
The Relationship between the Career Decision State and Ambiguity Tolerance: Implications for Career Decision-Making Readiness

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Abstract

We undertook an exploratory study of the career decision state and the state of ambiguity tolerance with 107 university students enrolled in a career development class. Our purpose was to examine ways in which the concept of ambiguity tolerance might inform our understanding of the career decision state and career decision-making readiness. More specifically, we wanted to examine the relationships among four measures in the Career State Inventory (CSI), a measure of readiness for career decision-making, and the Ambiguity Aversion Scale score on the Career Decision Ambiguity Tolerance Scale (CDATS). We found that measures of the career decision state (i.e., career certainty, satisfaction, and clarity) were significantly related to career decision ambiguity tolerance with respect to the emotional discomfort or anxiety individuals feel when focused with unclear, complex, or unpredictable choices. Implications for further research and practice are discussed.

Keywords: ambiguity, uncertainty, decision-making, career, readiness

This study explored the relationship between the career decision state (Leierer et al., 2025)—a subjective state of being or momentary consciousness—regarding one’s career goals, and the tolerance of ambiguity (Xu & Tracey, 2014) in career decision-making. This matter has not been explored in previous research, and the authors have reason to believe that ambiguity tolerance can provide information about the nature of the career decision state of university students in a career planning class. In this section, we provide further information about the nature of career decisions, the career decision state, and the tolerance of ambiguity in career decision-making.

Reardon, Lenz, Dozier, Roark, and Hultman (2024) explained that career problems have common characteristics: (1) they can be defined in terms of a gap between what exists and what is wanted; (2) they are often complex and involve feelings; (3) they present ambiguous cues or signals; (4) the solution to career problems often involve multiple options, not just a single correct choice; (5) there is almost always some uncertainty about the outcome of the choice; and (6) a decision about a major career problem almost always leads to another set of problems that are not fully known beforehand. As a result, some people may become overwhelmed, confused, and anxious about career problems and making career decisions.

Sampson et al. (2023) described individual career decision-making readiness from a cognitive information processing theory perspective as removing the gap between a current career situation and a more desirable one. This gap may be complex and involve many factors: (a) self-knowledge, (b) the opinions of others, (c) the amount of information available, (d) rapid social and economic change, (e) multiple options for reaching a career goal, and (f) a choice that leads to future decisions. This study explores unexamined constructs of career decision state and ambiguity tolerance, leveraging a conceptually relevant and globally applicable sample to bridge career theory to practice.

Career Decision State (CDS)

The Career Decision State (CDS) may 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 (Leierer et al., 2025; Leierer et al., 2016). The career decision state is a person’s state of being or consciousness at any time during the decision-making process. When individuals seek career services or are about to engage in a career intervention, a key issue may be whether the person is *ready* to make an important career decision. Readiness is a component of cognitive information processing (CIP) theory (Sampson et al., 2023) that alludes to the extent of one’s preparation for deliberate and effortful career problem-solving and decision-making (Bullock-Yowell et al., 2015).

The concept of career decision state is tangentially related to the work of Spielberger et al. (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. State anxiety 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. 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. We view the career decision state as a state condition, a temporary condition, and not a trait condition.

Leierer et al. (2025) reviewed 14 studies examining the career decision state in relation to other career measures of interventions. In general, these findings revealed that when group Career State Inventory (CSI) mean scores were used as a measure of the career decision state, the scores were correlated with career thinking as measured by the Career Thoughts Inventory (CTI) (Sampson et al., 1996). For example, Bullock-Yowell et al. (2011) found that life/career stress was related to higher negative career thoughts and less to career certainty and satisfaction, and Chason et al. (2013) found negative career thoughts accounted for lower career certainty and satisfaction scores. In addition, the CSI as a state measure is highly sensitive to the effects of career interventions. For example, Osborn et al. (2020) found that students taking a career course had gains in career certainty, satisfaction, and clarity, while students in a human relations course did not. Miller et al. (2018) found that students in a career course improved their career decision state gaining more career certainty, satisfaction and clarity, and Dozier et al. (2019) found an improved career decision state for students taking the online Self-Directed Search (Holland & Messer, 2013).

