF was negative (-.60). However, contrary to the expectation that the measure for discriminant validity would show a considerably weaker correlation with the CDDQ than the measure for convergent validity, the study found positive correlations between the CDDQ and the State sub-scale of the STAI at .48, and with the Trait sub-scales at .52.

The statistically significant relationship between the CDDQ and the STAI-S and STAI-T indicates the CDDQ was affected by state and trait anxiety. The implications of the findings for the future use of this measure for the Canadian career counseling process are discussed.
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CHAPTER I-INTRODUCTION

Introduction

Career indecision has been a major area of concern in research for many years. Many measures have been developed to examine individual differences in career indecision (Gati & Saka, 2001; Osipow, 1999). Tinsley (1992) suggests that there have been two independent lines of research on career decision making. One line has focused on purely theoretical research, and the other has been mainly empirically based, and focused on developing measures of career indecision. Tinsley suggest that, “efforts to relate research on career indecision to the decision-making process and to develop a theoretical context for the construct of indecision will lead to important advances in our research on these constructs.” (Tinsley, 1992, p.211). Gati, Krausz, and Osipow (1996) developed both a taxonomy of career decision difficulty and an instrument to operationalize this construct in an attempt to meet this challenge. This instrument, the Career Decision-Making Difficulties Questionnaire (CDDQ) is the focus of the current research.

Gati et al., (1996,) proposed a taxonomy of difficulties in career decision making based on decision theory. In developing the taxonomy, they identified the characteristics of an “ideal decision maker” according to normative theory of decision making, as one who is aware of the need to make a career decision, is willing to making it, and furthermore is capable of making the “right” decision. Any deviation from this “ideal decision maker” is considered a potential difficulty in career decision making. Gati et al. suggested that the difficulty encountered would be evidenced in one of two possible ways: the individual will be
prevented from making a decision or the individual will be led to a less than optimal decision.

To empirically test their theoretical taxonomy, Gati et al. (1996) developed the Career Decision-Making Difficulties Questionnaire (CDDQ). The CDDQ originally consisted of 44 statements which corresponded to the 44 career decision-making difficulties in their theoretical taxonomy. A later version of 34 items was also developed without any significant loss in reliability (Gati & Saka, 2001). A high score on the CDDQ would represent the individual’s increased difficulty in making a career decision. Although originally designed as an empirical measure of their theoretical taxonomy, the CDDQ has been proposed to be “a significant addition to the available set of indecision measures” (Osipow & Gati, 1998 p.363). Results from initial research studies using samples of American and Israeli university students, as well as adolescents, provide support for the reliability and validity of the CDDQ (Gati, Krausz, & Osipow 1996; Gati, Osipow, Krausz, & Saka, 2000; Gati & Saka, 2001; Lancaster, Rudolph, Perkins & Patten, 1999; Osipow & Gati, 1998). However, there is currently no data for the reliability and validity for use of the CDDQ on a Canadian population of post secondary students.

**Purpose of the Present Study**

The purpose of the present study was to investigate the reliability and validity of the CDDQ for a Canadian sample of individuals enrolled in post secondary education in order to find out if the CDDQ could be used as a valid instrument for a Canadian sample of post
secondary students. To do that, this study examined whether there was support for convergent and discriminant validity.

Convergent validity was assessed by examining the relationship of the CDDQ with an established measure associated with difficulties in career decision making, the Career Decision Self-Efficacy Scale Short Form (CDSE-SF; Betz, Klein and Taylor, 1996). The CDSE-SF measures self-efficacy expectations relative to career-decision making tasks. Higher scores on the CDSE-SF reflect greater self-efficacy in career decision making. Betz and Klein (1997) found that the CDSE-SF scores represented the best predictor of career indecision in a model for both efficacy and outcome expectations. This measure has been used extensively in career indecision research and has been found to have convergent validity with other career indecision measures such as the Career Decision Scale (Betz & Taylor, 2001). Osipow and Gati (1998) found a significant negative correlation between the CDDQ and the CDSE. The CDSE-SF has been shown to have strong reliability and validity (Betz, Klein & Taylor, 1996). It was hypothesized that there would be a significant negative correlation between the CDDQ and the CDSE-SF.

Discriminant validity was assessed by using a measure of anxiety. Anxiety has been one of the most studied constructs in relation to difficulties in career decision-making (Kimes & Troth, 1974; Hartman, Fuqua, & Blum, 1985; Hawkins, Bradley & White, 1977). Fuqua, Seaworth, and Newman (1987) found a substantial relationship between career indecision and anxiety. Other studies have found career undecided individuals exhibited higher levels of anxiety than career decided individuals (Hawkins, Bradley, & White, 1977; Kimes & Troth,
1974). Kimes and Troth (1974) found an inverse relationship between career decisiveness and trait anxiety. Other studies have proposed that anxiety is a distinct component of career indecisiveness (Fuqua, Blum, & Hartman, 1988; Stead & Watson, 1993).

Consequently, as anxiety appears to be significantly related to difficulties in career decision-making, it would be important for any new measure of career indecision to be sensitive to the effects of anxiety on decision making while not serving as a global measure of anxiety (Lancaster et al., 1999). This study used the Spielberger State-Trait Anxiety Inventory (STAI) (Spielberger, Gorusch, & Lushene, 1970) as it is a well-known measure, and one of the more popular inventories for general and situational anxiety (Walters, 2001). Research on the STAI has found reasonably strong validity for its scales, evidenced by studies showing that the scales correlate higher with self-report, behavioral, and physiological measure of anxiety than those of depression and anger (Spielberger, 1983). It was hypothesized that there would be a considerably smaller positive correlation between the CDDQ and the STAI, than the expected significant negative correlation between the CDDQ and the measure of convergent validity, the CDSE-SF.
CHAPTER II-LITERATURE REVIEW

Overview

A wide body of literature has focused on the issue of career decision making. Early research on career decision making focused on career indecision (Slaney, 1988). The construct of career indecision, which has been used to refer to the difficulties encountered by the individual in making a career decision, occupies a key position in research and theories concerning career choice and career development (Fouad, 1994; Tinsley, 1992). Career indecision was also the term often used for the individual who self-reported being “undecided” about their career choice (Fuqua, Seaworth & Newman 1987).

Much of the early literature on career indecision looked at dividing individuals into two groups, career decided and undecided (Slaney, 1988). Research tended to focus on identifying the differences between these two groups. Two bodies of research emerged. One concluded that there are differences between the two groups, specifically related to personality characteristics which generally were negative for the career undecided group. Some of the differences cited for the undecided students were: lower academic achievement, higher attrition rates, lower in self-esteem, more dependent, anxious, overly sensitive, compulsive, and withdrawn (Barrett & Tinsley, 1977; Lunneborg, 1975; Watley, 1965). The other body of research suggested that there are no specific or important differences between the career decided and undecided individuals (Abel, 1966; Ashby, Wall & Osipow, 1966; Baird 1969; Holland & Nichols, 1964).
Other theories of career indecision also became prevalent in the literature, each of which emphasized a different aspect. The developmental perspective placed career indecision as a normal part of development for young adults (Super, 1957). Other research looked at subtypes of career indecision, mainly to distinguish between career indecision and indecisiveness (Crites, 1969; Goodstein, 1965; Tyler, 1961). Goodstein (1965) related the construct of anxiety to the distinction, with the central difference being whether anxiety was a consequence of career indecision or an antecedent. The vocational interests perspective (e.g. Holland 1985; Salomone, 1982) suggested that a major factor preventing a career decision lies in insufficient crystallization of interests.

There is also much empirical research on career decision-making which focuses on developing measures of career indecision (Lewko, 1994). These inventories measure a variety of individual differences in the career decision making process. As cited in Gati, Krausz and Osipow (1996, p. 511) some of the measures most prevalent in the literature are: The Career Decision Scale (CDS; Osipow, Carney Winer, Yanico, & Koschier 1987); the Career Decision Making Self-Efficacy Scale (CDMSE; Taylor & Betz, 1983; CDSE; Taylor & Betz, 2001); the My Vocational Situation Scale (MV; Holland, Daiger, & Power, 1980); The Career Factors Inventory (CFI; Chartarand, Robbins, Morrill, & Boggs, 1990); the Career Belief Inventory (CBI; Krumboltz, 1994); the Vocational Decision Scale (VDS; Jones & Chenery, 1980); The Carrier Barriers Inventory (Swanson & Tokar, 1991); the Behavioral Indecision Scale (BIS; Fuqua & Hartman, 1983); The Career Decision Profile (CDP; 1989).
Tinsley (1992) points out that there has been a trend in the literature towards either empirical research, or towards the development of these various career decision making measures without a theoretical conceptualization. He also notes that some measures are regarded as unidimensional, such as the CDS, while other researchers propose multidimensional measures of career indecision. Some research providing evidence for the complexity of career indecision relates to the studies which investigate other factors relating to career indecision. Some of the factors found to be related to career indecision are: anxiety (Fuqua, Seaworth, & Newman, 1987), interpersonal dependency (Cooper, Fuqua, & Hartman, 1984) external locus of control (Hartman & Fuqua, 1983), lower ability levels (Crites, 1969) and cognitive styles (Walsh & Lewis, 1972). Fuqua and Hartman (1983) suggested that differential diagnosis of career indecision was useful if not necessary. Fuqua, Blum and Hartman (1988) suggested that most empirical studies of career indecision have persisted in grouping the construct into a decided-undecided dichotomy, despite evidence of the complexity of career indecision. Tinsley suggested that there will be continued difficulty in regarding the construct of indecision as unidimensional or multidimensional due to the lack of theory about the nature of indecision. He notes that, “despite the research attention given this construct in the past decade, indecision remains an atheoretical construct about which relatively little is known.” (Tinsley, 1992, p. 210).

Taking into account Tinsley’s criticism of research based of a purely theoretical nature or empirical testing based without theoretical prospective, Gati, Krausz and Osipow (1996) proposed a new theoretical model and an associated empirical measure for career decision making difficulties. Gati et al. proposed a taxonomy for the various difficulties encompassed
in career indecision. They suggest that career indecision consists of a group of difficulties that tend to have the same final outcome, preventing the individual from making a decision or resulting in the choice of a less than optimal decision (Lancaster, Rudolph, Perkins & Patten, 1999).

