**The Career State Inventory (CSI) as a Measure of the Career Decision State and Readiness for Career Decision Making:**

**A Manual for Assessment, Administration, and Intervention (Second Edition) ***

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**Abstract**

The Career State Inventory (CSI) was developed initially as the Career Decision State Survey (CDSS) to facilitate research and practice in vocational psychology and career development.  The primary purpose of this measure was to assess readiness for career problem solving and decision making.  The CSI was developed by the authors working through Florida State University's Center for the Study of Technology in Counseling and Career Development. Career practitioners and researchers may freely use the instrument with proper citation of the instrument and credit as noted below.  Sale of the CSI for profit is not authorized by the authors or FSU.  A link to the CSI and the *CSI Manual* is provided at DigiNole the Florida State University Digital Library: https://fsu.digital.flvc.org/islandora/search/tech%20center?type=edismax&collection=fsu%3Aresearch_repository.  *CSI Manual* topics include (a) an examination of the Career Decision State construct as a state of consciousness through the perspective of cognitive information processing theory (CIP); (b) prior research examining the concurrent validity of the CSI in relation to similar constructs; (c) procedures for administering and scoring the instrument; and (d) ways in which CSI results could be implemented and interpreted in the process of career service delivery or training of career services providers.

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**Conceptual Background**

At the conceptual level, the career decision state (CDS) is a subjective state of being, or state of momentary consciousness, regarding one's career goals or aspirations, and is composed of both cognitive and affective components.  The CDS may also be thought of as a single continuum from being highly goal-directed, satisfied, and confident on the one hand to being immobile or frozen, dissatisfied, and confused on the other.  Thus, this existential state carries implicit questions such as "Who am I?" (identity), "To what goal am I headed?" (direction), "What are my feelings regarding my goal?" (satisfaction), and "Do I believe in my capabilities to make an appropriate choice and to attain a career goal?" (self-confidence, self-efficacy).  Further, when individuals seek career services or are about to embark on a program of study, an overarching issue is whether this person is *ready* to make an important career decision?

Readiness is a component of cognitive information processing theory (CIP; Sampson, Reardon, Peterson, & Lenz, 2004) that alludes to the extent of one's preparation for deliberate and effortful career problem solving and decision making (Bullock, Saunders, & Peterson, 2015).  Readiness consists of two dimensions, capability and complexity (Sampson, Peterson, Reardon, & Lenz, 2000).  The Career State Inventory (CSI; Leierer, Peterson, Reardon, & Osborn, 2017) is brief questionnaire that assesses one's capability to undertake career decision making and it measures three constructs, (a) certainty about a career goal, (b) satisfaction with a goal, and (c) vocational clarity and confidence in pursuing one's career and life goals.

As a measure of capability, CSI results may identify individuals who are uncertain, dissatisfied, and/or confused regarding a career goal.  Such persons may well lack the capability to engage effectively in career exploration without assistance from a qualified career practitioner.  The complexity aspect of readiness alludes to elements of individuals' personal, social, and economic contexts in which career decisions are made.  In cognitive information processing theory (CIP; Sampson et al., 2004) the complexity dimension is assessed through the use of the Decision Space Worksheet (DSW; Peterson, Leasure, Carr, & Lenz, 2009-2010).  An assumption is that individuals should not only possess the capability necessary to engage in the challenging process of career problem solving and decision

making, but also be able to manage the complexity of one's life circumstances that bear on the decision. Administering the CSI can be an initial step in career services to test the assumption related to the capability for engaging in the challenging task of career decision making (See three individual case studies in Appendix A).

The concept of career decision state (CDS) is tangentially related to the work of Spielberger, Gorsuch, Lushene, Vagg, and Jacobs (1983) and the development of the State-Trait Anxiety Inventory. They conceptualized two different but related aspects of the anxiety condition, state and trait anxiety. The former could be defined as fear, nervousness, or discomfort induced by different situations, demands, objects, or events perceived as uncomfortable in the moment. This type of anxiety refers more to how a person is feeling at the time and is considered temporary. When the object or situation that is perceived as threatening goes away, the person no longer experiences anxiety. Positive movement with respect to a career decision, then, could reduce the temporary negative feelings in the career decision state. In contrast to state anxiety, trait anxiety is characterized by ongoing feelings of stress, worry, and discomfort experienced on a daily basis, and it is more like a personality characteristic rather than a temporary feeling. In relation to career decisions, it would be characterized by neuroticism, depression, helplessness, and negative career thinking. Using this comparison of state vs. trait anxiety, the Career Decision State (CDS) as a phenomenon is considered a "state" entity, while the CSI, as a measure of the CDS, is viewed as a "state" measure. Further, in terms of reliability, a "state" measure such as the CSI may have high internal consistency, but low stability over time unless the person's career goal and environment are also highly stable. We examine this matter further in discussing CSI reliability and validity later in this *Manual*.

### The Purpose of the CSI

The CSI's ultimate purpose is to assist practitioners in assessing an *individual's* readiness for career problem solving and decision making. It consists of five items measuring three career decision state dimensions: (a) certainty (1 question), (b) satisfaction (1 question), and (c) clarity (3 questions). The CSI can be administered in the form of a brief independent survey (see Appendix C), or the questions can be unobtrusively embedded in an in-take form for career counseling or included in a background data form for a career program. CSI results can be used to determine (a) whether a client is ready to engage directly in career problem solving or a program of study, or (b) whether further readiness assessment is needed to ascertain the possible influences of dysfunctional career thoughts, or the effects of overwhelming life circumstances. Appendix A reports three case studies showing how the

CSI was used as a screening tool for individual counseling as reported by Leierer, Peterson, and Reardon (Winter 2017-2018).  It can also be used in a time-series format to assess changes during an extended counseling intervention.

The CSI mean scores can also be used with group members to show the distribution of their career decision states in an unstable environment, i.e., as a measure of change following an intervention. In this situation, the CSI is not measuring an individual's readiness for career decision making per se but the effects of a career intervention, i.e., a career course or workshop, on a group's collective career decision state (Osborn, Sides, & Brown, 2019).  In this study by Osborn et al. the environment was not stable given the career course intervention for the group and the CSI could be used to assess changes in the group mean and variance with respect to the career decision state.

This *Manual* can assist practitioners in administering the CSI and using the results to further inform the career counseling or advising process.  Manual topics include (a) an examination of the *career decision state* construct as a state of consciousness through the perspective of cognitive information processing theory (CIP); (b) prior research examining the concurrent validity of the CSI in relation to other related constructs; (c) procedures for administering and scoring the instrument; and (d) ways in which the CSI results could be interpreted and implemented in the process of career service delivery or in the educational advising process.

## The Career Decision State and Cognitive Information Processing Theory (CIP)

The career decision state is a person's state of being or consciousness at any time during the decision-making process.  We view the examination of an individual's career decision state as a vital component of the Communication phase of the CASVE Cycle (i.e., Communication, Analysis, Synthesis, Valuing and Execution) within the Decision-Making Skills Domain of the Pyramid of Information Processing (Sampson et al., 2004).  In the Communication phase, at the outset of career services, individuals become "in-touch" with their thoughts, feelings, perspectives, persons, and circumstances associated with the presenting career problem.  The Career State Inventory (CSI) is a tool enabling individuals to enhance their self-knowledge by becoming aware of important elements within their career decision state.  While the career decision state and mindfulness are distinctly different mental phenomena, the literature on mindfulness can be helpful in illuminating the neurocognitive basis of the career decision state and CSI along two important dimensions, state/trait characteristics and cognition.  The relationship among three CSI dimensions and cognitive information processing theory as measured by the Career Thoughts Inventory (CTI; Sampson, Peterson, Lenz, Reardon, & Saunders,

1998) is apparent in the case studies reported by Leierer et al. (2017-2018) in Appendix A and other research studies discussed later in this *Manual*.