Ambiguity Tolerance (AT)

The notion of Ambiguity Tolerance (AT) has a long history of research in psychology. For example, one of the first references to AT was published by Frenkel-Brunswik (1949) in the *American Psychologist*. Furnham and Ribchester (1995) noted that AT has attracted a steady stream of research since the early 1950s. They reviewed the literature on AT in psychology over a 40-year period and described it as the way an individual processes information about ambiguous situations when confronted by unfamiliar, complex, or incongruent clues. On the one hand, a person with low tolerance for ambiguity experiences stress, reacts prematurely, and avoids ambiguous stimuli. On the other hand, a person with high tolerance for ambiguity perceives ambiguous situations/stimuli as desirable, challenging, and interesting and neither denies nor distorts their complexity of incongruity.

The scattered and diffused AT literature described by Furnham and Ribchester (1995) now includes career decision-making after Xu and Tracey (2014) reported how AT could affect it. Xu and Tracey, in their study of 275 university students, proposed that people with lower ambiguity tolerance would have more anxiety in the career decision-making process because ambiguity or uncertainty is an inevitable and crucial part of career decision-making. As a result, such students would tend to have more career indecision or be undecided. The research results supported the significance of ambiguity tolerance with respect to career indecision, finding that it directly predicted general indecisiveness, dysfunctional beliefs, lack of information, and inconsistent information.

This brief review of the literature on the career decision state and ambiguity tolerance reveals that both address the matter of career decision-making with university students. Two instruments developed to measure these concepts, the CSI (Leierer et al., 2025) and the Career Decision Ambiguity Tolerance Scale (CDATS) (Xu & Tracey, 2014), were used in this study. Previous literature has not examined the relationship between career decision state and ambiguity tolerance, so this study provides new insights.

Purpose of the Study

Based on our literature review, we posed four research questions to examine the matter of the career decision state and ambiguity tolerance in career decision-making with university students in a career class: (1) What is the relationship between CSI-Total scores and CDATS-Aversion scores among students? (2) What is the relationship between CSI-Career Certainty scores and CDATS-Aversion scores among students? (3) What is

the relationship between CSI-Career Satisfaction scores and CDATS-Aversion scores among students? (4) What is the relationship between CSI-Career Clarity scores and CDATS-Aversion scores among students?

Method

Participants

A total of 107 undergraduate students enrolled in an undergraduate career development course at a large southeastern university participated in this study in the United States. Participants most often reported enrolling in the course to choose a major, select an occupation, or learn how to get a job after graduation (Reardon & Lenz, 2018). We suggest that these are typical issues in career decision-making for many university students. Participants were commonly referred to this course by faculty or academic and career advisors to assist in making decisions regarding career direction, selecting a major, and determining post-graduation plans.

Of the 107 participants, 50 identified as men (47%), 55 identified as women (51%), 1 identified as non-binary (1%), and 1 participant preferred not to answer (1%). Their ages ranged from 18 to 61 ($M = 21$). The racial/ethnic composition of the study showed that Caucasian/White participants made up the majority (53%), followed by African American/Black (15%), Hispanic (12%), and Asian (8%). The remaining participants represent various multiracial identities or other racial/ethnic groups, with a small percentage choosing “Prefer Not to Answer” (2%). Two individuals did not respond to this question. For class affiliation, students were distributed accordingly: 9% were first-year students, 20% were second-year students, 17% were third-year students, and 53% were fourth year students. (One participant [1%] identified as “Other.”)

The distribution of majors in the class reflected a diverse academic cross section of university enrolment, with students from social sciences, business, STEM, and exploratory majors. The seven largest groups came from Psychology (13%), Sports Management (8%), Political Science (6%), Criminology (5%), Finance (5%), International Affairs (4%), and Interdisciplinary Social Science (4%). Additionally, two majors with three students each (6%), eight majors with two students each (15%), and 31 majors with only one student (29%), further highlight the wide range of academic backgrounds represented in the course, underscoring its interdisciplinary appeal. Moreover, several students in the course were Undecided/Exploratory students (7%).