Gati et al.'s (1996) taxonomy, based on Decision Theory, uses the model of an “ideal career decision maker.” This represents an individual who is aware of the need to make a career decision, is willing to make it, and is capable of making the “right” decision. The taxonomy is hierarchical and includes three major categories of difficulties, which are then divided into 10 specific difficulty scales (presented in figure 1), and then into 34 items representing distinct types of difficulties. The three major difficulty categories are: Lack of Readiness, Lack of Information, and Inconsistent Information. Lack of Readiness includes three scales which are encountered prior to beginning of making a specific career decision: Lack of Motivation, General Indecisiveness, and Dysfunctional Beliefs. The other two major difficulty categories include difficulties which can arise during the process of making a specific career decision. The Lack of Information category includes four difficulty scales: Lack of Knowledge About the Decision-Making Process, Lack of Information About the Self, and Lack of Information About Occupations, and Lack of Information About the Ways of Obtaining Additional Information. The Inconsistent Information category includes Unreliable Information, Internal Conflicts and External Conflicts. Based on this taxonomy, the Career Decision-Making Difficulties Questionnaire (CDDQ, Gati et al., 1996) was introduced as a measure to cover all areas related to difficulties in career decision making. Although the CDDQ was originally developed to empirically test the theoretical framework,
Figure 1. Theoretical taxonomy of career decision-making difficulties
Gati et al. felt there was potential for the CDDQ to become an important tool for career counselling. However, in order to use the CDDQ as a valid clinical instrument, the measure would have to show adequate reliability and validity.

Reliability & Validity Studies

The initial reliability study on the CDDQ was conducted by Gati, Krausz and Osipow (1996) using an Israeli sample as well as an American sample of 563 individuals ages 17-23. The analysis showed the reliability of each of the ten scale scores to be satisfactory, with the exception that the Dysfunctional Beliefs scale showed lower reliability of .40. The results showed no systematic or meaningful gender difference in the scale scores. The Israeli sample showed a median scale Cronbach alpha reliability of .78, and a median test-retest total scale reliability of .65. The American sample showed the median scale Cronbach alpha reliability of .77. The study also concluded that the Cronbach alpha reliability of the total CDDQ score was .95 in both samples.

A subsequent study by Osipow and Gati (1998) examined the construct and concurrent validity of the CDDQ. This study used an American sample of 450 university students. These students completed the CDDQ along with the Career Decision Scale (CDS; Osipow, Carney, Winer, Yanico, & Koschier 1987) and the Career Decision-Making Self-Efficacy Scale (CDMSE; Taylor and Betz, 1983). The results show no gender differences in the scores of any of the three questionnaires. This study found the reliability of total scores to be high with the CDDQ at .94, the CDSE-SF at .95 and the CDS at .85. This study replicated
the low reliability findings by Gati et al. (1996) for the Dysfunctional Beliefs scale with Cronbach alpha of .32. The study provided positive evidence for convergent validity, as the results showed a positive correlation between the total scores of the CDDQ and the CDS of $r = .77$, and a negative correlation between the CDDQ and the CDMSE of $r = -.52$. All five CDSE-SF scales had the strongest correlation with the scales in the Lack of information category and the weakest correlations with the scales in the Lack of Readiness category, most notably the Dysfunctional Beliefs scale ($-.02$ to $-.11$). The CDS also showed the weakest correlation with the scales in the Lack of Readiness category and most strongly with both the Lack of Information ($$.71$$) and Inconsistent Information ($$.72$$) categories. Within the Inconsistent Information category the CDS showed the lowest correlation with the external conflicts scale ($$.44$$).

Concurrent validity was studied using the participant’s response to a question as to their degree of decidedness. The results found the scores for the undecided group were higher on the CDS and CDDQ and lower on the CDSE-SF than those of the group who reported themselves as decided. Thus, the undecided group, (as evidenced by their higher CDDQ and CDS and lower CDSE-SF scores) were experiencing more career decision-making difficulty and indecision than the decided group. Correlations between the participants’ self-reported scores of the severity of their career decision making difficulties and the three questionnaires showed positive correlations with both the CDDQ at $r = .69$ and the CDS at $r = .61$, and negative correlation for the CDMSE at $r = -.38$. 
Lancaster, Rudolph, Perkins, and Patten (1999) studied the reliability and construct validity of the CDDQ. Their study used an American sample of 268 university students. Lancaster et al. investigated discriminant validity using the Beck Anxiety Inventory (BAI) and the Marlowe-Crowne Social Desirability Scale (MC-SDS), expecting that both would have a weak relationship with the CDDQ, in that the CDDQ is intending to measure something other than social desirability or anxiety. Convergent validity was assessed using the CDS, with the expectation that there would be a strong positive relationship as both purport to measure difficulties in career decision making.

The results for the reliability of the CDDQ were consistent with that of the initial study by Gati et al. (1996). Once again the Dysfunctional Beliefs Scale showed low reliability with a Cronbach alpha of .34, and the overall reliability of the CDDQ was high at .96. Similar to the two previous studies, no systematic or meaningful gender differences were found. Evidence for convergent validity was confirmed with a positive correlation, at \( r = .82 \), between the CDDQ and the CDS. Lancaster et al. report that discriminant validity of the CDDQ was confirmed on both of the two constructs investigated, anxiety and social desirability. The M-C SDS measuring social desirability did however show a small but significant negative correlation with most of the CDDQ scales (-.17 to -.28). Lancaster et al. suggest that this indicates that many of the students who scored lower on the CDDQ may have been attempting to present themselves in a more positive light.

The study found that, anxiety, as measured by the BAI, had a weak statistically significant relationship with all three major categories and most of the scales of the CDDQ, with \( r = .18 \).
for total CDDQ and BAI, and \( r = .25 \) for the Lack of Readiness category. Lancaster et al. suggest that this commonality between the two measures indicates that “the CDDQ is somewhat influenced by anxiety” (p. 403). The study concluded that, as the anxiety scores were scattered and similar to the anxiety levels found on the CDS (p.409), that the CDDQ is not a global measure of anxiety. Overall, this study’s results provide some further support for the reliability and validity of the CDDQ on a university student sample.

Gati, Osipow, Krausz and Saka (2000) examined the validity of the CDDQ using the responses of 95 individuals involved in personal career counselling at a public career counselling centre in Israeli, and the judgements of the counselors as to their counselee’s career decision making difficulties. The study replicated previous studies (Gati et al., 1996; Lancaster et al., 1999; Osipow & Gati 1998). Once again no systematic or meaningful gender differences were found. Also repeated was the low reliability for the Dysfunctional Beliefs scale (.46), the category with the lowest reliability was the Lack of Readiness category (.68). The study found that the other scales showed moderate to high reliabilities, with a range from .64 to .80. The overall reliability of the CDDQ was once again high with a Cronbach alpha of .90. Intercorrelations among the 10 scales, and the major categories ranged from .02 to .88. Results showed a positive correlation, with a median of .23, between the counsellor’s judgements of the counsellee’s career decision difficulties and the counsellee’s CDDQ score. Gati et al. suggest that although significant, this correlation is lower than expected.
In 2001, Gati, Saka, and Krausz used the CDDQ in a study which examined the pattern of career decision-making difficulties encountered by 417 young adults, aged 19-27, who used the computer-assisted career guidance systems (CACGS) provided by the Israeli Veteran Administration's counselling centres. The study had the participants fill out the CDDQ prior to receiving career assistance through the CACGS, and then to fill it out again after using the CACGS. Gati et al. hypothesized that those individuals who were in different stages of their career decision making process according the PIC model (pre-screening, in-depth exploration, and choice) (Gati & Asher, 2001) would have different CDDQ scores. More specifically, they predicted that those in the pre-screening stage would score higher than those in the in-depth exploration stage, and those in the choice stage would have the lowest score of all. As well, Gati et al., hypothesized that completing the CACGS would reduce their CDDQ scores.

The results supported the distinction between the three stages of the PIC model. As well, the results of the aggregate group did show that CACGS utilization did serve to reduce the total CDDQ score and all the scales scores, except for Lack of Motivation (d= 0.01), Dysfunctional Beliefs (d= 0.29) and External Conflicts (-0.09). The reduction on the CDDQ scores was most evident on the Lack of Information About Occupations scale (d=0.91). The size of the difference was noted to be based on the type of CACGS interaction and the type of career decision difficulty the individual was encountering. Gati et al., hypothesized that the CACGS had no effect on the Lack of Motivation scale due to the possibility that most clients did not actually have this difficulty as evidenced by their making, and keeping an appointment at a counselling centre. They also speculated that no effect on the External
Conflicts scale may indicate that these type of difficulties are not addressed by a computer based intervention and would be better served by individual counselling. This study provided further evidence that the CDDQ can be useful in evaluating the effectiveness of career interventions. As well, that it can be useful as a career intervention assessment tool and be able to differentiate between the types of career difficulties encountered.

Gati and Saka, (2001) used the CDDQ in a revised form to assess Israeli high school students' career-related decision-making difficulties. The CDDQ was adapted to relate to three decision situations encountered by the majority of Israeli adolescents. Gati and Saka found satisfactory scale reliability, similar to the results of the previous studies (Gati et al., 1996, Osipow & Gati, 1998, Lancaster et al, 1999). Once again the Dysfunctional Beliefs scale showed low reliability. The Gati and Saka study (2001) provided evidence for concurrent validity of the CDDQ, the authors concluded that the CDDQ in its revised form was consistent in being able to differentiate between decided and undecided students in relation to their overall difficulties.

Kelly and Wei-Chien (2002) used the CDDQ in their exploration of the domain of career decision problems. The study conducted factor analysis of the CDS, CDI, and the CDDQ and compared the derived factors to their previous factor analytic studies. Six reliable factors emerged: Lack of Information, Need for Information, Trait Indecision, Disagreement with Others, Identity Diffusion and Choice Anxiety. They found that the Lack of Information factor consisted of all of the items from the scales in the CDDQ's Lack of Information category as well as all the items in the Unreliable Information scale. The study also found
that the CDDQ measured two unique decision problems: Lack of Information and Disagreement with Others. (p.323). Kelly and Wei-Chien concluded that the CDDQ does make a unique contribution to the measurement of career indecision, in that it is based on decision theory which enables the counselor to formulate specific interventions, and that it provides for a systematic and quick assessment of a wide variety of decision problems. However, they also found that it provided limited coverage of decision problems, and that “no single instrument adequately sampled the entire domain” (p.324).