**State and Trait Characteristics**

According to Davidson and Kazniak (2015), a key target of meditative practice is awareness of mind and body functions (i.e., state-like) with the ultimate goal of developing skills (e.g., yoga, body scan, walking meditation) to manage daily stress, thus transforming everyday life (i.e., trait-like). Analogous to mindfulness, one purpose for administering the CSI is to help individuals achieve an awareness of their current, existing career decision state (i.e., state-like) along three dimensions of career consciousness, namely certainty toward a career goal, satisfaction with the goal, and clarity and confidence in attaining the goal. Attaining a more positive, desired level along each of the three dimensions is facilitated by enabling individuals to progress through the CASVE Cycle. In the process of completing the Cycle and reflecting on the experience, an individual may attain a more "decided career decision state" along with the acquisition of career problem-solving and decision-making skills. Under special conditions, for example, when an individual maintains a state of decidedness over a period of time in a stable environment, the career decision state may appear to be somewhat trait-like in nature. Nevertheless, the CSI is clearly designed to be a "state" measure in theory and practice.

**Career Decision State as Related to Mindfulness**

In some respects, the concept of "career decision state" shares attributes with the phenomenon of mindfulness. One of the functional dimensions and phenomenological characteristics of mindfulness (Lutz, Jha, Dunne, & Saron, 2015) is *object orientation* which entails becoming oriented toward some object or class of objects through perception, memory, or imagination. A dimension of mindfulness entails *dereification* in which perceived objects become viewed as mental processes alone rather than depictions of objective reality. The third is *meta-awareness* where individuals become aware of themselves as mindfulness seekers.

Regarding the object orientation aspect of mindfulness, completing the CSI enables individuals to focus their attention on the three specific dimensions of the career decision state. Like mindfulness, individuals become more "in touch" with the nature of their degree of certainty toward a career goal, their satisfaction with it, as well as the clarity of their thoughts and feelings about it. However, unlike mindfulness, individuals may attain a sense of how the career decision state becomes *more real and concrete* rather than simply a vague, amorphous condition. Finally, similar to achieving a state of mindfulness, individuals may attain meta-awareness of their career decision state as they are able to step

outside of themselves and proclaim, "Yes, this is me, and what do I do to attain a more desirable state?" According to cognitive dissonance theory (Festinger, 1964), this "gap" between existing levels of the career decision state and more desired levels of the career decision state provides the motivation to engage in effortful information processing and career problem solving. In our previous literature (Peterson, Sampson, & Reardon, 1991; Sampson et al., 2004), we have referred to the concept of meta-awareness as one of the meta-cognitions within the Executive Processing Domain which lies at the apex of the Pyramid of Cognitive Information Processing.

## Career Decision State: History and Current Conception

The career decision state concept has consistently included the Occupational Alternatives Question (OAQ) and Satisfaction Item (Satisfaction with Choice Question) as measures of career certainty and satisfaction. However, in prior studies other constructs were added to the conceptualization and measurement of the CDS, including career tension, career and life stress, SDS profile elevation and differentiation, and coping strategies. As a result of the integration of research evidence over time, the career decision state concept now also includes a measure of vocational clarity, an indicator of one's vocational self-confidence in pursuing a career goal as measured by three items from the MVS Vocational Identity Scale (See Appendix B). Research evidence also suggests that the three respective dimensions of the original Career Decision State Survey (CDSS), now renamed the Career State Inventory (CSI), are related to negative career thoughts as measured by the CTI and career and life stress, thus providing evidence of convergent and concurrent validity. The authors conducted a principal components factor analysis with three variables and the three variables all loaded one the first factor in the same magnitude. Thus, all three variables contribute in similar magnitude to the CSI construct, and the CSI Total score can be viewed as a composite score with the three variables contributing equally.

## CSI Description, Administration, and Scoring

The CSI may be used at no charge by other researchers and practitioners to study career behavior and improve career services with appropriate credit for use. The CSI is published by the Florida State University Libraries under a Creative Commons Attribution-No Derivatives 4.0 license, allowing anyone to copy and distribute the CSI content without permission of the authors or the Florida State University Libraries, provided that the authors of the content are given proper attribution and that the content is not modified in any way. The CSI is not to be sold for a fee and researchers and practitioners are encouraged to inform the authors of experiences using it.

The CSI (see Appendix B Professional Version; Appendix C Participant Version) can be described as a measure of career decision-making readiness (Leierer et al., 2016) and is composed of three dimensions alluding to career certainty, satisfaction, and clarity.  The CSI Participant Version can be presented on a single page or in an intake form in career counseling (or as part of a background data form for someone seeking career services).  A CSI Professional Version shows a scoring key on the back of the form (see Appendix B) for practitioner use.  The CSI typically takes no more than 5 minutes to complete and score.  Depending on organizational policies and procedures, a receptionist, career practitioner, or administrator can introduce the CSI by saying, *"The CSI is a brief questionnaire designed to help you to begin thinking about your career goals and a career choice you may be making."*

There are four scores derived from administering the CSI, three component scores and the total score.  The three components or dimensions of the career decision state, described more fully in the following sections, include (a) the degree of certainty with respect to a career choice as measured by the Occupational Alternatives Question (OAQ), (b) the extent of satisfaction with the choice(s) as measured by the Satisfaction Item, and (c) career clarity, an indicator of one's vocational self-confidence in pursuing a career goal as measured by three items from the MVS Vocational Identity Scale.  Scores from the three dimensions are summed to provide a total CDS score ranging from 2 – 12 (see Appendix B).

**Career Certainty**

**Occupational Alternatives Question (OAQ).**  The OAQ is a simple measure of career certainty.  The OAQ is an unpublished, well-researched measure of client career certainty that is as old as the SDS itself.  Indeed, this instrument was initially used in Self-Directed Search validity studies to measure the impact of the SDS on the career decision making of high school students (Zener & Schnuelle, 1972).  The OAQ was revised by Slaney (1978, 1980) and the concurrent validity and the test-retest reliability was demonstrated in early studies of the CSI (see Bullock-Yowell et al., 2011).

The OAQ has been used in the FSU Career Center by imbedding it into various registration and intake forms because it is a simple, quick measure of a client's level of career certainty or decidedness. It has also been used as a pre- and post-measure of the impact of individual career interventions in our career center and the university's credit-based career planning course.  Based on responses from participants in our SDS practitioner workshops, the OAQ is a measurement tool that many practitioners seem to have little experience in using and might find helpful in their work.

The OAQ consists of two parts:

Part 1.  List all the occupations you are considering right now.  (This first item is followed by
blank lines; the format is much like the SDS Daydreams section)

Part 2.  Circle (or write in the space provided) the occupation that is your first choice (if
undecided, write "undecided").

The OAQ produces four scores and users should adhere to these scoring rules:

Score 1. = A first occupational choice is listed with no alternatives.

Score 2. = A first occupational choice is listed with alternatives.

Score 3. = No first choice is listed, just alternatives.

Score 4. = Neither a first choice nor alternatives are listed.

*Users can score an "*underline*undecided*" OAQ response in two ways.  If the respondent listed just alternatives and wrote "undecided" in the space provided indicating no first choice that would be scored a **3**.  If someone writes the word "undecided" with nothing else that would be scored a **4**.  In each instance, the practitioner can explore the story behind the "undecided" response.*  The four scores range from higher to lower levels of career decidedness, with lower scores (1, 2) indicating more decidedness and higher scores (3, 4) indicating less career decidedness.  OAQ scores are positively correlated with scores on the Career Thoughts Inventory in which higher scores indicate more decision-making confusion, commitment anxiety, and/or external conflict.