Measures

Career State Inventory (CSI)

The Career State Inventory (CSI) (Leierer et al., 2025) is a unique measure designed to provide information about career decision state. The Career State Inventory is a brief questionnaire that measures the career decision state (CDS) and assesses one’s readiness at a moment in time to undertake career decision-making with respect to three constructs: (a) certainty about a career goal, (b) satisfaction with that goal, and (c) vocational clarity or confidence in making a career decision. It is composed of three dimensions alluding to career certainty, satisfaction, and clarity. The CSI can be presented on a single page and typically takes no more than five minutes to complete and score. The instrument may be used at no charge by researchers and practitioners to study career behaviour and improve career services (Leierer et al., 2025).

Four scores are derived from administering the CSI—three component scores and a total score. The three components or dimensions of the career decision state 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 (Holland et al., 1993). Scores from the three dimensions are summed to provide a total CSI score ranging from 2 to 12. All three components of the CSI stem from early work by Holland and his associates in developing the Self-Directed Search (SDS) (Holland & Messer, 2013) and the My Vocational Situation (MVS) (Holland et al., 1993).

OAQ. The OAQ consists of two parts. Part 1 asks participants to list all the occupations they are considering right now. Part 2 asks participants to circle (or write in the space provided) the occupation that is their first choice (and if undecided, write “undecided”). The OAQ produces four scores:

- 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.

Additional details about advanced CSI scoring for the OAQ and its use in career counselling are provided in the *Manual* (Leierer et al., 2025).

Satisfaction Item. This measure asks the single question, “How well satisfied are you with your first choice?” and response scores on the Satisfaction Item are: 1 (*very satisfied*), 2 (*satisfied*), 3 (*not sure*), 4 (*dissatisfied*), and 5 (*very dissatisfied*).

Career Clarity. Three true-false items, drawn from the My Vocational Situation (MVS; Holland et al., 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).
- (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. 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.

Total Score

The continuum of the CSI profile ranges from being highly certain, satisfied, clear, and confident in one’s choice at one end (i.e., score 2–3), to being completely frozen, dissatisfied, confused, and lacking confidence in making a choice at the other end (i.e., score 11–12). Mid-range scores (i.e., score 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.

Reliability and Validity. Stability or test-retest coefficients are not reported for the CSI because it is designed as a *state measure* rather than a *trait measure*, and provides a snapshot of one’s current state of consciousness regarding career goals along three dimensions (i.e., certainty, satisfaction, and clarity) and a total score. Further, as an aspect of stability, we believe the CSI is very sensitive to developmental events in a short period of time (e.g., an hour) that might alter the assessed career decision state.

The CSI’s reliability 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, Leierer et al. (2025) reported that this 3-item scale (uncertainty, satisfaction, and clarity) possessed a Cronbach’s alpha of .74 and 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 and independence among them.

With respect to validity, multiple regression analysis revealed that the three dimensions of the CSI significantly predicted scores on the Career Thoughts Inventory (CTI) (Sampson et al, 1996) total score, $R^2 = .34$, $p < .001$ (Leierer et al., 2016). In terms of concurrent or convergent validity, Leierer et al. (2025)

reported that all three CSI dimensions, certainty, satisfaction, and clarity, were significantly associated with CTI scores.

For this study, the reliability of the CSI Total score scale was .72. The total score across the sample appears to conform to a normal distribution with $M = 5.45$, $Mdn = 5.00$, $SD = 2.33$, skewness = .54, kurtosis = -.68, and $SE = 0.23$. The bivariate correlations of the scale were all significant at $p < .001$: Certainty/Satisfaction, $r = .44$. Certainty/Clarity, $r = .40$, and Satisfaction/Clarity, $r = .61$.