The CDDQ is a relatively new measure, and as such, the literature to date is limited. The few studies which have investigated the reliability and validity of the questionnaire have provided promising evidence. The studies have, however, raised some questions as to their own limitations. One limitation raised often is the need for further study to be conducted on a more diverse cultural sample (Gati, Krausz, & Osipow 1996; Gati & Saka, 2001; Lancaster, Rudolph, Perkins & Patten, 1999; Osipow & Gati, 1998; Osipow, Krausz, & Saka, 2000). The studies also encourage further research on older adults facing career decisions versus the typical university student.
CHAPTER III- METHOD

Research Design

The study employed a correlational field design.

Participants

The participants inclusion criteria was enrollment at Kwantlen University College. One hundred and fifty-one Kwantlen University College students voluntarily completed the questionnaire packages. Twelve students were excluded from the study due to incomplete questionnaires. Thus, the responses of 139 students (84 female, 52 male, and three who did not indicate their gender) were included in the analysis (see Appendix F, page 64, for demographic information). The students age range was 18 to 46 years (mean 22 years, SD 6.32 years). Of the students examined, 79% were born in Canada, while 64% declared their nationality as Canadian (23.7 % Asian, 4.3 % Middle Eastern, 5% European, .7 % South American). The majority of the students reported having 1 to 3 years of post-secondary education (89%). As the age range was quite large, so was the range for the number of years of post-graduate education, at 1 to 11 years (mean 2 years, SD 1.78 years). The majority of the students reported that they had made a career choice or major choice (84%) with a mean level of confidence at 6.04 (from possible 1 to 9 range, 9 indicating highest level of confidence).
Procedure

The researcher obtained ethical approval from the University of British Columbia Behavioral Research Ethics Board, as well as from the Kwantlen University College Ethical Committee. The researcher then contacted various Kwantlen University College instructors and requested access to their various classes to invite students to participate in the research study. The study was introduced either at the start of a class or at the end of a class, emphasis was placed on the voluntary nature of the study with no impact on student’s standing in class. Those who chose to participate completed the Career Decision-Making Difficulties Questionnaire (CDDQ; Gati, Krausz, and Osipow, 1996), the Career Decision-Making Self-Efficacy-Short Form (CDSE-SF; Betz, Klein & Taylor, 1996), and the Spielberger State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1970). Participants completed the three questionnaires in one sitting during class or outside of class (returning the questionnaires back to their instructor). The questionnaires were presented in counterbalanced order. Participants also completed a brief demographic data sheet, which was included in the CDDQ.

Instruments

Career Decision-Making Difficulties Questionnaire (CDDQ)

The first page of the CDDQ requests general information on gender, age and number of years of schooling. It also asks whether the participant has considered a field in which they wish to major in or an occupational choice, yes/no and the degree of confidence in that choice. The current study expanded the general information section to include questions relating to the number of years the participant has lived in Canada as well as their country of
birth, and requesting to know the specific field, major or occupation they are considering.

The CDDQ itself consists of 34 items, each corresponding to a particular difficulty. The items are rated on a 9-point scale indicating the degree to which the difficulty represented by each item describes the participant.

E.g. “It is usually difficult for me to make a decision”

1 = does not describes me to 9 = describes me well

There is one final question asking the participant to rate the overall severity of their difficulties in making a career decision:

1 = not severe at all to 9 = very severe.

The CDDQ attempts to measure three main categories of career decision-making difficulties: Lack of Readiness (R), which is a cluster on its own, Lack of Information (I) and Inconsistent Information (I), which are clustered together. The two clusters are then made up of ten scales (Gati et al., 1996). The Lack of Readiness cluster includes three scales of difficulty, which precede the participant’s engagement in making a specific career choice or decision. The three scales are, Lack of Motivation, Dysfunctional Myths, and Indecisiveness. The Lack of Information and Inconsistent Information cluster represents an area of difficulty experienced during the process of career decision making. Lack of Information includes four scales: Lack of Knowledge About the Process, Lack of Information About Occupations, Lack of Information About Self, and Lack of Information About Ways of Obtaining Additional Information. Inconsistent Information includes three scales: Unreliable Information, Internal Conflicts, and External Conflicts (see Figure 1 page 9).
Scoring the 10 scales is done by obtaining the mean score for the items in each scale. Items 7 and 12 are validity items which are not scored but reviewed with the individual if needed (if item 7 < 4 and item 12 is > 5). Obtaining the category score is then done by obtaining the mean scores for the scales in each category. The total CDDQ score is obtained by calculating the mean score for the ten scales. Scale, major category and total scores all have a range from 1-9, with a higher score indicating a higher level of career decision-making difficulty.

The Career Decision Self-Efficacy Scale Short-Form (CDSE-SF)

The CDSE-SF was selected as the measure to investigate the convergent validity of the CDDQ. The CDSE-SF was developed to measure the participants' self-efficacy expectations related to successfully completing tasks necessary to making career decisions. CDSE-SF scores have been reported to be positively related to vocational identity and career decidedness as well as self-esteem (Luzzo, 1993; Walsh & Betz, 1995). Betz and Klein (1997) found that the CDSE-SF scores represented the best predictor of career indecision in a model for both efficacy and outcome expectations. The CDSE-SF evaluates five areas: Accurate Self-Appraisal, Gathering Occupational Information, Goal Selection, Making Plans for the Future and Problem Solving. These five scales were based on Crites' five career choice competencies (Crites, 1978). The Scale consists of 25 items, five for each competency area.
The participant is asked to evaluate each item on a five-point confidence continuum.

E.g. “How Much Confidence Do You Have That You Could:”

“Make a plan of your goals for the next five years”

1 = No Confidence at all, to 5 = Complete Confidence

Betz and Taylor (2001) report internal consistency reliability of the CDSE-SF from .73 to .83 for the 5-item scales, and .94 for the total scale.

State-Trait Anxiety Inventory for Adults (STAI)

The STAI was selected as the measure to investigate the discriminant validity of the CDDQ. The construct of anxiety is often examined in conjunction with measures of career indecision (Lewko, 1994). Hawkins et al (1974) found that students who are career undecided tend to have higher levels of anxiety. The STAI is a well-known self-rated scale consisting of state and trait anxiety sub-scales. This study used both sub-scales in its investigation. Each sub-scale includes 20 statements rated on a 1-4-point scale of severity. The trait anxiety sub-scale (STAIT-T) looks to measure longer-lasting anxiety, while the state anxiety sub-scale (STAIT-S) looks to measure the participant’s current transitory anxiety state. The STAI-T requires the participant to rate their frequency of anxiety symptoms, how they generally feel, on a 4-point scale in response to the 20 items.

E.g. “I feel calm”

1= Almost Never to 4= Almost Always
The STAIT-S scale requires the participant to evaluate how they are feeling in the present moment, on a 4-point scale in response to the 20 items.

E.g. "I feel calm"

1 = Not At All to 4 = Very Much So

Spielberger (1983) advises that the examiner should not use the term "anxiety inventory" while administering the inventory. The inventory and both sub-scales should be referred to as the Self-Evaluation Questionnaire, which is the title printed on the test forms.

The STAI manual states the correlation between the two sub-scales (State and Trait) for college students was .59 for females and .65 for males, and .75 for male working adults and .70 for female working adults. Spielberger states that "in general, Trait-State Anxiety Theory predicts higher correlations between S-Anxiety and T-Anxiety in social evaluative situations (Spielberger, 1983, p.30). As well, the state-trait sub-scale correlations tend to be higher when the STAI scales are given in the same testing situation, one immediately following the other. The test-retest stability of the STAI scales range from .27 to .62 for (A-State) and from .65 to .86 (A-Trait) for a period spanning 20-104 days, with coefficient alphas between .86 and .95 (Spielberger, 1983).

Analysis

For each participant, this study computed the following scores: (a) the total CDDQ score, the total score of the CDSE-SF, and the total score of the STAI-State and STAI-Trait inventories, (b) the 10 CDDQ scale scores, the 3 CDDQ category scores and the 5 CDSE-SF scale scores. Higher scores on the CDDQ indicate a greater level of career
difficulties/indecision while lower scores on the CDSE-SF indicate higher levels of indecision. Higher scores on the STAI indicates higher levels of state and trait anxiety.

The Cronbach alpha reliability of the CDDQ (10 scales, 3 categories and total), CDSE-SF (5 scales and total) and STAI (State and Trait sub-scales) were computed. Differences between males and females were compared on the total scores for all three questionnaires. As well, the differences between those participants who rated themselves as decided on a career or major were compared to those who declared themselves undecided.

Pearson r correlations were computed between the CDDQ 10 scales, 3 major categories, total score, and the total score and 5 scales of the CDSE-SF and, the total scores of the STAI-State and STAI-Trait sub-scales to determine any statistically significant relationship.
No gender differences were found for the total CDDQ ($t(136) = 1.71\ ns$) the CDSE-SF ($t(136) = -.52,\ ns$), nor for the STAI-State ($t(136) = .59\ ns$) or the STAI-Trait ($t(136) = -.03\ ns$); therefore only the aggregated results are reported. The means, standard deviations, and Cronbach alphas obtained from the Career Decision-Making Difficulties (CDDQ, Gati et al. 1996) scales, along with the three major categories and the CDDQ Total, are presented in Table 1. The table also presents the number of items per scale. The means and standard deviations found were consistent with those found in previous studies (see Table 2).