**Career Satisfaction**

**Satisfaction Item.**  This measure, first reported by Zener and Schnuelle (1972) and modified by Holland, Gottfredson, and Nafzinger (1975), asked the single question, "How well satisfied are you with your first choice?"  The Satisfaction Item as originally presented was rated on a six-point scale in which 1 = well satisfied, 2 = satisfied, but have a few doubts, 3 = not sure, 4 = dissatisfied and intend to remain, 5 = very dissatisfied and intend to change, and 6 = undecided about my future career; the lower the score, the greater the degree of satisfaction with choice.  Holland and Holland (1977) examined responses to alternatives 3 and 6 in the Satisfaction Item in their study of 1,005 high school juniors and 692 college juniors and found that being dissatisfied or undecided was related to a wide range of psychological variables, including negative attitude, indecisiveness, anxiety, anomie, immaturity, and alienation.

We revised this CSI scale to make it a 5-point *interval* and *continuous* scale by editing item responses to remove elements of decidedness and future intentionality and focus the item more

homogeneously on the construct of satisfaction. Our goal was to ensure that all item responses measured a single concept, thus making it easier for the individual to understand item response options and making it easier for consumers of the results to understand the meaning of the scale (see Appendix B). The Satisfaction Item now asks respondents, "How well satisfied are you with your responses to No. 1 above? Place a check next to the appropriate statement below." This restructuring now makes the scale a normally-distributed, single, satisfaction-dissatisfaction item with the responses on a 5-point Likert-type continuum. Restructured response scores on the Satisfaction Item are:

1 = very satisfied;

2 = satisfied;

3 = not sure;

4 = dissatisfied;

5 = very dissatisfied.

## Career Clarity

**Three MVS items.** Three true-false items, drawn from the My Vocational Situation (MVS; Holland, Johnston, & Asama, 1993), measure the CSI's career clarity dimension:

(a) "If I had to make an occupational choice right now, I'm afraid I would make a bad choice" (#6);

(b) "Making up my mind about a career has been a long and difficult problem for me" (#8); and

(c) "I am confused about the whole problem of deciding on a career" (#9).

These items were selected *a priori* by reason and consensus among the CSI authors as having content validity for the career decision state with respect to vocational clarity regarding a career goal.

As with certainty and satisfaction, a false response to one of the items is scored "0" and a true response is scored "1." The range of scores on vocational clarity is 0 to 3, with a low score indicating a high degree of clarity and confidence in career decision making, and a higher score indicating decision-making difficulty and confusion.

## CSI Total Score

The 11-point continuum of the CDS profile ranges from being highly certain, satisfied, clear, and confident in one's choice at one pole (i.e., 2-3), to being completely frozen, dissatisfied, confused, and lacking confidence in making a choice (i.e., 11-12). Mid-range scores (i.e., 6 - 8) may be described as having one or more options, but still being uncertain about them, having doubts about one's capability to make an appropriate career decision, and tentativeness in approaching one's career choice. A scoring

key is provided with the CSI Professional Version (see Appendix B). In a later Manual section, "CSI Use and Interpretive Guide," we provide additional interpretive information related to the CSI Total Score.

In summary, this section has introduced the CSI as a measure of readiness for career decision making. We believe the construct or personality trait it measures can be useful in determining readiness for moving from the Communication phase to the Analysis phase of the CASVE Cycle in which clients explore self-knowledge and option-knowledge as a basis for identifying alternatives in the Synthesis phase.

## Related Research

Thus far, 13 studies have examined the concept of the career decision state in relation to career interventions with groups. In one of the earliest studies, Bullock-Yowell, Peterson, Reardon, Leierer, and Reed (2011) examined the relationships among career and life stress, career thoughts, and career decision state (CDS) from a cognitive information-processing perspective. According to cognitive information processing theory (CIP; Sampson et al., 2004), career thoughts mediate the relationship between career and life stress and the ensuing career decision state. Using a sample of 232 college students and structural equation modeling, this study found that an increase in life and career stress was associated with an increase in negative career thinking and that an increase in such thoughts was associated with a lower level of decidedness and satisfaction with choice, two aspects of the career decision state. However, when the variation associated with negative career thoughts was partitioned in the mediated causal model, life and career stress became associated with less indecision and dissatisfaction with career choice in the CDS. The results suggested that counselors should pay particular attention to negative career thoughts when individuals experience or express symptoms of depression as a precursor to career indecision or dissatisfaction. These findings support the use of the CSI as a screening device and may suggest that the CTI and Beck Depression Inventory (BDI) should be administered in a follow-up procedure.

Later, Chason, Bullock-Yowell, Sampson, Lenz, and Reardon (2013) investigated the relationships among negative career thoughts, profile elevation, and differentiation scores on the Self-Directed Search, and the career decision state, including level of decidedness and satisfaction with choice. Participants were 226 undergraduate students enrolled in a career course. Measures included the Career Thoughts Inventory (CTI) for career thoughts, the Self-Directed Search (SDS) for profile elevation and differentiation, the Occupational Alternatives Question (OAQ) for career decidedness, and

the Satisfaction with Choice item for level of satisfaction with career choice. A series of multiple regression analyses were conducted to determine the amount of variance accounted for by negative career thoughts (i.e., decision-making confusion, commitment anxiety, and external conflict) in profile elevation, differentiation, career decidedness, and satisfaction with choice (two facets of the career decision state). Negative career thoughts were found to account for a significant amount of variance in profile elevation and two elements of the career decision state, career decidedness and satisfaction with choice. The findings suggested the need to fully explore negative thinking that interferes with clients making effective career decisions. The relationship between the CSI and the CTI is again supported in this study.

A third study by Bertoch, Reardon, Lenz, and Peterson (2014) examined goal instability in relation to career thoughts, the career decision state, and performance in a career course. Participants completed six instruments measuring the nature of goals, career thinking, occupational decision making, satisfaction with career choice, tension associated with career decisions, and a performance contract of course activities to be completed for a grade. When individuals are compelled to make career decisions in stressful times, several salient factors emerge that may bear on their motivation to engage in career exploration, namely (a) the degree of indecision or uncertainty with respect to a career choice, and (b) the extent of dissatisfaction with the choice. These two items were collectively referred to as the *career decision state* (CDS; Bullock-Yowell et al., 2011). In this study, another variable was added to the concept of CDS, specifically, the amount of tension or stress to make a decision connoting the extent of urgency or time pressure on individuals to make a decision. In addition to goal instability and negative career thoughts, the respective elements of the career decision state also conceptually relate to readiness for participation in career interventions such as career counseling or career courses.

Using bivariate correlations and multiple regression analyses, Bertoch et al. (2014) found that the degree of goal instability was directly related to negative career thoughts, dissatisfaction with career choice, career tension, and inversely related to classroom performance. Results of the analyses suggested that goal instability may serve as an initial global screening measure of readiness for career exploration in a classroom environment. Both elements of the career decision state, certainty and satisfaction, were associated with negative career thoughts (Bullock-Yowell et al., 2011).

Bullock-Yowell, Reed, Mohn, Galles, Peterson, and Reardon (2015) used Structural Equation Modeling to investigate the relationships among neuroticism, coping strategies, and negative career thoughts within the context of attaining a positive career decision state (CDS), being able to identify one

or more career options and being satisfied with a choice. Results from the initial model, utilizing a sample of 232 college students enrolled in a comprehensive career course, revealed that coping strategies were not a significant contribution to the model. The final model, without coping strategies, showed that neuroticism had a significant indirect effect on the CDS through negative thinking, and that the relationship between neuroticism and career decision state was also significant. Practical implications were presented to aid counselors in assisting clients with personality proclivities related to neuroticism in reaching a desired career decision state, namely by reducing their negative career thoughts. In terms of CIP theory, this can be done by using the *CTI Workbook* (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996) to reframe negative thinking into positive career thoughts.