Career Decision Ambiguity Tolerance Scale (CDATS)

Xu and Tracey (2015) constructed the CDATS based on Budner's (1962) tripartite model of ambiguity tolerance (i.e., tolerance for unfamiliar, complex, or inconsistent information). The career decision-ambiguity tolerance construct was defined as people's evaluations of and responses to unfamiliar, complex, or inconsistent information in career decision-making. Accordingly, individuals with high levels of career decision ambiguity tolerance tend to be comfortable with some of the unknown risks about the probability of an outcome encountered during the process of career decision-making and would find it interesting and even desirable. In contrast, individuals with low levels of career decision ambiguity tolerance tend to find the uncertain information in career decision-making to be anxiety-provoking. They would choose to avoid it or react prematurely.

The final 18-item CDATS developed by Xu and Tracey (2015) was used in this study. Item examples of the three factors include the following: Preference (e.g., "I am open to careers that I have never heard of or thought about"); Tolerance (e.g., "I am able to make a choice when multiple options seem equally appealing"); and Aversion (e.g., "I find it difficult to make career decisions as things cannot be predicted clearly"). Participants responded to each item using a 7-point Likert scale with a range of 1 (*strongly disagree*) to 7 (*strongly agree*).

The CDATS used in this study was composed of 18 items, with six items assessing each of the three subscales: Preference, Tolerance, and Aversion. Participants rated each item on a 7-point Likert scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). We scored the CDATS as follows: low scores on the CDATS Aversion scale indicated ambiguity tolerance in career decision-making and high scores on this scale indicated a lack of tolerance of ambiguity in career decision-making. In contrast, only high scores on the Preference and Tolerance scales indicated ambiguity tolerance in career-decision making.

The CDATS was developed and initially validated through two studies of college students at a large southwestern university (Xu & Tracey, 2015). The moderate correlations among these three factors indicate that career decision ambiguity tolerance is multi-dimensional and should not be viewed as a single factor or used as a total score; in other words, the scores on the three factors cannot be added to determine a total score. Therefore, career decision ambiguity tolerance is more nuanced than a simple construct and the three factors should be viewed separately. In this study, we used the six items from the Aversion scale to learn more about the career decision state in relation to the results of the CSI instrument. These six items are shown in Table 1.

Xu and Tracey (2015) developed the Career Decision Ambiguity Tolerance Scale (CDATS) that has demonstrated satisfactory performance in twenty validity and reliability studies.

Procedures

Students completed the survey instruments using Qualtrics in a procedure approved by the University Institutional Review Board (IRB), which ensures that research projects involving human subjects follow federal regulations. Students received some course credit for their participation in the research. Participants' demographic data were obtained from a self-report student data sheet distributed during the first week of class. The data sheet included self-reported information about gender, class, major, age, and racial/ethnic characteristics. Students were invited to complete the CSI and the CDATS via a Qualtrics survey on the first day of the class. They were told that the CSI and CDATS were questionnaires designed to help them begin thinking about their career goals and planning.

Table 1

CDATS Ambiguity Aversion Scale

Item	Statement
1	I try to avoid complicated career decision making tasks
2	I find it difficult to make career decisions as things cannot be predicted clearly
3	I am afraid of sorting out the complex aspects of a career
4	The career decision making process, which involves so many considerations, is just daunting
5	I try to avoid a career in which the prospects cannot be foreseen clearly
6	People's different or sometimes contradictory perspectives about a career make me uncomfortable

Note. Based on research by Xu, H., & Tracey, T. J. G. (2015). Items 1–6 load on the Aversion Factor of the Career Decision Ambiguity Tolerance Scale. Respondents use a Likert scale 1 (*Strongly Disagree*) to 7 (*Strongly Agree*) where low scores indicate more ambiguity tolerance in career decision-making.

Data Analysis

With the G*Power software, it was calculated that 105 participants were needed for the study. Preliminary estimates suggested that there were moderate to large effect sizes among the variables; therefore, the bivariate correlations were assumed to be greater than .30, the significance level was set at $\alpha = .01$, and the power was set at .80.

Results

Low scores on the CSI indicate readiness for career decision-making with respect to career certainty, satisfaction, and clarity or confidence. In a similar way, low scores on the CDATS Ambiguity Aversion Scale indicate tolerance for ambiguity and uncertainty in career decision-making. Some readers will find this counterintuitive because low scores are typically associated with poor and unsatisfactory performance. Analysis of the data in this study revealed that only the Ambiguity Aversion scale of the CDATS, not the Preference or Tolerance Scales, was related to scores on the CSI (See Table 2). As a result of this finding, this article focuses only on the results from the Aversion scale. The reliability of the Ambiguity Aversion score scale was .88.