As can be seen in Table 1, the Cronbach alpha reliabilities of the CDDQ scales show moderate to high reliabilities ranging from .66 to .90. The two scales with the lowest reliability (.66), were Lack of Motivation and Dysfunctional Beliefs scales, which is consistent with the findings in the American sample of Gati et al. (1996). As well, as the findings of Osipow and Gati (1998) and, Lancaster et al. (1999), Gati et al. (2000), Gati and Saka (2001). Although the Dysfunctional Beliefs scale showed the lowest reliability (.66), it was considerably higher than in previous studies where the reliability ranged from .29 to .46. Among the three major categories Lack of Readiness showed the weakest reliability (.73), with the other two categories having higher reliabilities of .88 for Inconsistent Information and .94 for the Lack of Information category. The reliability of the total CDDQ questionnaire was also high at .94.
Table 1

Means, Standard Deviations, and Reliabilities of the Career Decision Making Difficulties Questionnaire

<table>
<thead>
<tr>
<th>Category/scale</th>
<th># of items</th>
<th>M</th>
<th>SD</th>
<th>Cronbach α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Readiness</td>
<td>10</td>
<td>4.06</td>
<td>1.29</td>
<td>.73</td>
</tr>
<tr>
<td>Lack of Motivation</td>
<td>3</td>
<td>2.96</td>
<td>1.68</td>
<td>.66</td>
</tr>
<tr>
<td>Indecisiveness</td>
<td>3</td>
<td>5.34</td>
<td>2.08</td>
<td>.77</td>
</tr>
<tr>
<td>Dysfunctional Myths</td>
<td>4</td>
<td>3.89</td>
<td>1.65</td>
<td>.66</td>
</tr>
<tr>
<td><strong>Lack of Information</strong></td>
<td><strong>12</strong></td>
<td><strong>3.94</strong></td>
<td><strong>1.98</strong></td>
<td><strong>.94</strong></td>
</tr>
<tr>
<td>Lack of Knowledge About the Process</td>
<td>3</td>
<td>4.23</td>
<td>2.29</td>
<td>.90</td>
</tr>
<tr>
<td>Lack of Information About the Self</td>
<td>4</td>
<td>3.62</td>
<td>2.16</td>
<td>.87</td>
</tr>
<tr>
<td>Lack of Information About Occupations</td>
<td>3</td>
<td>4.31</td>
<td>2.30</td>
<td>.87</td>
</tr>
<tr>
<td>Lack of Information About Ways of Obtaining Additional Information</td>
<td>2</td>
<td>3.59</td>
<td>2.08</td>
<td>.67</td>
</tr>
<tr>
<td><strong>Inconsistent Information</strong></td>
<td><strong>10</strong></td>
<td><strong>3.61</strong></td>
<td><strong>1.68</strong></td>
<td><strong>.88</strong></td>
</tr>
<tr>
<td>Unreliable Information</td>
<td>3</td>
<td>3.78</td>
<td>2.05</td>
<td>.80</td>
</tr>
<tr>
<td>Internal Conflicts</td>
<td>5</td>
<td>4.00</td>
<td>1.76</td>
<td>.76</td>
</tr>
<tr>
<td>External Conflicts</td>
<td>2</td>
<td>3.03</td>
<td>2.15</td>
<td>.81</td>
</tr>
<tr>
<td><strong>Total CDDQ</strong></td>
<td><strong>32</strong></td>
<td><strong>3.88</strong></td>
<td><strong>1.45</strong></td>
<td><strong>.94</strong></td>
</tr>
</tbody>
</table>

*Note n= 139*
Table 2

*Comparison of Means, Standard Deviations of the 3 CDDQ Major Categories and the Total Score*

<table>
<thead>
<tr>
<th>Study</th>
<th>Lack of Readiness</th>
<th>Lack of Information</th>
<th>Inconsistent Information</th>
<th>Total CDDQ</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Study</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kwantlen University Students</td>
<td>4.06 1.29</td>
<td>3.94 1.98</td>
<td>3.61 1.68</td>
<td>3.88 1.45</td>
</tr>
<tr>
<td><strong>Gati et al. (1996)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Students</td>
<td>4.16 1.02</td>
<td>3.60 1.78</td>
<td>3.27 1.45</td>
<td>3.50 1.32</td>
</tr>
<tr>
<td>Israeli Sample</td>
<td>3.71 1.23</td>
<td>3.84 1.78</td>
<td>3.04 1.53</td>
<td>3.49 1.36</td>
</tr>
<tr>
<td><strong>Gati &amp; Osipow (1998)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Students</td>
<td>4.34 1.04</td>
<td>3.77 1.64</td>
<td>3.26 1.27</td>
<td>3.70 1.18</td>
</tr>
<tr>
<td><strong>Lancaster et al. (1999)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Students</td>
<td>3.91 1.16</td>
<td>3.40 1.97</td>
<td>2.81 1.55</td>
<td>3.29 1.45</td>
</tr>
<tr>
<td><strong>Gati et al. (2000)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Israeli Adults</td>
<td>3.91 1.18</td>
<td>4.61 1.46</td>
<td>3.59 1.40</td>
<td>4.06 1.12</td>
</tr>
<tr>
<td><strong>Gati et al. (2001)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Israeli Young Adults</td>
<td>4.04 1.08</td>
<td>5.15 1.71</td>
<td>3.38 1.37</td>
<td>4.29 1.12</td>
</tr>
<tr>
<td><strong>Gati &amp; Saka (2001)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Israeli High School Students</td>
<td>3.41 0.92</td>
<td>2.74 1.20</td>
<td>2.94 1.27</td>
<td>3.00 0.97</td>
</tr>
</tbody>
</table>
Table 3 presents the means, standard deviations, and Cronbach alpha reliabilities of the CDSE-SF total score and its five scales, as well as the total scores for the STAI-S and STAI-T. The CDSE-SF scale scores show moderate to high reliability, ranging from .70 for Self-Appraisal to .80 for Goal Selection. The total scale reliability was also high for the CDSE-SF (.91) as well as for the STAI-S (.94) and the STAI-T (.92).

Convergent Validity

Table 4 presents the Pearson r correlations between each of the 10 CDDQ scales, the three CDDQ major categories, and the CDDQ total score, as well as the five CDSE-SF scales and total score. It was expected that there would be a relationship between the CDDQ and the CDSE-SF scales, as both are measures of difficulties in career decision making. As hypothesized, the relationship between the two questionnaires was negative (r = -.60, p < .01). As can be seen in Table 4, the strongest correlations for four of the CDSE-SF scales was with the CDDQ scales, which belong to the Lack of Information Category. The Self Appraisal scale correlated the strongest with Lack of information about Self scale (-.57); the Occupational Information scale correlated the strongest with Lack of Information About Ways of Obtaining Additional Information scale (-.48); Goal Selection had the strongest correlation with three scales: Lack of Information About the Career Decision Making Process, Lack of Information About the Self, and Unreliable Information (-.55); Planning correlated most strongly with Lack of Information About the Self (-.47); Problem Solving correlated the strongest with Indecisiveness scale (-.34). The CDSE-SF total score also correlated the most strongly with the Lack of Information Category (-.60).
Table 3

*Means, Standard Deviations, and Reliabilities of the CDSE-SF and the STAI-S and STAI-T*

<table>
<thead>
<tr>
<th>Scale</th>
<th># of items</th>
<th>M</th>
<th>SD</th>
<th>Cronbach α</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDSE-SF</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Appraisal</td>
<td>5</td>
<td>18.50</td>
<td>3.12</td>
<td>.70</td>
</tr>
<tr>
<td>Occupational Information</td>
<td>5</td>
<td>18.22</td>
<td>3.61</td>
<td>.74</td>
</tr>
<tr>
<td>Goal Selection</td>
<td>5</td>
<td>17.01</td>
<td>3.72</td>
<td>.80</td>
</tr>
<tr>
<td>Planning</td>
<td>5</td>
<td>17.94</td>
<td>3.45</td>
<td>.71</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>5</td>
<td>16.14</td>
<td>3.40</td>
<td>.71</td>
</tr>
<tr>
<td><strong>Total CDSE-SF</strong></td>
<td><strong>25</strong></td>
<td><strong>87.80</strong></td>
<td><strong>13.77</strong></td>
<td><strong>.91</strong></td>
</tr>
<tr>
<td>Total STAI-S</td>
<td>20</td>
<td>41.55</td>
<td>12.14</td>
<td>.94</td>
</tr>
<tr>
<td>Total STAI-T</td>
<td>20</td>
<td>43.40</td>
<td>11.01</td>
<td>.92</td>
</tr>
</tbody>
</table>

*Note n= 139. CDSE-SF = Career Decision Self-Efficacy-Short Form; STAI-S = State-Trait Anxiety Inventory-State; STAI-T = State-Trait Anxiety Inventory-Trait.
Table 4

Convergent (CDSE-SF) and Discriminant (STAI) Validity of the CDDDQ

Using Pearson r Correlations

<table>
<thead>
<tr>
<th>CDDQ Scale</th>
<th>CDSE-SF</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>STAI-S</th>
<th>STAI-T</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SA</td>
<td>OI</td>
<td>GS</td>
<td>PL</td>
<td>PS</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of Readiness</td>
<td>-.30**</td>
<td>-.18*</td>
<td>-.27**</td>
<td>-.29**</td>
<td>-.34**</td>
<td>-.35**</td>
<td>.26**</td>
<td>.40**</td>
</tr>
<tr>
<td>Lack of Motivation</td>
<td>-.37**</td>
<td>-.12</td>
<td>-.32**</td>
<td>-.25**</td>
<td>-.17*</td>
<td>-.31**</td>
<td>.10</td>
<td>.15</td>
</tr>
<tr>
<td>Indecisiveness</td>
<td>-.29**</td>
<td>-.26**</td>
<td>-.32**</td>
<td>-.34**</td>
<td>-.34**</td>
<td>-.39**</td>
<td>.36**</td>
<td>.50**</td>
</tr>
<tr>
<td>Dysfunctional Myths</td>
<td>.03</td>
<td>.03</td>
<td>.09</td>
<td>.01</td>
<td>-.20</td>
<td>-.01</td>
<td>.06</td>
<td>.16</td>
</tr>
<tr>
<td>Lack of Information</td>
<td>-.53**</td>
<td>-.44**</td>
<td>-.61**</td>
<td>-.50**</td>
<td>-.31**</td>
<td>-.60**</td>
<td>.48**</td>
<td>.49**</td>
</tr>
<tr>
<td>About the Process</td>
<td>-.46**</td>
<td>-.37**</td>
<td>-.55**</td>
<td>-.46**</td>
<td>-.26**</td>
<td>-.53**</td>
<td>.46**</td>
<td>.46**</td>
</tr>
<tr>
<td>About the Self</td>
<td>-.57**</td>
<td>-.35**</td>
<td>-.55**</td>
<td>-.47**</td>
<td>-.32**</td>
<td>-.57**</td>
<td>.36**</td>
<td>.40**</td>
</tr>
<tr>
<td>About Occupations</td>
<td>-.41**</td>
<td>-.41**</td>
<td>-.54**</td>
<td>-.41**</td>
<td>-.25**</td>
<td>-.51**</td>
<td>.42**</td>
<td>.41**</td>
</tr>
<tr>
<td>About Ways of Obtaining Additional Information</td>
<td>-.46**</td>
<td>-.48**</td>
<td>-.54**</td>
<td>-.45**</td>
<td>-.30**</td>
<td>-.55**</td>
<td>.47**</td>
<td>.47**</td>
</tr>
</tbody>
</table>