Freeman, Lenz and Reardon (2017) used certainty about a career goal and satisfaction with that goal in a study of the career decision state (CDS) with 108 students in a career course. They examined the impact of a career course intervention on two factors, the students' CDS and their affective state. These two factors emerged from an Exploratory Factor Analysis using the Eigenvalue 1.0 Rule. The CDS was composed of the Occupational Alternatives Questionnaire and Satisfaction Question, and the affective state was composed of the Goal Instability Scale and Career Thoughts Inventory. Findings revealed that the career course positively affected both factors. At the end of the course, students indicated a more positive CDS with increased certainty and satisfaction, and had more positive motivation for goal setting, and less negative career thinking.

Edralin (2016) examined the career decision state, including career certainty, satisfaction, and clarity, with reference to career thoughts and profile elevation on the SDS. Data were obtained from 111 undergraduate students enrolled in a career course who completed the Career Thoughts Inventory (CTI), the Self-Directed Search (SDS), and the Career Decision State Survey (CDSS), a precursor to the CSI. Multiple regression analyses were conducted to determine the relationships of career decision state (i.e., career certainty, satisfaction with choice, and vocational clarity) with negative career thoughts (i.e., decision making confusion and commitment anxiety) and profile elevation. Findings revealed that career certainty and clarity were significantly related to the CTI's Decision-Making Confusion, and that clarity was also related to Commitment Anxiety. SDS profile elevation and CTI External Conflict were not related to CDSS results. These results suggest that the CSI taps into internal career confusion and anxiety in contrast to external confusion as measured by the CTI's External Conflict Scale.

Miller, Osborn, Sampson, Peterson and Reardon (2018) examined the impact of participation in a career course on 164 students' career decision state over four time periods. The repeated measures

MANOVA results indicated a significant multivariate effect for the career course, Wilks' Lambda = .68, $F(3, 158) = 25.06$, $p < .001$, partial $\eta^2 = .32$. Through inspection of the univariate tests after taking the course, students reported significantly lower OAQ (indicating higher career certainty or decidedness) scores, $F(3, 160) = 49.02$, $p < .001$, partial $\eta^2 = .24$; lower satisfaction scores (indicating higher career satisfaction), $F(3, 160) = 70.43$, $p < .001$, partial $\eta^2 = .31$; and lower clarity scores (indicating higher career clarity), $F(3, 160) = 113.60$, $p < .001$, partial $\eta^2 = .42$. This means that after taking the career course, students were significantly more decided in an occupational choice, more satisfied in that choice, and clearer about the career decision-making process. In other words, their CSI scores had positively changed in terms of career certainty or decidedness, satisfaction, and clarity. The effect sizes, .32, .24, .31, .42, were particularly noteworthy indicating the appreciable impact of the career course on all three elements of the career decision state.

Additional analyses compared students by lower division class standing (freshman, sophomore) to upper division (junior, senior). Results indicated there was a significant difference between lower division and upper division students in relation to all three career decision state dimensions. Lower division and upper division students were differentially influenced by the career course in regards to career decision state with lower division students being more significantly influenced by the career course in relation to certainty, satisfaction, and clarity. These results indicate that the CSI can be effective in measuring group outcomes with regard to the career decision state.

In another study of the career decision state (Leierer, Wilde, Peterson, & Reardon, 2016), undergraduate and graduate students enrolled in rehabilitation counselor education programs with varying degrees of commitment to a career goal in the field were examined. The Career Decision State Survey (CDSS) comprised of certainty, satisfaction, and clarity provided a snapshot of the student's career goals. The researchers found the CDSS was bi-dimensional, differentiated between undergraduate and graduate rehabilitation counseling students, and was associated with negative career thinking as measured by the CTI total score. Implications for using CDSS in the form of a brief questionnaire in student orientation or on-going advising and in future research were discussed.

Dozier, Osborn, Kronholz, Reardon, and Peterson (2019) examined the effects of the online Self-Directed Search (SDS; Holland & Messer, 2013) on the career decision state with 114 first- or second-year undergraduate students in English composition classes. The students were at three levels of career decision state or readiness for career decision making with 35 (30.7%) of the participants in the low group, 36 (31.6%) in the medium group, and 43 (37.7%) in the high readiness group. Results showed a

significant, positive impact of the online SDS with nonclient students who were in a low career decision state (high career uncertainty, high career dissatisfaction, low career clarity) regarding their career goals and aspirations.  Participants using the online SDS with CSI total scores in the 8 – 12 range (low readiness) exhibited significantly lower scores on the posttest as compared to the pretest on all three CSI components as well as the total score.  There were no significant pretest-posttest differences in any of the respective CSI components and total score in either the medium or high career decision state categories.  The respective treatment effect sizes (Cohen's *d,* Cohen, 1988) regarding the online SDS intervention indicate that the online SDS appears to have a considerable impact on the career decision state of individuals who began the intervention in the group with high states of uncertainty regarding career goals (ES = .59), dissatisfaction with their uncertainty (ES = .48), lacking clarity of goals (ES = .50), and total (ES = 1.14).  In an accompanying questionnaire, students in the medium and high CDS groups expressed positive attitudes toward taking the SDS through confirming their career goals and interests.

Osborn, Sides, and Brown (in 2020) examined Career State Inventory (CSI) results for 152 undergraduate students enrolled in career development courses and 47 students enrolled in undergraduate human relations courses.  Specific interactions outcomes between time and type of course were found for CSI total scores [$F(1,131) = 16.06$, $p < .0001$, $\eta_p^2 = .11$].  ANCOVA analysis revealed that there was a significant effect of course participation on career decision state after controlling for pretest means [$F(1,136) = 29.55$, $p < .0001$, $\eta_p^2 = .18$].  Students in the career courses had significant gains in the career decision state (CDS) as compared to those in the human relations courses.

Burbrink (2019) examined the relationship between dysfunctional career thinking using the Career Thoughts Inventory (CTI) and the career decision state using the Career State Inventory (CSI) with 262 students enrolled in an undergraduate career planning class.  The goal was to explore differences in the career thoughts and career decision state of two groups, student athletes (44) and non-student athletes (218).  Given the unequal numbers in the two groups and incomplete data from some participants, a final obtained sample size of 39 for both groups (78 total) was used in the study.  A one-way between-groups analysis of variance showed no statistically significant differences between student athlete and non-student athlete CTI and CSI scores.  For non-student athletes, multiple and linear regression analyses found significant relationships with Decision Making Confusion and CTI total scores predicting Certainty, Satisfaction, Clarity, and CSI total scores.  Moreover, Commitment Anxiety scores predicted CSI total scores and CSI Clarity for this group but not CSI Certainty and

Satisfaction.  For student athletes, multiple and linear regression analyses found significant relationships regarding DMC and CTI total scores predicting CSI Clarity.

Miller (2019) examined the impact over time of taking a career development course on the career decision state.  Specifically, this study sought to determine when students are likely to see the greatest changes in career decision state, as well as how students' negative career thinking can impact such changes.  The sample consisted of 151 undergraduate students participating in a career course that was theoretically informed by cognitive information processing theory (CIP; Sampson et al., 2004).  The Career State Inventory (CSI; Leierer et al., 2017) was used to measure students' career decision state at the beginning of the course and after each course unit .  A repeated-measures ANOVA found that students who indicated the greatest decrease in negative career thinking throughout the course also had the greatest changes towards a more positive career decision state.  These results show how the CDS and negative career thoughts covary across time.

Finally, Dozier, Peterson, and Reardon (2020) examined the career decision state (CDS) in relation to RIASEC profiles produced by the online SDS Form R Fifth Edition (Holland & Messer, 2013).  Three dimensions of CDS measured by the Career State Inventory (CSI; certainty, satisfaction, and clarity) were examined as predictors of RIASEC primary constructs (six personality types) and six secondary constructs (consistency, congruence, commonness, profile elevation, coherence of aspirations, and differentiation) among college students enrolled in English composition classes.  Significant, albeit modest, zero-order correlations ($p < .05$) emerged between clarity and three secondary RIASEC constructs of consistency, commonness, and coherence.  Results of regression analyses indicated that the three CSI dimensions together did not predict any of the RIASEC primary constructs; however, they did predict one secondary construct, commonness.  Implications for use of the CSI and the SDS in facilitating career decision making suggested that an assessment of career interests can occur in parallel with treatment of negative career thoughts as indicated by elevated CSI scores.