Given the four correlations conducted in this study, a Bonferroni correction was applied to mitigate the increased risk of Type I error (false positives). To further enhance statistical rigour, we applied an even more conservative threshold of $p < .005$. These adjustments increased our confidence in the validity of our findings.

Table 2

Correlations of CSI and CDAT Scales

Scales	1	2	3	4	5	6
1. CDAT-Aversion	-----					
2. CSI-Total	.55***	-----				
3. CSI Certainty	.25*	.68***	-----			
4. CSI-Satisfaction	.46***	.85***	.44**	-----		
5. CSI-Clarity	.57***	.88***	.40**	.61***	-----	
6. CDATS-Preference	.11	.05	.15	.08	-.05	-----
7. CDATS-Tolerance	.02	-.15	-.02	-.11	-.20	.44***

Note. * $p < .05$; ** $p < .01$; *** $p < .001$

All four correlations between CSI scores and the Ambiguity Aversion score were statistically significant. Consequently, these relationships are more likely to reflect robust, meaningful associations rather than statistical artifacts.

Discussion

Our purpose in conducting this exploratory study was to examine ways in which the concept of ambiguity tolerance might inform our understanding of the career decision state and career decision-

making readiness. More specifically, we wanted to examine the relationships among four sections of the Career State Inventory (CSI), a measure of readiness for career decision-making, and scores on the Career Decision Ambiguity Tolerance Scale (CDATS). What did we learn? We found that only the CDATS Aversion Scale was significantly related to the four CSI measures and this is the focus of this discussion. Lower scores on these six items, indicating greater disagreement with the statements, reflected higher levels of tolerance for ambiguity and uncertainty in career decision-making.

Regarding the purposes of this study, our first question involved examining the correlation between CDATS-Aversion and CSI-Total scales ($r = .55, p < .001$) and the results suggest a strong association between ambiguity aversion and overall career decision-making difficulties as measured by the CSI. Given that higher CSI-Total scores indicate more complicated struggles with career readiness, certainty, satisfaction, and clarity, this finding may indicate that students who strongly agree with ambiguity aversion items on the CDATS experience heightened difficulties in multiple aspects of career decision-making. Conversely, those with lower scores (strongly disagree) on ambiguity aversion items demonstrate greater career readiness, confidence, and a desire to move forward in their career decision-making. The strength of this correlation suggests that Ambiguity Aversion is potentially a key factor in career decision-making because it provides insight into how an individual weighs career options with known probabilities against those with unknown or unspecified probabilities.

Our second question examined the relationship between CDATS-Aversion and CSI-Certainty ($r = .25, p = .004$). This finding indicated a weak to moderate positive relationship between ambiguity aversion and career certainty. Given that higher CSI-Certainty scores reflect less career certainty in career decision-making, this finding suggests that students who experience more Aversion to career ambiguity (higher scores) may be more uncertain about their career choices. Conversely, students with lower Aversion to ambiguity scores demonstrate greater certainty, reinforcing the notion that experiencing some ambiguity in the career decision process may contribute to more confidence about one's career choices. Although statistically significant, the strength of this relationship suggests that other factors likely influence career certainty beyond ambiguity aversion alone.

Our third question examined the relationship between CDAT-Aversion and CSI-Satisfaction ($r = .46, p < .001$). The results suggest a moderate to strong association between Ambiguity Aversion and Career Decision State Satisfaction in career decision-making. Students with lower Ambiguity Aversion scores tend to report lower CSI-satisfaction scores (i.e., less Ambiguity Aversion is associated with more satisfaction with one's career choices and decisions). In comparison, those with higher Ambiguity Aversion scores are likely to have higher CSI-satisfaction scores (i.e., less satisfaction with career decision-making). The strength of this correlation suggests that ambiguity aversion is a contributor to dissatisfaction in career decision-making. However, additional variables may further influence and shape this finding.