Inconsistent Information | -.52** | -.33** | -.56** | -.36** | -.26** | -.49** | .42** | .40** |
| Unreliable Information | -.47** | -.33** | -.55** | -.38** | -.18*  | -.48** | .38** | .37** |
| Internal Conflicts | -.44** | -.35** | -.53** | -.43** | -.26** | -.51** | .32** | .29** |
| External Conflicts | -.40** | -.17  | -.36** | -.16   | -.21*  | -.32** | .35** | .36** |

Total CDDQ | -.55** | -.40** | -.60** | -.47** | -.35** | -.60** | .48** | .52** |

Note. n = 139. CDDQ = Career Decision-Making Difficulties Questionnaire; CDSE-SF = Career Decision Self-Efficacy Scale Short Form; SA = Self-Appraisal; OI = Occupational Information; GS = Goal Selection; PL = Planning; PS = Problem Solving; STAI-S = State-Trait Anxiety Inventory-State; State-Trait Anxiety Inventory-Trait. *p < .05 (two-tailed). **p < .01 (two-tailed).
**Discriminant Validity**

Table 4 also shows the Pearson r correlations comparing the CDDQ scales, categories and total scores with the STAI-S and STAI-T. It was hypothesized that there would be a considerably smaller positive correlation between the CDDQ and the STAI, than the expected significant negative correlation between the CDDQ and the measure of convergent validity, the CDSE-SF. Table 4 shows, a moderate statistically significant positive correlations was found between the CDDQ and both the STAI-S (.48) and STAI-T (.52). All three CDDQ major categories, and eight CDDQ scales showed significant positive correlations with both the STAI-S and STAI-T. Only two CDDQ scales, Lack of Motivation (.10 STAI-S; .15 STAI-T) and Dysfunctional Myths (.06 STAI-S; .16 STAI-T) showed no significant correlation with either the STAI-S or STAI-T. The relatively similar pattern of correlations of the CDDQ observed for both the State and the Trait scales of the STAI is probably the result of the high intercorrelation between the STAI-State and STAI-Trait scales (.78). The statistically significant relationship between the CDDQ and the STAI-S (r (139) = .48, p < .05, r² = 23%) and STAI-T (r (139) = .52, p<.05, r² = 27%) indicates there is higher commonality between the two measures than hypothesized. There also was a moderate statistically significant negative correlation for the total CDSE-SF score and the STAI-S at -.58 (see table 5) and the STAI-T at -.50.

Table 6 presents the mean, standard deviation and t-test analysis between those participants who self-rated themselves as career decided and those who rated themselves career undecided on the two career measures. The career decided group obtained statistically higher scores on both the CDDQ (t (137) = -4.54 p< .05) and the CDSE-SF (t (137) = 3.50 p< .05).
Table 5

*Pearson r Correlations Between CDSE-F Scales and STAI-S and STAI-T*

<table>
<thead>
<tr>
<th>CDSE-SF Scales</th>
<th>STAI-State</th>
<th>STAI-Trait</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Appraisal</td>
<td>-42**</td>
<td>-34**</td>
</tr>
<tr>
<td>Occupational Information</td>
<td>-47**</td>
<td>-34**</td>
</tr>
<tr>
<td>Goal Selection</td>
<td>-48**</td>
<td>-42**</td>
</tr>
<tr>
<td>Planning</td>
<td>-45**</td>
<td>-39**</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>-50**</td>
<td>-42**</td>
</tr>
<tr>
<td><strong>Total CDSE-SF</strong></td>
<td><strong>-58</strong>**</td>
<td><strong>-50</strong>**</td>
</tr>
</tbody>
</table>

Note. n= 139. CDSE-SF = Career Decision Self-Efficacy Scale Short Form; STAI-S = State-Trait Anxiety Inventory-State; STAI-T = State-Trait Anxiety Inventory-Trait.

*p < .05 (two-tailed). **p < .01 (two-tailed).
Table 6

*Means, Standard Deviations, t-scores for decided and undecided groups*

*For the CDDQ and CDSE-SF*

<table>
<thead>
<tr>
<th>Total Scores</th>
<th>Decided</th>
<th>Undecided</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDDQ</td>
<td>3.65 1.38</td>
<td>5.08 1.22</td>
</tr>
<tr>
<td>CDSE-SF</td>
<td>89.50 13.34</td>
<td>78.72 12.66</td>
</tr>
</tbody>
</table>

*Note n = 139. CDDQ = Career Decision-Making Difficulties Questionnaire; CDSE-SF = Career Decision Self-Efficacy-Short Form. \(^* p < .05\) (two-tailed).*
CHAPTER V- DISCUSSION

The goal of the present study was to investigate whether the Career Decision-Making Difficulties Questionnaire (CDDQ; Gati, Krausz, & Osipow 1996) could be used as a valid instrument for a Canadian sample of post secondary students. The study met this goal by investigating the reliability of the total CDDQ, its 3 categories and 10 scales, as well as by exploring convergent and discriminant validity. There was considerable support for the reliability of the CDDQ, with alpha coefficients for the total score, the three major categories and the 10 scales showing moderate to high reliability (see Table 1 page 25).

The total score CDDQ showed high reliability at .94. Both total score and major category reliabilities obtained in this study replicated previous findings (Gati, Krausz, & Osipow 1996; Gati & Saka, 2001; Lancaster, Rudolph, Perkins & Patten, 1999; Osipow & Gati, 1998; Osipow, Krausz, & Saka, 2000). Scale reliability was also consistent with previous findings, with the exception of the Dysfunctional Beliefs scale, which showed considerably higher reliability than previous studies. Although the reliability was still weak, the Lack of Readiness category also obtained a higher reliability than previous studies, which is probably due to the improved reliability of the Dysfunctional Beliefs scale.

As hypothesized, a significant negative correlation was found between the CDDQ total score and the Career Decision-Making Self-Efficacy –Short Form scale (CDSE-SF; Betz, Klein and Taylor, 1996). This provides evidence for convergent validity, that the CDDQ and the CDSE-SF are measuring similar constructs ($r (139) = -.60$, $p < .05$, $r^2 = 36\%$). This finding is consistent with the Osipow and Gati (1998) study which also found a moderate
significant negative correlation with a revised Hebrew version of the CDSE-SF (-.50). Also consistent with the previous study, is the finding that the Pearson r correlations of the total score CDSE-SF were statistically significant with all of the CDDQ scales (see Table 4 page 29), except for the Dysfunctional Beliefs scale (-01).

The CDSE-SF showed less convergence with the Lack of Readiness category (-.35), than with the Lack of Information (-.60), or Inconsistent Information (-.49) categories. With the exception of the External Conflicts scale (-.32), which is located in the Inconsistent Information category, the lowest correlations for the CDSE-SF were with the three Lack of Readiness scales with the Pearson r’s ranging from -.01 to -.39. This result indicates that the difficulties located in the Lack of Information and Inconsistent Information categories are more associated with career self-efficacy, than those in the Lack of Readiness category. Gati et al. (1996) hypothesized that the Lack of Readiness category represents difficulties that arise prior to the career decision making process, while the Lack of Information and Inconsistent Information categories represent the difficulties which may arise during the career decision making process. Based on this theory, the weaker correlation found in this study for the CDSE-SF with the Lack of Readiness category and included scales, would indicate that increased difficulties with career self-efficacy and associated career indecision are more evident during rather than prior to the decision making process. Furthermore, this result also indicates that the CDDQ provides information beyond that provided by the CDSE-SF.

There was no evidence to support the second hypothesis that the measure for discriminant validity, the State Trait Anxiety Inventory (STAI; Spielberger, 1983), would show a
considerably smaller positive correlation than the expected significant negative correlation between the CDDQ and the measure of convergent validity, the CDSE-SF. There were significant moderate positive correlations between the CDDQ total score and both the state (.48) and trait (.52) inventories of the STAI. These correlations are fairly close to the strength of the correlation of the CDDQ with the CDSE-SF at -.60. With the exception of the Lack of Motivation and Dysfunctional Beliefs scales, the STAI state and trait inventories showed moderate positive correlations with all the scales and major categories of the CDDQ (see Table 4 page 29). The pattern of correlations between the STAI and the CDSE-SF and its scales was similar to the correlations between the STAI and the CDDQ. In fact, the correlation between the CDSE-SF and the state anxiety inventory of the STAI (-.58) was higher than the correlation between the CDDQ and the state STAI. This would indicate that the CDDQ is measuring the construct of anxiety, as evidenced by the STAI, similarly as is the well-established career self-efficacy measure, the CDSE-SF.

The strongest correlation for trait anxiety was with the CDDQ scale of Indecisiveness, while the state score was much lower on this scale. This relationship was expected, in that an individual scoring higher on a scale measuring indecisiveness would then also logically be expected to score higher on a measure of general anxiety. This finding is consistent with previous research, which has found an inverse relationship between career decidedness, and trait anxiety (Kimes & Troth, 1974). The only non-significant correlations were for the Lack of Motivation scale and the Dysfunctional Beliefs scale. Gati et al. (1996), propose that these two scales consist of difficulties which are encountered prior to the decision making process. Thus, it seems logical that, as this study found, there would not be a strong positive
relationship with anxiety. The questions which are included in the Dysfunctional Beliefs scale are in relation to dysfunctional myths about choosing a career. For example, item 9 states "I believe there is only one career that suits me". Questions from the Lack of Motivation scale addresses the individuals motivation or drive to make a career choice and include such questions as, “Work is not the most important thing in one’s life and therefore the question of choosing a career doesn’t worry me much”. These questions may be seen as less threatening or anxiety provoking than those in the other scales which focus more on career decision making difficulties encountered during the career decision making process. The questions for scales 4-10 start off with “I find it difficult to make a career decision because...".