**Summary of Research Implications**

What have we learned from these 13 studies about the CSI; i.e., career certainty, satisfaction, and clarity?

**Bullock et al. (2011)**.  Found that life/career stress was related to higher negative career thoughts and less to career certainty and satisfaction.

**Chason et al. (2013).**  Found negative career thoughts accounted for lower career certainty and satisfaction.

**Bertoch et al. (2014).**  Found that career certainty and satisfaction were related to positive career thoughts.

**Bullock et al. (2015).**  Found that neuroticism had an indirect effect on the career decision state through negative career thinking, and that there was a relationship between neuroticism and career state (career uncertainty and dissatisfaction).

**Freeman et al. (2017).**  Found that students were more certain and satisfied with their career decision state after completing a career course.

**Edralin (2016).**  Found career certainty and clarity were related to Decision Making Confusion (CTI), and clarity was also related to Commitment Anxiety (CTI).

**Miller et al. (2018).**  Found a career course led to more career certainty, satisfaction and clarity; in addition, lower division students were more impacted by the career course in relation to certainty, satisfaction, and clarity than upper division students.

**Leierer et al. (2016.**  Found that undergraduate and graduate rehabilitation counseling students had different career decision state profiles regarding certainty, satisfaction, and clarity.

**Dozier et al. (2019).**  Found that students at three levels of a career decision state (low, medium, high) using the online SDS had differential results three weeks after taking the SDS and reading the report; this was most impactful on the low readiness (poor decision state) group (students with high career uncertainty, high dissatisfaction, and lacking career clarity); there were no significant differences in pre/post scores for medium and high readiness student groups.

**Osborn et al. (2020).**  Found the career decision state of students before and after taking a career course had gains in career certainty, satisfaction and clarity, whereas students in a human relations course did not.

**Burbrink (2019).**  Found significant relationships with DMC and CTI total scores predicting Certainty, Satisfaction, Clarity, and CSI total scores with college students; found Commitment Anxiety scores could predict CSI total scores and CSI Clarity but not CSI Certainty and Satisfaction. Additionally, multiple and linear regression analyses found significant relationships regarding DMC and CTI total scores predicting Clarity with student athletes, but External Conflict did not predict CSI total scores or any of the three CSI components.

**Miller (2019).**  Assessed the career decision state at the outset of a career planning class and at the end of three course units over the 16-week semester; found CSI scores related to CTI scores, and CSI scores were more positive after each class unit than the previous one.

**Dozier et al. (2020 in press)**.  Found some modest relationships between CSI clarity and three secondary RIASEC constructs of consistency, commonness, and coherence.

In general, these findings reveal that when group CSI mean scores are used as a measure of the career decision state, the scores are highly correlated with career thinking as measured by the Career Thoughts Inventory.  In addition, the CSI as a state measure is highly sensitive to the effects of career interventions, but not to RIASEC personality characteristics assessed by the SDS, a trait measure.

### CSI Projects Ongoing

A number of demonstration projects and research studies currently underway are listed here with very brief summaries.  The next edition of the *CSI Manual* will update progress with these activities and others.

1. J. Sampson—revision of the CSI (career certainty item) for use with school students in Ireland; revised instrument titled *CSI-Subject Choices in Ireland*; project now on hold.

2. E. Stallings—analysis of the CSI career decision state profile of students in brief staff-assisted career services in the FSU Career Center; do CSI results differ relative to the career services sought; are there trends over time in CSI results during the semester.  Data collected.

3. G. Peterson, C. Dozier, & R. Reardon—relationship between the CSI and PHQ-9 (Patient Health Questionnaire-9) documenting the relationship of CSI scores and a measure of depression at the outset of a career intervention.

4. E. Bullock-Yowell & Wright—The influence of social class on career decision making; CSI is one observed variable of career decision making in a structural equation model-based analysis; found CSI is individually correlated with self-efficacy; SES was a significant predictor of career decision making in the model. Wright, B. J., Bullock-Yowell, E., Mohn, R. S., & Horn, A. Q. (submitted). The influence of social class on career decision-making. *Journal of Career Development.*

5. E. Bullock-Yowell, Leuty, et al.—career decision state and other outcomes of a CIP-based group career counseling intervention with 50 drop-out risk sophomores at the University of Southern Mississippi.

6. S. Hayden & D. Osborn—relationship between elements of the career decision state, dysfunctional career thoughts, and worry.

7. C. Hughes—linking CSI scores to Grow Careers, career intervention materials for use in Australian schools.

8. S. Christiansen—using CSI in career course evaluation, 2020, Arizona State University.

9. S. Leierer—CSI/CTI data for mental health and career counseling students in a class; MH 20-25 CSI's Time 1, time 2, time 3; CC 20-25 CTIs Time 1, time 3; 10-20 autobiographical case studies.

10. A. Miller et al.—tracking three CSI dimensions over time in a career planning class.

11. R. Coleman—use of the CSI in graduate student services, Duke University Career Center.

## Reliability and Validity of the CSI

### Reliability

Reliability of the CSI alludes to internal consistency or the precision of scores associated with the overall career decision state at the time the measure is administered. Combining data across several studies reviewed earlier in this *Manual* ($n$ = 425), this 3-item scale (uncertainty, satisfaction, and clarity) possessed a Cronbach alpha of $r$ = .74, inter-item correlations of .63 (OAQ/SAT), .36 (OAQ/Clarity), and .59 (SAT/Clarity). Thus, this scale possesses an acceptable level of commonality across the items as well as independence among them. This measure may also be considered as producing normally distributed scores in college student populations with mean = 6.21, SD = 2.45, median = 6.00, skew = -.004, and kurtosis = 1.33. The standard error of measure (SEM) = 0.12.

We do not report stability or test-retest coefficients since the CSI is designed as a *state measure* as opposed to a *trait measure*. To reiterate, the CSI is a snapshot of one's state of consciousness regarding one's career goals in the moment along three dimensions (certainty, satisfaction, and clarity) and a total score. Further, as an aspect of stability, we also believe the CSI is very sensitive to developmental events that might alter the career decision state in either direction. For example, McClain (2016) administered the CSI twice with a three-week interval to 44 students in an undergraduate psychology class. No career intervention was associated with the class. At the time of the second administration, she also asked students to indicate whether or not they had visited the career center or seen their academic advisor in the past three weeks and 16 of the 44 (36%) had done so. Appendix D shows that students going to career services appear to have been stimulated by the CSI, to have become more conscious and aware of their career decision state. Perhaps the CSI items reified their career decision situation, triggered a schema or mental framework for career thinking, and increased the students' awareness of a state of being regarding their career aspirations. Moreover, this increased level of consciousness might have had a direct effect on the 16 students going to the career

services office to discuss their career situation.  Thus, merely taking the CSI may be considered an intervention in its own right.

Dozier, Osborn, Kronholz, Reardon and Peterson (2019) found that certainty, satisfaction, and clarity could be treated as independent variables with correlations among them, $r$ = .575, .350 and .562, respectively, on the CSI.  Osborn, Sides, and Brown (2020) reported a stability coefficient for the CSI with 32 students in a 17-week human relations class without a career intervention as $r$ = .741, $p$ < 0001. The CSI pretest was $M$ = 5.77 ($SD$ = 2.47), and CSI posttest was $M$ = 5.85 ($SD$ = 2.60).