Finally, the strong positive correlation between CDAT-Aversion and CSI-Clarity ($r = .57, p < .001$) suggests that students having less discomfort with ambiguity tend to experience more clarity and confidence or certainty in their career decision-making process. Students with lower Aversion scores who are more tolerant of ambiguity are likely to experience greater clarity and confidence in their career choices, potentially allowing for more effective processing of career information and decision-making. Conversely, higher CDAT-Aversion scores are associated with higher CSI-Clarity scores, indicating that individuals who agree with ambiguity/aversion statements are more likely to feel lost, disorganized, or confused when making career decisions. Conversely, this finding draws attention to the significant relationship between ambiguity aversion and career clarity, suggesting that interventions aimed at decreasing the thoughts and emotions driving Ambiguity Aversion may enhance career decision-making clarity.

Implications for Practice and Research

Students enrolling in a university career planning class showed a more positive career decision state when they rejected negative items on the CDATS (i.e., strongly disagreed with items in Table 1). A future study might explore whether scores on the Aversion Scale could be even lower at the end of the class, given the instruction students received on career exploration, the labour market, job hunting, and career/employment

decision-making, as well as the course activities and assignments they completed that were designed to positively inform them about effective strategies for making career choices.

Students with strong aversion to ambiguity tolerance (i.e., strongly agreeing with items in Table 1) may need special assistance for career planning in response to uncertainty, anxiety, and rigid thinking. This might include interventions such as career counselling, cognitive restructuring, and mindfulness training related to cognitive information processing theory (Sampson et al., 2023).

Future studies and career interventions based on cognitive information processing theory (Sampson et al., 2023) might examine tolerance for ambiguity in terms of metacognitions, decision-making processes, and self- and options-knowledge. For example, ambiguity aversion may interfere with functions of the executive processing domain as individuals move through the CASVE Cycle career decision-making process.

Limitations and Future Directions

As the study sample was limited to 107 students enrolled at a single university, the generalizability of this study's findings is limited to other populations and universities. This exploratory study was based on a sample students enrolled in a career class at a southeastern university in the United States. This limits the generalizability of the findings of this study to career interventions with other populations and at other universities. In addition, the use of a correlational research design with data collected at a single point in time limits conclusions about implications of the findings.

Both the CSI and CDATS instruments were developed using college student samples. As such, additional research is required to determine their use on more varied and diverse population samples.

Conclusion

We undertook an exploratory study of the career decision state and the state of ambiguity tolerance with 107 university students enrolled in a career development class. Our purpose was to examine ways in which the concept of ambiguity tolerance might inform our understanding of the career decision state. More specifically, we wanted to examine the relationships among sections of the Career State Inventory (CSI), career certainty, satisfaction, and clarity, as a measure of readiness for career decision-making, and the Ambiguity Aversion Scale score on the Career Decision Ambiguity Tolerance Scale (CDATS). We found that four components of the career decision state and ambiguity tolerance were related with respect to the aversion of ambiguity tolerance. The strong positive correlation between CDAT-Aversion and the CSI components suggested that students having less discomfort with ambiguity tend to experience a more positive career decision state for career decision-making.

References

- Budner, S. (1962). Intolerance of ambiguity as a personality variable. *Journal of Personality*, 30(1), 29–50. <https://doi.org/10.1111/j.1467-6494.1962.tb02303.x>
- Bullock-Yowell, E., Peterson, G. W., Wright, L. K., Reardon, R. C., & Mohn, R. S. (2011). The contribution of self-efficacy in assessing interests using the Self-Directed Search. *Journal of Counseling & Development*, 89(4), 470–478. <https://doi.org/10.1002/j.1556-6676.2011.tb02844.x>
- Bullock-Yowell, E., Reed, C. A., Mohn, R. S., Galles, J., Peterson, G. W., & Reardon, R. C. (2015). Neuroticism, negative thinking, and coping with respect to career decision state. *The Career Development Quarterly*, 63(4), 333–347. <https://doi.org/10.1002/cdq.12032>
- Chason, A. K., Bullock-Yowell, E., Sampson, J. P., Jr., Lenz, J. G., & Reardon, R. C. (2013). Relationships among career thoughts, career interests, and career decision state. *Canadian Journal of Career Development*, 12(1), 39–47. <https://doi.org/10.82396/cjcd.v12i1.3055>
- Dozier, V. C., Osborn, D., Kronholz, J., Peterson, G. W., & Reardon, R. C. (2019). The effects of the Online Self-Directed Search on the career decision state. *Canadian Journal of Career Development*, 18(2), 48–62. <https://doi.org/10.82396/cjcd.v18i2.3146>