Thus it seems logical that, as was found in this study, the Dysfunctional Beliefs, and Lack of Motivation scales would not have a strong positive relationship with anxiety. The correlational results between the STAI and the CDDQ indicate that anxiety is most evident during the career decision making process versus prior to it, with the Lack of information category having the strongest correlation for both state and trait anxiety. The results would also indicate that situational anxiety was lowest for the Lack of Readiness category which indicate that state anxiety was lowest prior to the decision making process. Lancaster et al., (1999) proposed that the low correlation for the Lack of Motivation scale and anxiety would not be unexpected as an individual with lower motivation would exhibit “carefree responses to decision making” (p. 409), which would result in lower anxiety. This would be a plausible explanation for the results found in this study as well, as not only did the Lack of Motivation...
scale show lower non-significant correlations with the STAI-State it also showed similar strength correlations with the STAI-Trait (.15).

Although it is not unexpected that anxiety, both state and generalized, would be associated with increased career indecision, it is unexpected however, that a measure of career decision-making difficulties and one for career self-efficacy would both also be measuring anxiety to the extent that the strength of the correlations indicate.

It would seem logical based on previous studies linking career indecision with increased anxiety, (Fuqua & Hartman, 1983; Fuqua, Blum, and Hartman, 1988; Newman, Fuqua, and Miniger, 1990; Fuqua & Hartman, 1983; Kimes & Troth, 1974; Peng, 2001) that the higher an individual scores on the CDDQ, which indicates higher career indecision, the more anxiety they would possess. One of the uses for the STAI-Trait has been for the selection of subjects who differ in motivation and drive level (Spielberger 1983). Correlations with the STAI-Trait could indicate that an individual with generalized anxiety would then also be more likely not to be able to make a career decision (Kimes & Troth, 1974). Furthermore, Spielberger (1983) states that there is an expected rise in Trait scores in situations where “failure is experienced or an individual’s personal adequacy is evaluated “ (p.3). The three questionnaires in this study may very well have been viewed by the participants as evaluative of their personal adequacy, therefore, as found in the study, those participants higher in trait anxiety would score higher on the trait anxiety inventory, and quite probably on the state anxiety inventory as well.
Spielberger (1983) states that an individual who is higher in trait anxiety tends to be higher in state anxiety even in neutral situations. He also notes that correlations between state and trait anxiety (ranging from .65-.75) increased when the two inventories are administered one after the other, as was done in this study, as well in situations where personal adequacy is evaluated. This study did find a high correlation between the state and trait inventories (.78), which would account for the general lack of differentiation between the two forms and the CDDQ and CDSE-SF. Although the questionnaires were given in counterbalanced order, it is also possible that after completing either or both of the questionnaires dealing with potential career decision making difficulties, and career self-efficacy, that scores in state anxiety would increase or decrease according to the participants sense of their own perceived difficulties. The individual might have become more aware of their career indecision, thus heightening their awareness of their anxiety, or become more confident in their decision making, which could result in lower anxiety scores.

Fuqua and Hartman, (1983) found moderate strength correlations, more consistent with the current study, between the Career Decision Scale (CDS; Osipow, Carney, & Barak, 1976) and the STAI-State (.38) and STAI-Trait (.42). This finding supports the finding from the current study, as previous studies (Lancaster et al., 1999, Gati & Osipow, 1998) have found the CDS and the CDDQ to be strongly correlated (ranging from .77- .84). Thus, as the CDDQ and the CDS are more similar measures, having more commonality, it would not be unexpected that the CDDQ would show similar correlations with the STAI as the CDS.
The strength of the correlations found are contrary to the previous study by Lancaster et al. (1999), who also examined discriminant validity with an alternate measure of anxiety, the Beck Anxiety Inventory (BAI, as cited in Lancaster et al., 1999). Although that study did find a statistically significant correlation, it was quite low at .18 for the total CDDQ score.

The BAI and the STAI are themselves not highly correlated. Previous studies (Kabacoff, Segal, Hersen, and Van Hasselt, 1997; A. Osman, Kopper, Barrios, J. R. Osman, and Wade, 1997; Stuart, Couser, Schilder, Ohara, and Gorman, 1998), found moderate correlations between the BAI and the STAI-State (ranging from .52 to .63) and STAI-Trait (ranging from .44 to .58). The BAI was specifically developed as a measure for discriminating anxiety symptoms from depressive ones and, has been found to show greater discrimination between depression and anxiety than the STAI (Creamer, Foran, and Bell, 1995; Lancaster et al., 1999). Osman et al., (1997) examined the relationship between the STAI and the BAI and found that after statistically controlling for affective and cognitive symptoms of depression the strength of the correlations dropped substantially. It would then be expected that the BAI and the STAI are measuring some different elements of anxiety. Thus, if the STAI is a measure which is more sensitive to depressive symptomatology, then the higher correlations found in this study between the CDDQ and the STAI could indicate that the career decision-making difficulty items on the CDDQ are sensitive to symptoms of depression. Similarly, it may be that lower scores on the CDSE-SF, which indicate lower career-self-efficacy, are also more associated with depressive symptomatology.
It is possible that the stronger than expected relationship between both the career indecision measures and anxiety are due to the fairly homogeneous sample in relation to age and number of years of post secondary education. The majority of the sample was 18 to 22 years old, with the presumption based on their age that they had not previously been involved in an occupation. It is possible that those individuals who are in the process of deciding on their first career choice may exhibit more anxiety and uncertainty than those individuals who may have made one, or several, successful past career choices.

As expected, when comparing the self-rated undecided group and the decided group, the study found the undecided group scored the highest on the CDDQ and the lowest on the CDSE-SF. This finding provides support for the CDDQ as a useful tool in differentiating between decided and undecided individuals. This finding is consistent with previous studies (Gati, Krausz, & Osipow 1996; Gati & Saka, 2001; Lancaster, Rudolph, Perkins & Patten, 1999; Osipow & Gati, 1998; Osipow, Krausz, & Saka, 2000).

Limitations

A potential limitation regarding the study’s external validity, or generalizability, is the sample makeup (see Appendix F). Is the sample of 139 Kwantlen University College students representative of the Canadian population? The make-up of the study’s sample consisted of, 60 % female and 37% male, 64% Canadian, 23.7 % Asian (including Eastern, Southern and South- Eastern Asia), 4.3 % Middle Eastern, 5% European, 0.7 % South American. Age range was 18 to 46 years (mean 22 years.). Canada’s minority population, as
reported by Statistics Canada (http://www.statcan.ca/english/Pgdb/popula.htm) for 2002 was 16% of the total Canadian population, with the largest minority group at 7% from Europe followed by 4.5% from Asia (including Eastern Southern, South-Eastern Asia). The current study had a greater percentage of Asian participants, with fewer European and Canadian participants. Gender is appropriately equal across Canada, while the current study had more female participants than males. It is difficult to determine if the age of the sample is representative of a general Canadian population as Statistics Canada reports only an aggregate for the ages 14 to 65. It is unlikely that generalizations can be made from the current study to the Canadian population, it is however more likely a sample representative of undergraduate students for the Vancouver Lower Mainland.

Another potential limitation also exists in the procedure of the study. Although the majority of the students completed the questionnaire package during class, 19% completed the package away from class and returned it within two weeks. The potential for the separate questionnaires being completed at different times or in fact by different people becomes apparent. However, there was no difference found between the means for the group who completed the package in one sitting in class and those students who did not.

A further potential limitation of the study was participant selection. The participants themselves choose whether or not they wished to participate in the study. This self-selection might have resulted in a less heterogeneous group, therefore less representative of the general population, in the areas of gender, nationality, personality, English comprehension. Those students who chose to participate may have felt more comfortable with the English language,
more comfortable addressing their own levels of career indecision, or possibly possessed 
more motivation to appear co-operative. A possible alternative to self-selection for 
participation might have been to access various classes where participation in a research 
study is a requirement for all students. As well, no information was obtained on the status of 
previous employment or previous success with career choice(s). The current study would 
have benefited from adding a question in relation to number of career choices previously 
made, to better define the sample under investigation.

Another potential limitation of the study was the counter-balanced order in which the 
questionnaires were given. It is possible that after completing one or two measures dealing 
with the individuals various career decision-making difficulties or career self-efficacy, that 
their level of perceived anxiety may have increased. The study may have benefited by 
tracking the order which the questionnaires were given thereby being able to conduct 
analysis as to the possibility that there was an order effect causing contamination of the 
results.

Conclusion and Implications for Counselling

In summary, the results of this study provide support for the reliability and 
convergent validity of the CDDQ for Kwantlen University students. Although the current 
study found much improved reliabilities for the Dysfunctional Beliefs, and Lack of 
Motivation scales as well as the Lack of Readiness category, the improved reliabilities were 
moderate, compared to the higher reliabilities of the other scales and categories (with the
exception of the Lack of Information About Ways of Obtaining Additional Information scale which was also showed moderate reliability). The CDDQ was effective in differentiating between those students who rated themselves as “decided” and “undecided”. Discriminant validity was however not supported. Although there was an expectation that the construct of anxiety would have a positive relationship with the CDDQ, the strength of that relationship indicated that the CDDQ was measuring anxiety more strongly than anticipated, and therefore that the two measures have more commonality than was hypothesized. That the CDDQ has stronger commonality with a measure of anxiety than anticipated could indicate that the specific type of career decision-making difficulties being measured are those with a higher level of associated anxiety.

Much of career counselling is aimed towards aiding the individual in the process of career decision making. The CDDQ seems to have an advantage over many previous measures, as it uses the three major categories and 10 difficulty scales to more specifically evaluate the specific types of difficulties encountered during the career decision-making process (Osipow & Gati, 1998). The ability to look at the scale or category scores would then be useful in designing specific counselling interventions to directly resolve the specific difficulties identified. Therefore, the counselor could use the CDDQ to obtain information prior to the start of counselling to shape the type of intervention needed to meet the needs of each unique individual. The CDDQ could also potentially be used as a tool for measuring the effectiveness of specific career interventions, or to differentiate between those students who would most benefit from an intervention.
As the relationship between career indecision and anxiety is very complex, it is
difficult to accurately assess the role anxiety plays in career indecision. Fuqua, Blum and
Hartman (1988, p. 370) state that the relationship between career indecision and anxiety
needs further explorations. Fuqua et al. point out certain questions which are in need of
clarification: Does the career indecision cause the increased anxiety, or does a highly anxious
individual have difficulty making decisions? Is there some underlying problem where
anxiety and career indecision are concurrent symptoms? They also question whether or not
the relationship between the two constructs is similar for all groups.