**Validity**

**Canonical Correlation between the CSI and CTI.**  An earlier multiple regression analysis revealed that the three dimensions of the CSI significantly predicted the CTI total score, $R^2$ = .34, $p$ < .001 (Leierer, et al., 2016).  In this case the three CSI dimensions were correlated with a single dependent variable.  In a canonical correlation analysis by the authors, the three CSI dimensions were correlated with three CTI dimensions to ascertain a more detailed analysis of the relationship between the two instruments.  In this analysis the six variables (3 CSI + 3 CTI) were loaded on a canonical root to observe their respective contributions to the variance of the root, much like in a factor analysis.  The resultant loadings provide a multivariate picture of the relationships among the contributing variables to the root.  In the authors' canonical study, a convenience sample of 373 students was obtained from East Carolina University in which there were 73.5 % females and 26.5 % males; 48.0% white, 32.4% black, 15.1% Hispanic, and 4.5% other; and 56.0% lower division, 41.5% upper division and 2.5% graduate. The results revealed two significant roots, the first Wilks = .526, $p$ < .001, and the second, Wilks = .972, $p$ = .036.  All six variables loaded (loadings > .350) on the first root, with Certainty = .623, Satisfaction = .753, Clarity = .916, DMC = .952, CA = .921, and EC = .648.  Only one variable loaded on the second root, Certainty = .626.

These loadings suggest some notable aspects of the relationship between the CSI and CTI which we examine in the next paragraphs.  First, the Career Certainty variable (OAQ) appears to be different from the other five.  In this instance, one must be mindful that the OAQ is a unique kind of item.  It requires individuals to *generate* a response in which they develop a short list of occupations that they are currently considering and then to select a first choice, often a demanding cognitive task.  In contrast, the remaining five variables are considered *respondent* items in which individuals respond to a five-point Likert type scale in the CSI satisfaction item, to a True-False scale on the CSI clarity items, and to a four-point Likert type scales on the items comprising the three CTI scales, DMC, CA, and EC.

Respondent items comprise a different and lesser demanding cognitive task as compared to generative items like the OAQ.

Second, the CSI's clarity variable and the CTI's DMC and CA variables share much variation in common with loadings all above .900. This result suggests that these variables entail strong emotions associated with the Career Decision State (CDS), namely self- confidence or self-efficacy in making a choice (clarity), depression, negative thinking about self and occupations (DMC, decision making confusion), and state anxiety about the possibility of implementing a first choice (CA, commitment anxiety).

Third, EC (external conflict) shares less variation in common with the CSI variables and the CTI's DMC and CA variables with a loading of .648 on the first root. This finding suggests that the variables satisfaction, clarity, DMC and CA relate to internal affective components of the Career Decision State regarding cognitive confusion about a choice, whereas EC pertains to external factors involving relationships with significant others involved in an individual's career choice. Therefore, the canonical loadings in this analysis underscore the cognitive dimension of the career decision state in responding to the OAQ, as well as affective dimensions in satisfaction and clarity, with clarity linked to three powerful emotions, self-confidence (or lack of it), depression, and anxiety.

In terms of concurrent or convergent validity, according to several studies reviewed earlier, all three CSI dimensions, certainty, satisfaction, and clarity were significantly associated with CTI scores. In a recent aggregation of the data from such studies reported above ($N = 373$), the CSI total score was significantly ($p < .001$) related to the CTI total score, $r = .63$, DMC, $r = .63$, CA, $r = .60$, and EC, $r = .42$. Further, Leierer et al. (2016) found vocational clarity scores were significantly related to MVS Vocational Identity scores ($r = .72, p < .001$). Thus, the CSI's vocational clarity subscale can be viewed as an abbreviated measure (3 items) of the MVS Vocational Identity Scale (18 items). Moreover, in terms of criterion-related validity, the dimensions of certainty and vocational clarity significantly ($p < .05$) differentiated students enrolled in undergraduate rehabilitation programs from students enrolled in graduate rehabilitation programs, as well as lower division and upper division students in a career development course. In terms of discriminant validity, CSI scores were unrelated to SDS scores and did not differentiate between student vs. nonstudent athletes. They were, however, related to upper division vs. lower division students indicating the possibility that CSI scores may be influenced by age or career maturity.

**Factor Analysis of the Career State Inventory (CSI)**

Thus far, the CSI's individual variables (certainty, satisfaction, and clarity) have been investigated in relation to an external criterion variable (e.g., Career Thoughts Inventory total scores) with the results indicating that all three variables capture significant variation in the prediction of the criterion variable. However, an exploratory factor analysis procedure investigates only the relationships of these individual variables to one another producing a different picture of the Career Decision State construct. The three CSI variables were subjected to a principal components analysis with oblique rotation since the variables are intercorrelated with each other to some degree. Pearson correlations among the three variables, certainty vs. satisfaction, $r = .571$; certainty vs. clarity, $r = .362$; and satisfaction vs. clarity, $r = .626$, were all significant $p < .001$. A convenience sample of 481 was used by the authors to conduct this investigation.

The factor analysis results indicated that one significant factor (eigenvalue > 1.0) emerged with an eigenvalue of 2.047, which explained 68.2% of the variance in the correlation matrix. The respective pattern matrix factor loadings were clarity = .997, satisfaction with choice = .644, and certainty of choice = -.016. Thus, clarity appears to function as the principal entity of the career decision state construct followed by satisfaction with choice second. Certainty failed to load on the one significant factor and, again, appears to function somewhat independently from satisfaction and clarity.

The interpretation of the factor loadings on the first principal component suggests that the career decision state construct, as measured by the CSI, is heavily influenced by two prominent emotions, self-confidence in oneself as career decision maker and satisfaction with the choice, i.e., degree of career certainty. Further, the clarity dimension alludes directly to the Executive Processing domain of the Pyramid of Information Processing in CIP theory which governs the lower-order domains in the execution of career problem solving and decision making.

Therefore, in order to enhance readiness for effective career decision making and alleviate the condition of high scores on the CSI, practitioners should address any TRUE responses to the CSI's three career clarity questions. Each statement endorsed as TRUE could be explored through cognitive-behavioral and/or mindfulness counseling procedures. The changing of TRUE statements to FALSE ones would, indeed, be a rich topic of research going forward in the use of the CSI in career counseling.

## CSI Use and Interpretive Guide

In this section we discuss low, middle, and high scores on the CSI Profile in terms of CIP theory and career decision-making readiness for potential career interventions.

**Low scores**.  Low total scores (2 - 4) on the 11-point overall Career State Inventory (CSI) profile along with low scores on each of the three dimensions, e.g., 1 on OAQ, 1 on Satisfaction and 0 on Vocational Clarity, indicate a high state of readiness and suggest individuals' focused on career goals, well satisfied with their choices, and self-confident in their choices.  A score in this range may well indicate an individual is at the Valuing or Execution phases of the CASVE Cycle where one has recently arrived at a first choice and is seeking confirmation, or is ready to implement a choice.  A person scoring in this range would be a likely candidate for self-help career services, and perhaps brief-staff assisted services (Sampson et al., 2004) as one moves toward executing a first choice.

**Midrange scores**.  For scores ranging from 5 - 9, the question is asked, "What is a minimum score (or "cut score") in which the administration of follow-up assessments, e.g., CTI and/or DSW, is recommended?"  On the basis of linear regression analysis of extant data from combined studies ($n =$ 373), a score of 8 on the CSI total scale predicts a CTI total score of 60.  We believe this CTI score (1 SD above the mean or 84th percentile) represents a moderate level of negative thinking about career choice and deserves attention before moving on to the Analysis or Synthesis phases of the CASVE Cycle.  However, taking the standard error of estimate (SEE = 19.4) of the prediction formula [CTI-Total = 15.24 + (CSI *5.63)] into consideration, we believe a CSI *total score of 6* is worthy of further inquiry to reduce the likelihood of false negatives (i.e., those individuals with slightly lower CSI total scores, but moderate to severe negative career thoughts).  Persons scoring in this range on the CSI would be likely to have a CTI total score of 49 and benefit from brief staff-assisted career services.  For clients earning scores in this range, we emphasize noting any differences among certainty, satisfaction, and clarity in a practitioner interview.  Is any dimension appreciably higher or lower than others?  Wide differences suggest that further assessment may be in order.