- Frenkel-Brunswik, E. (1949). Intolerance of ambiguity as an emotional and perceptual personality variable. *Journal of Personality*, 18(1), 108–143. <https://doi.org/10.1111/j.1467-6494.1949.tb01236.x>
- Furnham, A., & Ribchester, T. (1995). Tolerance of ambiguity: A review of the concept, its measurement and applications. *Current Psychology*, 14, 179–199. <https://doi.org/10.1007/BF02686907>
- Holland, J. L., Johnston, J. A., & Asama, N. F. (1993). The Vocational Identity Scale: A diagnostic and treatment tool. *Journal of Career Assessment*, 1(1), 1–12. <https://doi.org/10.1177/106907279300100102>
- Holland, J. L., & Messer, M. A. (2013). *The Self-Directed Search professional manual*. PAR.
- Leierer, S. J., Peterson, G. W., Reardon, R. C., & Osborn, D. S. (2025, January 16). *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* (4th ed., Technical Report No. 64). Center for the Study of Technology in Counseling and Career Development, Florida State University. <https://repository.lib.fsu.edu/islandora/object/fsu:997937/datastream/PDF/view>
- Leierer, S. J., Wilde, C., Peterson, G. W., & Reardon, R. C. (2016). The career decision state and rehabilitation counselor education programs. *Rehabilitation Counseling Bulletin*, 59(3), 133–142. <https://doi.org/10.1177/0034355215579278>
- Miller, A., Osborn, D., Sampson, J. P., Peterson, G. W., & Reardon, R. C. (2018). The impact of a college career course on students' career decision state. *The Career Development Quarterly*, 66(4), 371–377. <https://doi.org/10.1002/cdq.12157>
- Osborn, D. S., Sides, R. D., & Brown, C. A. (2020). Comparing career development outcomes among undergraduate students in Cognitive Information Processing Theory-Based versus Human Relations courses. *The Career Development Quarterly*, 68, 32–47. <https://doi.org/10.1002/cdq.12211>
- Reardon, R. C., & Lenz, J. L. (2018, March 1). *Learning from a career course over 45 years*. Career Convergence. https://ncda.org/aws/NCDA/pt/sd/news_article/153923/_self/layout_details/false
- Reardon, R. C., Lenz, J. G., Dozier, V. C., Roark, K. A., & Hultman, J. D. (2024). *Career development and planning: A comprehensive approach* (8th ed.). Kendall-Hunt.
- Sampson, J. P., Jr., Lenz, J. G., Bullock-Yowell, E., Osborn, D. S., & Hayden, S. C. W. (Eds.). (2023). *Cognitive information processing: Career theory, research, and practice*. Florida State Open Publishing. https://doi.org/10.33009/fsop_sampson1123
- Sampson, J. P., Peterson, G. W., Lenz, J. G., Reardon, R. C., & Saunders, D. E. (1996). *Career Thoughts Inventory (CTI): Professional manual*. Psychological Assessment Resources.
- Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory*. Consulting Psychologists Press.
- Xu, H., & Tracey, T. J. G. (2014). The role of ambiguity tolerance in career decision making. *Journal of Vocational Behavior*, 85(1), 18–26. <https://doi.org/10.1016/j.jvb.2014.04.001>
- Xu, H., & Tracey, T. J. G. (2015). Career Decision Ambiguity Tolerance Scale: Construction and initial validations. *Journal of Vocational Behavior*, 88, 1–9. <https://doi.org/10.1016/j.jvb.2015.01.006>