Thus, it is difficult to determine the therapeutic intervention which would be most
effective for those individuals who scored high on the CDDQ and thus had higher scores of
anxiety. Possibly, the relationship found in this study between anxiety and the CDDQ and
the CDSE-SF could indicate the need for counselors to screen those individuals who are
career undecided on the basis of anxiety to identify those who are highly anxiety-prone. The
counselor could then therapeutically aid that individual in the reduction of anxiety in order
for that individual to then move more effectively through a decision making process. Further
research is needed to explore the discriminant validity of the CDDQ to look at the
relationship between the CDDQ and other measures of anxiety, and depression for a
Canadian population. It would also be helpful to conduct research involving older
individuals involved in current career choices, but who have had one or several past career
choices and the relationship with anxiety and the CDDQ. Overall, the CDDQ seems
promising for use in counselling as it is “a significant addition to the available set of
indecision measures” (Osipow & Gati, 1998, p.363).
References


APPENDIX A: Cover Letter
APPENDIX B: Career Decision-Making
Difficulties Questionnaire
Please begin by filling in the following information:

Age: _______  Number of years of education: _______

Sex:  **Female/Male**

Number of years you have lived in Canada: _______  Nationality: _______

Have you considered what field you would like to major in or what occupation you would like to choose?

*Yes/No*

If so, to what extent are you confident of your choice?

**Not confident at all 1 2 3 4 5 6 7 8 9 Very confident**

What field/occupation are you considering? ___________________________

---

**Career Decision-Making Difficulties Questionnaire**

This questionnaire’s aim is to locate possible difficulties and problems related to making career decisions.

Next, you will be presented with a list of statements concerning the career decision-making process. Please rate the degree to which each statement applies to you on the following scale:

**Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well**

Circle 1 if the statement does not describe you and 9 if it describes you well. Of course, you may also circle any of the intermediate levels.

Please do not skip any question.
1. I know that I have to choose a career, but I don't have the motivation to make the decision now ("I don't feel like it").

   Does not describe me 1 2 3 4 5 6 7 8 9  Describes me well

2. Work is not the most important thing in one's life and therefore the question of choosing a career doesn't worry me much.

   Does not describe me 1 2 3 4 5 6 7 8 9  Describes me well

3. I believe that I do not have to choose a career now because time will lead me to the "right" career choice.

   Does not describe me 1 2 3 4 5 6 7 8 9  Describes me well

4. It is usually difficult for me to make decisions.

   Does not describe me 1 2 3 4 5 6 7 8 9  Describes me well

5. I usually feel that I need confirmation and support for my decisions from a professional person or from somebody else I trust.

   Does not describe me 1 2 3 4 5 6 7 8 9  Describes me well

6. I am usually afraid of failure.

   Does not describe me 1 2 3 4 5 6 7 8 9  Describes me well

7. I like to do things my way.

   Does not describe me 1 2 3 4 5 6 7 8 9  Describes me well

8. I expect that entering the career I choose will also solve my personal problems.

   Does not describe me 1 2 3 4 5 6 7 8 9  Describes me well

9. I believe there is only one career that suits me.

   Does not describe me 1 2 3 4 5 6 7 8 9  Describes me well

10. I expect that through the career I choose I will fulfill all my aspirations.

    Does not describe me 1 2 3 4 5 6 7 8 9  Describes me well
11. I believe that a career choice is a one-time choice and a life-long commitment.

*Does not describe me 1 2 3 4 5 6 7 8 9*  *Describes me well*

12. I always do what I am told to do, even if it goes against my own will.

*Does not describe me 1 2 3 4 5 6 7 8 9*  *Describes me well*

13. I find it difficult to make a career decision because I do not know what steps I have to take.

*Does not describe me 1 2 3 4 5 6 7 8 9*  *Describes me well*

14. I find it difficult to make a career decision because I do not know what factors to take into consideration.

*Does not describe me 1 2 3 4 5 6 7 8 9*  *Describes me well*

15. I find it difficult to make a career decision because I don't know how to combine the information I have about myself with the information I have about the different careers.

*Does not describe me 1 2 3 4 5 6 7 8 9*  *Describes me well*

16. I find it difficult to make a career decision because I still do not know which occupations interest me.

*Does not describe me 1 2 3 4 5 6 7 8 9*  *Describes me well*

17. I find it difficult to make a career decision because I am not sure about my career preferences yet (for example, what kind of a relationship I want with people, which working environment I prefer).

*Does not describe me 1 2 3 4 5 6 7 8 9*  *Describes me well*

18. I find it difficult to make a career decision because I do not have enough information about my competencies (for example, numerical ability, verbal skills) and/or about my personality traits (for example, persistence, initiative, patience).

*Does not describe me 1 2 3 4 5 6 7 8 9*  *Describes me well*

19. I find it difficult to make a career decision because I do not know what my abilities and/or personality traits will be like in the future.

*Does not describe me 1 2 3 4 5 6 7 8 9*  *Describes me well*

20. I find it difficult to make a career decision because I do not have enough information about the variety of occupations or training programs that exist.

*Does not describe me 1 2 3 4 5 6 7 8 9*  *Describes me well*
21. I find it difficult to make a career decision because I do not have enough information about the characteristics of the occupations and/or training programs that interest me (for example, the market demand, typical income, possibilities of advancement, or a training program’s perquisites).

*Does not describe me 1 2 3 4 5 6 7 8 9*  Describes me well

22. I find it difficult to make a career decision because I don’t know what careers will look like in the future.

*Does not describe me 1 2 3 4 5 6 7 8 9*  Describes me well

23. I find it difficult to make a career decision because I do not know how to obtain additional information about myself (for example, about my abilities or my personality traits).

*Does not describe me 1 2 3 4 5 6 7 8 9*  Describes me well

24. I find it difficult to make a career decision because I do not know how to obtain accurate and updated information about the existing occupations and training programs, or about their characteristics.

*Does not describe me 1 2 3 4 5 6 7 8 9*  Describes me well

25. I find it difficult to make a career decision because I constantly change my career preferences (for example, sometimes I want to be self-employed and sometimes I want to be an employee).

*Does not describe me 1 2 3 4 5 6 7 8 9*  Describes me well

26. I find it difficult to make a career decision because I have contradictory data about my abilities and/or personality traits (for example, I believe I am patient with other people but others say I am impatient).

*Does not describe me 1 2 3 4 5 6 7 8 9*  Describes me well

27. I find it difficult to make a career decision because I have contradictory data about the existence or the characteristics of a particular occupation or training program.

*Does not describe me 1 2 3 4 5 6 7 8 9*  Describes me well

28. I find it difficult to make a career decision because I’m equally attracted by a number of careers and it is difficult for me to choose among them.

*Does not describe me 1 2 3 4 5 6 7 8 9*  Describes me well

29. I find it difficult to make a career decision because I do not like any of the occupation or training programs to which I can be admitted.

*Does not describe me 1 2 3 4 5 6 7 8 9*  Describes me well
30. I find it difficult to make a career decision because the occupation I am interested in involves a certain characteristic that bothers me (for example, I am interested in medicine, but I do not want to study for so many years).

**Does not describe me** 1 2 3 4 5 6 7 8 9 **Describes me well**

31. I find it difficult to make a career decision because my preferences can not be combined in one career, and I do not want to give any of them up (e.g., I’d like to work as a free-lancer, but I also wish to have a steady income).

**Does not describe me** 1 2 3 4 5 6 7 8 9 **Describes me well**

32. I find it difficult to make a career decision because my skills and abilities do not match those required by the occupation I am interested in.

**Does not describe me** 1 2 3 4 5 6 7 8 9 **Describes me well**

33. I find it difficult to make a career decision because people who are important to me (such as parents or friends) do not agree with the career options I am considering and/or the career characteristics I desire.

**Does not describe me** 1 2 3 4 5 6 7 8 9 **Describes me well**

34. I find it difficult to make a career decision because there are contradictions between the recommendations made by different people who are important to me about the career that suits me or about what career characteristics should guide my decisions.

**Does not describe me** 1 2 3 4 5 6 7 8 9 **Describes me well**

Finally, how would you rate the degree of your difficulty in making a career decision?

**Low** 1 2 3 4 5 6 7 8 9 **High**
APPENDIX C: CDDQ Scoring Key

**Scoring of the CDDQ (34 items)**

<table>
<thead>
<tr>
<th>The Scale</th>
<th>Mean of items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Readiness</strong></td>
<td></td>
</tr>
<tr>
<td>Rm-Lack of motivation</td>
<td>1-3</td>
</tr>
<tr>
<td>Ri-General indecisiveness</td>
<td>4-6</td>
</tr>
<tr>
<td>Rd-Dysfunctional beliefs</td>
<td>8-11</td>
</tr>
<tr>
<td><strong>Lack of Information about</strong></td>
<td></td>
</tr>
<tr>
<td>Lp-The stages of the cdm process</td>
<td>13-15</td>
</tr>
<tr>
<td>Ls-Self</td>
<td>16-19</td>
</tr>
<tr>
<td>Lo-Occupations</td>
<td>20-22</td>
</tr>
<tr>
<td>La-Ways of obtaining additional inform.</td>
<td>23-24</td>
</tr>
<tr>
<td><strong>Difficulties related to Inconsistent Information</strong></td>
<td></td>
</tr>
<tr>
<td>Iu-Unreliable information</td>
<td>25-27</td>
</tr>
<tr>
<td>Ii-Internal conflicts</td>
<td>28-32</td>
</tr>
<tr>
<td>Ie-External conflicts</td>
<td>33-34</td>
</tr>
</tbody>
</table>

Note: items 7 and 12 are validity items
(item 7 should be high > 4; item 12 should be low <5)

**Major categories**

Readiness \((Rm+Ri+Rd)/3\)  
Lack of Information \((Lp+Ls+Lo+La)/4\)  
Inconsistent Information \((Iu+Ii+Ie)/3\)

**Total** Mean of the ten scales -- \((Rm+Ri+Rd+Lp+Ls+Lo+La+Iu+Ii+Ie)/10\)

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APPENDIX D: Career Decision Self-Efficacy
Short Form
Cdse -Short Form

INSTRUCTIONS: For each statement below, please read carefully and indicate how much confidence you have that you could accomplish each of these tasks by marking your answer according to the key. Mark your answer by circling the correct number next to the question.