**High scores**.  Higher total scores on the overall CSI (10 – 12) as well as high scores on the three respective dimensions, e.g., 3 on the OAQ Career Certainty Scale, 3 - 5 on the Satisfaction Scale, or the endorsement of 2 or 3 items as True on the Career Clarity Scale, suggest individuals who are highly uncertain or even frozen regarding a career goal, very dissatisfied with their career decision state, and experiencing considerable confusion and lack of self-confidence in making a choice.  A score in this range may indicate that the individual is at the Communication phase of the CASVE Cycle and still getting "in touch" with all elements related to the career problem.  Furthermore, an individual who earns high scores may be in a low state of readiness for effective career decision making or for matriculating in a career-related training program (Leierer et al., 2016).  A discussion of responses to CSI items in an

intake interview would be appropriate to learn more about the history and circumstances leading to the CSI results. In such cases, further readiness assessment may be warranted such as administering the Career Thoughts Inventory (CTI; Sampson, Peterson, Lenz, Reardon, & Saunders, 1998) as a measure of capability for career decision making, or the Decision Space Worksheet (DSW; Peterson et al., 2009-10) to assess the complexity of an individual's decision context. We advocate that higher scores on any of the three individual dimensions warrant serious consideration of further diagnostic assessment and the likelihood of an individual case-managed career intervention.

**Interrelationships among Scores.** A practitioner can use the CSI to measure of a person's career decision state at a moment in time and glean a variety of state indicators from inspection of the results.

- First, the client may have scored low on career certainty indicating a first choice or first choice and options, but may also have written or marked "undecided" in the blank. This presents the practitioner with an opportunity to explore with the client why the higher level of certainty seems to be weakened in some way with the response "undecided" written on the form.

- Second, the practitioner may examine the level of satisfaction in relation to the level of certainty, especially if the score on certainty is low (i.e., 1 or 2) and the level of satisfaction is 3 or higher. There is probably an interesting narrative the client can provide regarding this discrepancy that may provide useful information about the client's career decision state.

- Finally, as noted above, we believe that any item marked TRUE on the career clarity dimension warrants further exploration by the practitioner because of the possibility of negative affect, i.e., self-doubts, anxiety, associated with the career decision state.

## Possible Uses of the CSI

The CSI could be used as a screening instrument for clients seeking career assistance to discover whether further diagnostic readiness assessment would be in order. The CSI may be administered on a client intake form along with other routine background information. Higher total scores on the CSI or any of the three individual CSI dimensions may alert a practitioner to the possibility of important personal or contextual issues associated with a presenting career problem that may impede effective career decision making. CSI scores are associated with all three dimensions of the CTI. In addition to identifying negative career thoughts, elevated CTI scores are associated with anxiety, depression, low vocational identity, locus of control, and general psychological adjustment. Therefore, the CTI is considered a useful follow-up instrument to the CSI along with the Decision Space Worksheet.

To illustrate how the CSI might be used in practice, it was administered to 62 clients referred by practitioners for more intensive individual case-managed career services (Sampson et al., 2004). The client scores are shown below. The majority of clients had mid-range scores, ranging from 5 to 9 (61.2%). As noted earlier, we believe a CSI *total score of 6* is worthy of further inquiry to reduce the likelihood of false negatives (i.e., those individuals with slightly lower CSI total scores, but moderate to severe negative career thoughts). A large percentage of the referrals ($n = 22$; 35.5%) had high CSI scores, ranging from 10 to 12, indicating a poor career decision state and, therefore, were considered good candidates for more thorough career interventions. Two referrals had low scores 2 to 4 (3.2%), indicating a strong career decision state, and thus were considered likely candidates for self-help or brief staff-assisted career services (Sampson et al., 2004).

Table 1. CSI Frequencies and Percentages for 62 Individuals in Case-Managed Career Services

|  | Frequency | Percent |
| --- | --- | --- |
| High Scores (10-12) Poor CDS | 22 | 35.5% |
| Midrange Scores (5-9) Further assessment | 38 | 61.2% |
| Low Scores (2-4) Strong CDS | 2 | 3.2% |

The CSI could also be used as a measure of readiness for matriculation to a program of study administered at orientation to ascertain the degree of certainty, satisfaction, and confidence in embarking on a career-related training program. The CSI may also be administered routinely in academic advising throughout a student's tenure in the program to ascertain whether there are changes in certainty and/or commitment to a career goal.

The CSI could also be used as an evaluation measure in career counseling or another career intervention to assess changes in the career decision state. For example, the CSI could be administered in a pretest-posttest manner in relation to a career course or another career intervention.

Finally, the CSI could be used as a recurring indication of readiness for career problem solving and decision making in a continuing fashion to measure progression toward a more positive career

decision state, much like the thermometer can be used to measure body temperature for someone being treated for a fever.  Repeated measures can also be used to track progress along the CASVE Cycle. Higher scores may indicative of someone at the Communication phase of the cycle, i.e., getting in touch with capability and complexity of readiness, whereas low scores may suggest someone at the Execution phase, i.e., ready to implement a choice.

## Summary

This *CSI Manual Second Edition* described the purpose of the Career State Inventory (originally named the Career Decision State Survey (CDSS)) as an assessment of an individual's readiness for career problem solving and decision making or engaging in a program of study for career development. The CSI consists of five questions measuring three dimensions of the career decision state: (1) certainty, (2) satisfaction, and (3) clarity.  The CSI can be administered in the form of a brief independent survey or the questions can be unobtrusively embedded in an intake form for career counseling.  This *Manual* can assist practitioners in understanding the CSI's conceptual and research background, alternatives for administering it, and using the results to further the career counseling or advising processes.

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**Appendix A**

**Three CSI Case Studies**

In this appendix we illustrate use of CSI scores as a screening tool to assess the career decision state of three clients in varied situations, along with an analysis of each case in terms of the context and the practitioner's perspective on an intervention.

## Anne: CSI results: Certainty = 2, Satisfaction = 2, Clarity = 0, Total = 4

**Context.** Anne, a 19-year old college sophomore, came to the career center for assistance in finding information about career options related to her major in exercise science. On the CSI, she indicated past considerations of physical therapist or physician's assistant but no first choice. She appeared confident in her self-knowledge, her ability to make educational and career plans, and was eager to engage the career advising process.

**Intervention**. The CSI scores, especially Clarity = 0 and Total = 4, suggested that Anne might be a candidate for self-help services, and the career advisor heard nothing in the brief interview that contradicted this screening process. There was no indication of complexity affecting her career decision making and the career advisor theorized that Anne was in the Synthesis Crystallization phase of the CASVE Cycle (Sampson et al., 2004) needing to explore career information to narrow her options. The practitioner suggested that Anne examine the RIASEC hexagon (Holland, 1997) and rank the descriptions of the six types. She quickly identified the Social, Artistic, and Investigative (SAI) types as most like her. As a result, the advisor showed Anne the Occupations Finder (Holland & Messer, 2013) in order to explore occupations and majors related to the combinations of the SAI code. In a few moments, Anne saw the occupational title (art therapist) and asked for more information. The career advisor showed her how to use O*NET and Anne later found that art therapy was a major at the university.

**Initial Outcome.** Eager to explore more information about this new career option, Anne thanked the career advisor for her assistance. She indicated that her career planning needs were fulfilled for now and that she would return to the career center if needed. Readers wanting more information about this case can read the article by Kronholz (2015).

## Jaquez: CSI results: Certainty = 3, Satisfaction = 3, Clarity = 3, Total = 9

**Context.** Jaquez, a 21-year old first-year graduate student in biological mathematics, came to the career center for career planning assistance. He indicated being very undecided and anxious about his future. As an undergraduate math major, he had always found the subject easy and he obtained a good graduate assistantship to support his education. But he wondered if he was missing some other options, and had listed mathematician, exercise physiologist, sports performance manager/analyst, and lecturer on the CSI as other considerations. He was interested in taking assessments that might help him in career planning.

**Intervention.** The practitioner noted that Jaquez had marked all three Clarity items as true, and his Total score of 9 indicated he was a possible candidate for individual case-managed assistance. The career advisor theorized that Jaquez was in the Communication phase of the CASVE Cycle (Sampson et al., 2004). As a result, the practitioner suggested that Jaquez complete the Career Thoughts Inventory (Sampson, Peterson, Lenz, Reardon, Saunders, 1996) and the Self-Directed Search (Holland & Messer, 2013) before leaving the career center. A follow-up individual counseling appointment was scheduled for the next day.

**Initial Outcome.** The CTI results confirmed the high CSI scores for Jaquez: CTI Total score 76 (92nd percentile for college students), Decision-Making Confusion 22 (93rd percentile), Commitment Anxiety 25 (99th percentile), External Conflict 1 (14th percentile). These CTI scores indicated the presence of negative career thoughts that would impede effective career decision making, and the counselor provided a copy of the CTI

Workbook (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996) for use in future counseling sessions. Together, they would seek to reframe troublesome negative thinking in order to improve career planning. There was no indication of complexity affecting Jacquez's career decision-making readiness. The SDS results revealed a Summary Code of SIA and an Aspirations Summary Code of SEI. In addition, the scores on all secondary constructs (Congruence, Coherence, Consistency, Profile Elevation, Differentiation, Commonness) were in the average range (Reardon & Lenz, 2015). Jaquez was relieved to see that his interests and preferences had common characteristics in the Social, Investigative, and Artistic areas, along with the Enterprising area. These four areas were adjacent on the RIASEC Hexagon (Reardon & Lenz, 2015) and congruent with occupational aspirations that he had not previously understood. This information reduced his level of uncertainty and increased his level of satisfaction regarding his career options.

## Ari: CSI results: Certainty = 3, Satisfaction = 5, Clarity = 2, Total = 10

**Context.** Ari is a sixth-year senior who has changed her major several times. She came to the career center to explore options. On the CSI, she listed zoologist, veterinarian, nurse, artist, occupational therapist, and speech therapist. During the initial interview, the practitioner learned that in high school she planned to become a pediatric nurse, but two "weed-out" college nursing classes changed her mind. As a sophomore, she became a fine arts major but was not comfortable discussing this with her friends and family. Their advice was confusing and maybe contradictory: "Do what you love and the money will follow," and "Make sure you chose a career that pays well so you have financial independence." She was torn between interesting work that does not pay well and uninteresting work that provides income and stability. She indicated that her biggest mistake was forgetting to learn about herself.

**Intervention.** The practitioner noted that Ari had a score of 10 on the CSI indicating she was a possible candidate for individual case-managed assistance. The practitioner theorized that Ari was in the Communication phase of the CASVE Cycle (Sampson et al., 2004) with probable complexity issues affecting her career planning. Ari marked two clarity items, "Making up my mind about a career has been a long and difficult problem for me," and "I am confused about the whole problem of deciding on a career." As a result, the practitioner suggested that Ari complete the CTI and return for individual counseling. The counselor also made a note in the record that Ari should complete the Career Decision Space Worksheet (CDSW; Peterson, Leasure, Carr, & Lenz, 2009-2010) that would enable Ari and the practitioner to create a cognitive map of the elements in her career problem space and the relative influence of each.

**Initial Outcome.** The CTI results confirmed the CSI scores for Ari: CTI Total score 78 (93rd percentile for college students), Decision-Making Confusion 19 (86th percentile), Commitment Anxiety 27 (> 99th percentile), and External Conflict 6 (88th percentile). The CSI information related to Ari's levels of certainty, satisfaction, and clarity provided some initial interview topics for discussion of Ari's situation and the opportunity to explore these matters further with the practitioner. Ari was pleased that she had made the decision to come to the career center and was hopeful that she could achieve a more positive career state as a result.

Appendix B CSI Professional Version

# Career State Inventory (CSI)*

## Professional Version 8.0

### Florida State University

Stephen J. Leierer, PhD; Gary W. Peterson, PhD; Robert C. Reardon, PhD; Debra S. Osborn, PhD

Name_____ Date_____

1. List all occupations you are considering right now.

   _____          _____

   _____          _____

   _____          _____

   Which occupation is your first choice?  If undecided, write "undecided."

   _____          _____

                                                                     CERT (1 – 4)

2. How well satisfied are you with your responses to No. 1 above?  Place a check next to the appropriate statement below:

   ____Very satisfied
   ____Satisfied
   ____Not sure
   ____Dissatisfied
   ____Very dissatisfied                                             _____
                                                                     SATI (1 – 5)

3. Please circle True (T) or False (F) to the statements below

   a.  T   F    If I had to make an occupational choice right now, I'm afraid I would make a bad choice.
   b.  T   F    Making up my mind about a career has been a long and difficult problem for me.
   c.  T   F    I am confused about the whole problem of deciding on a career.

                                                                     _____
                                                                     CLAR (0 – 3)


                                                                     _____
                                                                     TOTAL (2 – 12)

## Overall Career Decision State Profile

---

### Total Scoring Range 2 – 12

| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|----|----|----|
|   |   |   |   |   |   |   |   |    |    |    |

| Goal-directed | Uncertain | Frozen |
| Satisfied | Doubts | Dissatisfied |
| Confident | Tentative | Confused |

### Scoring Key

**Certainty** (1 – 4)

   1 = First choice only
   2 = First choice plus alternatives
   3 = Alternatives only
   4 = No options or blank
   *Practitioners can score an "underlined undecided" OAQ response in two ways.  If the respondent listed just*
*alternatives and wrote "undecided" in the space provided indicating no first choice that would be scored a 3.  If*
*someone writes the word "undecided" with nothing else that would be scored a 4.  In each instance, the*
*practitioner can explore the story behind the "undecided" response.*

**Satisfaction** (1 – 5)

   1 = Very satisfied, 2 = Satisfied, 3 = Not sure, 4 = Dissatisfied, 5 = Very dissatisfied

**Clarity** (0 – 3)

   One point for each TRUE response.  All FALSE = 0, All TRUE = 3.

**Total Career Decision State** (2 – 12)

   CSI Total Score = Subtotal Certainty + Subtotal Satisfaction + Subtotal Clarity

Appendix C CSI Participant Version

# CSI*

## Participant Version 8.0

Stephen J. Leierer, PhD; Gary W. Peterson, PhD; Robert C. Reardon, PhD; Debra S. Osborn, PhD

Name_____ Date_____

4.  List all occupations you are considering right now.

    _____        _____

    _____        _____

    _____        _____

    Which occupation is your first choice?  If undecided, write "undecided."

    _____    _____

                                                               CER (1 – 4)

5.  How well satisfied are you with your responses to No. 1 above?  Place a check next to the appropriate statement below:

    _____Very satisfied
    _____Satisfied
    _____Not sure
    _____Dissatisfied
    _____Very dissatisfied                     _____

                                           SAT (1 – 5)

6.  Please circle True (T) or False (F) to the statements below

d.  T  F    If I had to make an occupational choice right now, I'm afraid I would make a bad choice.
e.  T  F    Making up my mind about a career has been a long and difficult problem for me.
f.  T  F    I am confused about the whole problem of deciding on a career.

                                    _____
                                    CLA (0 – 3)

                                    _____
                                    TOT (2 – 12)

Appendix D

` Figure 3. Students visiting career services after completing CDSS