Example: How much confidence do you have that you could:

a. Summarize the skills you have developed in the jobs you have held?

If your response was "Moderate Confidence," you would circle the number 3.

HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:

1. Find information in the library about occupations you are interested in.
   1 2 3 4 5

2. Select one major from a list of potential majors you are considering.
   1 2 3 4 5

3. Make a plan of your goals for the next five years.
   1 2 3 4 5

4. Determine the steps to take if you are having academic trouble with an aspect of your chosen major.
   1 2 3 4 5

5. Accurately assess your abilities.
   1 2 3 4 5

6. Select one occupation from a list of potential occupations you are considering.
   1 2 3 4 5

7. Determine the steps you need to take to successfully complete your chosen major.
   1 2 3 4 5

8. Persistently work at your major or career goal even when you get frustrated.
   1 2 3 4 5

9. Determine what your ideal job would be.
   1 2 3 4 5

10. Find out the employment trends for an occupation over the next ten years.
    1 2 3 4 5

11. Choose a career that will fit your preferred lifestyle.
    1 2 3 4 5
NO CONFIDENCE VERY LITTLE MODERATE MUCH COMPLETE
AT ALL CONFIDENCE CONFIDENCE CONFIDENCE CONFIDENCE
1 2 3 4 5

HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:

12. Prepare a good resume. 1 2 3 4 5
13. Change majors if you did not like your first choice. 1 2 3 4 5
14. Decide what you value most in an occupation. 1 2 3 4 5
15. Find out about the average yearly earnings of people in an occupation. 1 2 3 4 5
16. Make a career decision and then not worry about whether it was right or wrong. 1 2 3 4 5
17. Change occupations if you are not satisfied with the one you enter. 1 2 3 4 5
18. Figure out what you are and are not ready to sacrifice to achieve your career goals. 1 2 3 4 5
19. Talk with a person already employed in the field you are interested in. 1 2 3 4 5
20. Choose a major or career that will fit your interests. 1 2 3 4 5
21. Identify employers, firms, institutions relevant to your career possibilities. 1 2 3 4 5
22. Define the type of lifestyle you would like to live. 1 2 3 4 5
23. Find information about graduate or professional schools. 1 2 3 4 5
24. Successfully manage the job interview process. 1 2 3 4 5
25. Identify some reasonable major or career alternatives if you are unable to get your first choice. 1 2 3 4 5

Scales formerly known as CDMSE and CDMSE-SF, now changed to CDSE and CDSE-SF Copyright @2001, Nancy Betz & Karen Taylor. Not to be used without permission.
APPENDIX E: State Trait Anxiety Inventory
SELF-EVALUATION QUESTIONNAIRE

DIRECTIONS:
A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel calm</td>
<td></td>
<td></td>
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<tr>
<td>2. I feel secure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I am tense</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I feel strained</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I feel at ease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I feel upset</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7. I am presently worrying over possible misfortunes</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8. I feel satisfied</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I feel frightened</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I feel comfortable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I feel self-confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I feel nervous</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I am jittery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. I feel indecisive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. I am relaxed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. I feel content</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. I am worried</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. I feel confused</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. I feel steady</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. I feel pleasant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SELF-EVALUATION QUESTIONNAIRE
STAI Form Y-2

DIRECTIONS

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

21. I feel pleasant. .................................................. 1 2 3 4
22. I feel nervous and restless .................................. 1 2 3 4
23. I feel satisfied with myself .................................. 1 2 3 4
24. I wish I could be as happy as others seem to be ..... 1 2 3 4
25. I feel like a failure ........................................... 1 2 3 4
26. I feel rested ...................................................... 1 2 3 4
27. I am "calm, cool, and collected" ......................... 1 2 3 4
28. I feel that difficulties are piling up so that I cannot overcome them .......... 1 2 3 4
29. I worry too much over something that really doesn’t matter ................. 1 2 3 4
30. I am happy ...................................................... 1 2 3 4
31. I have disturbing thoughts ................................ 1 2 3 4
32. I lack self-confidence ....................................... 1 2 3 4
33. I feel secure .................................................... 1 2 3 4
34. I make decisions easily .................................... 1 2 3 4
35. I feel inadequate ............................................. 1 2 3 4
36. I am content ................................................... 1 2 3 4
37. Some unimportant thought runs through my mind and bothers me ......... 1 2 3 4
38. I take disappointments so keenly that I can’t put them out of my mind .... 1 2 3 4
39. I am a steady person ....................................... 1 2 3 4
40. I get in a state of tension or turmoil as I think over my recent concerns and interests ........................................ 1 2 3 4
APPENDIX F: Demographic Information

<table>
<thead>
<tr>
<th>Sex</th>
<th>Stated Nationality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Canadian 64%</td>
</tr>
<tr>
<td>Male</td>
<td>(Born in Canada 79%)</td>
</tr>
<tr>
<td>Not reported</td>
<td>Asian 23.7%</td>
</tr>
<tr>
<td></td>
<td>European 7%</td>
</tr>
<tr>
<td></td>
<td>Middle East 5%</td>
</tr>
<tr>
<td></td>
<td>South American 0.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Years of Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>Range 1-11</td>
</tr>
<tr>
<td>18-20</td>
<td>Mean 2</td>
</tr>
<tr>
<td>21-25</td>
<td>SD 1.78</td>
</tr>
<tr>
<td>26-30</td>
<td>1-3 years 89%</td>
</tr>
<tr>
<td>31-35</td>
<td>4-6 years 5.7%</td>
</tr>
<tr>
<td>41-46</td>
<td>over 6 years 3.6%</td>
</tr>
<tr>
<td>Mean</td>
<td>22</td>
</tr>
<tr>
<td>SD</td>
<td>6.32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Decided on Career/Major</th>
<th>Confidence of Choice*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Mean 6.77</td>
</tr>
<tr>
<td>No</td>
<td>SD 1.91</td>
</tr>
</tbody>
</table>

| Self-Assessed Degree of Career Decision-Making Difficulty ** |
|---------------------|--------------------------|
| Mean                | 5.69                     |
| SD                  | 2.62                     |

Note. n = 139. * 1-9 scale, 9 = most confident, 1 = least confident; ** 1-9 scale, 9 = highest amount of career decision-making difficulty, 1 = least amount of career decision-making difficulty.
### APPENDIX F CONTINUED: Demographic Information

#### Career or Major Considered

<table>
<thead>
<tr>
<th>Career or Major Considered</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not answer</td>
<td>7.9%</td>
</tr>
<tr>
<td>Psychology</td>
<td>18%</td>
</tr>
<tr>
<td>Teaching</td>
<td>11.5%</td>
</tr>
<tr>
<td>Nursing</td>
<td>6.5%</td>
</tr>
<tr>
<td>Medicine</td>
<td>3.6%</td>
</tr>
<tr>
<td>Law</td>
<td>6.5%</td>
</tr>
<tr>
<td>Business</td>
<td>4.3%</td>
</tr>
<tr>
<td>Marketing/Advertising</td>
<td>3.6%</td>
</tr>
<tr>
<td>Computers</td>
<td>4.3%</td>
</tr>
<tr>
<td>Social Work</td>
<td>3.6%</td>
</tr>
<tr>
<td>Dental Hygiene</td>
<td>2.9%</td>
</tr>
<tr>
<td>Criminology</td>
<td>2.9%</td>
</tr>
<tr>
<td>Design</td>
<td>2.9%</td>
</tr>
<tr>
<td>Auto Detailing</td>
<td>2.2%</td>
</tr>
<tr>
<td>Law Enforcement</td>
<td>1.4%</td>
</tr>
<tr>
<td>Human Resources</td>
<td>1.4%</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>1.4%</td>
</tr>
<tr>
<td>Sciences</td>
<td>1.4%</td>
</tr>
<tr>
<td>Dentistry</td>
<td>1.4%</td>
</tr>
<tr>
<td>Film Industry</td>
<td>0.7%</td>
</tr>
<tr>
<td>Technology</td>
<td>0.7%</td>
</tr>
<tr>
<td>Millwright</td>
<td>0.7%</td>
</tr>
<tr>
<td>Genetics</td>
<td>0.7%</td>
</tr>
<tr>
<td>Veterinarian</td>
<td>0.7%</td>
</tr>
<tr>
<td>Make up Artist</td>
<td>0.7%</td>
</tr>
<tr>
<td>Financial Management</td>
<td>0.7%</td>
</tr>
<tr>
<td>Funeral Director</td>
<td>0.7%</td>
</tr>
<tr>
<td>Forestry</td>
<td>0.7%</td>
</tr>
<tr>
<td>Optometry</td>
<td>0.7%</td>
</tr>
<tr>
<td>Home Support</td>
<td>0.7%</td>
</tr>
<tr>
<td>Marine Biology</td>
<td>0.7%</td>
</tr>
<tr>
<td>Travel/Tourism</td>
<td>0.7%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>0.7%</td>
</tr>
</tbody>
</table>
APPENDIX G: CDSE-SF Scales and CDDQ Categories and Scales

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Category</th>
<th>Scale</th>
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<tbody>
<tr>
<td>CDSE-SF</td>
<td>Self-Appraisal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Occupational Information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Goal Selection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Problem Solving</td>
<td></td>
</tr>
<tr>
<td>CDDQ</td>
<td>Lack of Readiness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of Motivation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indecision</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dysfunctional Beliefs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of Information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of Knowledge About the Decision-Making Process</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of Information About the Self</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of Information About Occupations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of Information About Ways of Obtaining Additional Information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inconsistent Information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unreliable Information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal Conflicts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>External Conflicts</td>
<td></td>
</tr>
</tbody>
</table>

Note. CDSE-SF = Career Decision-Making Self-Efficacy Short Form; CDDQ = Career Decision-Making Difficulties Questionnaire.