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Impact of Worry on Career Thoughts, Career Decision State, and Cognitive Information Processing-identified Skills.

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Impact of Worry on Career Thoughts, Career Decision State, and Cognitive Information

Processing-identified Skills

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Abstract

Career development is influenced by affective and cognitive dispositions. Sixty-nine Amazon Mechanical Turk Workers (obtained from online marketplace for work that requires human intelligence) completed the Penn State Worry Questionnaire, the Career Thoughts Inventory, and the Career State Inventory to examine the relationship between affective and cognitive elements on career decision state. Worry was significantly correlated with negative career thinking and more specifically decision-making confusion, and commitment anxiety, career decidedness and its dimensions clarity and certainty, and Cognitive Information Processing (CIP) self-assessed skills of self-knowledge, occupations knowledge, decision-making, and executive processing. Worry was also found to predict the degree of career decidedness, negative career thinking, and CIP-requisite skills.

Keywords: career decision state, worry, negative career thoughts

Impact of Worry on Career Thoughts, Career Decision State, and Cognitive Information
Processing-identified Skills

Career development is a complicated process encompassing several dimensions of the human experience. Specifically, aspects of emotion are connected to dimensions of career decision-making (Di Fabio, Palazzeschi, Asulin-Peretz, & Gati, 2013; Di Fabio & Saklofske, 2014; Gati et al., 2011). For example, being in a state of worry has been found to impact cognitive functioning (Hayes, Hirsch, & Mathews, 2008). Various career development theories speak of the affective and cognitive experiences association with career development. Cognitive Information Processing Theory (Sampson, Reardon, Peterson, & Lenz, 2004) stresses that career decision-making comprises a cognitive and emotional component that influences this process. In order to provide career practitioners with specific points of intervention and informed strategies, investigation of the relationship between affective dispositions and cognitive dimensions within the process career decision-making is warranted.

Mental Health and Career Development

Mental health is connected to elements of career development. Constantine and Flores (2006) found that higher levels of psychological distress predicted higher levels of career indecision and was associated with lower career certainty and greater perceived family conflict. Depression has been repeatedly indicated as significantly impacting one's ability to effectively navigate the career development process (Cardoso, 2016; Rottinghaus, Jenkins, & Jantzer, 2009; Saunders, Peterson, Sampson, & Reardon, 2000; Walker & Peterson, 2012). In a sample of college students, Bullock-Yowell, Andrews, and Buzzetta (2011) found negative career thinking, openness, and consciousness accounted for significant variance in career decision-making self-efficacy.

More specifically, the emotional experience of career-related anxiety is associated with career decision-making. Pisarik, Rowell, and Thompson (2017) used a phenomenological approach to examine career-related anxiety of traditionally aged college students and found themes of general symptoms of anxiety, existential concerns, pressure, lack of career guidance, cognitive distortions, social comparisons, and economic/occupational uncertainty. State anxiety was indicated as being a mediating factor on the career commitment of medical university students (Xiao, et al., 2014). Interestingly, the presence of meaning was found to mediate the relationship between career indecision and anxiety (Miller & Rottinghaus, 2014).

Though common when experiencing a career concern, worry, a component of anxiety (Marques, 2018), has not been previously considered in terms of its distinctive impact on career decision-making. Worry has been characterized as a negatively affect-laden and relatively uncontrollable chain of thoughts and images. The worry process entails the engagement in mental problem-solving strategies on a concern with uncertain outcomes, but which possesses the possibility one or more negative outcomes (Borkovec, Robinson, Pruzinsky, & Depree, 1983).

The associated thoughts that accompany worry can be problematic in relation to the process of career decision making. According to the metacognitive model of Generalized Anxiety Disorder (American Psychiatric Association, 2013) in adults, it is not the excessiveness or the content of worry, but the metacognitive beliefs held about worry that are problematic (Wells, 1995) with beliefs about worry causing normal worry to become maladaptive. High worriers have been found to possess restricted capacity specifically in the realm of working memory (Hayes, Hirsch, & Mathews, 2008). As elements of cognitive capacity such as working

memory are diminished by a state of worry, the potential for successfully navigating a career concern is inhibited.

Career Decision State and Negative Career Thinking

In addition to emotional aspects of career development, there are identified dispositions that affect career decision making. Career Decision State (CDS) illustrates one's readiness to engage in career decision-making. CDS is a subjective state of being, or state of momentary consciousness, regarding one's career goals or aspirations (Leierer, Peterson, Reardon, & Osborn, 2017). It is composed of both cognitive and affective components. It has been conceptualized on a single continuum ranging from highly goal-directed, satisfied, and confident to being immobile or frozen, dissatisfied, and confused (Leierer, Peterson, Reardon, & Osborn). CDS has been associated with affective, and cognitive dispositions thereby impacting career decision making.

Negative career thoughts comprised of cognitions and emotions (Sampson et al., 2004) accounted for a significant amount of variance in elements of career decision state, career decidedness, and satisfaction with a career choice (Chason, Bullock-Yowell, Sampson, Lenz, & Reardon, 2013). Yowell, Peterson, Reardon, Leierer, and Reed (2011) found an increase in career stress correlated with an increase in negative career thinking, with negative thoughts contributing to lower levels of decidedness and satisfaction with a career choice, components of CDS. A significant relationship between neuroticism (i.e., general tendency to experience negative effects such as fear, sadness, embarrassment, anger, guilt, and disgust; Costa & McCrae, 1992, p. 14) and career decision state via negative career thinking has also been indicated (Bullock-Yowell, Reed, Mohn, Galles, Peterson, & Reardon, 2015).

Cognitive Information Processing Theory

In consideration of the influence of affective and cognitive elements on career development, cognitive information processing theory (CIP; Sampson et al., 2004) encompasses these dimensions and their relationship to career decision-making and problem-solving. CIP states that an informed, effective career decision consists of four key domains of self-knowledge, options knowledge, decision making skills, and executive processing which includes metacognitive processes (how one thinks about one's career decision and the areas of self knowledge, options knowledge, and decision-making skills) with the latter impacting the other three. Previous research (Osborn, Sides, & Brown, 2020) found support for this assumption for 202 college students who rated their abilities in each area. Self-knowledge, options knowledge and decision-making skills were significantly, positively correlated, and all were significantly negatively correlated to self-rated metacognitive skills. Given previous findings that negative career thinking impacts career decision making self-efficacy (Bullock-Yowell, Andrews, & Buzzetta, 2011), exploring the relationships of CIP self-rated skills, negative career thoughts, and affective states such as worry is warranted.

Impact of Career Interventions on Affective and Cognitive Dispositions

The influence of career interventions on both affective and cognitive dispositions associated with career decision-making further emphasizes the importance of considering these variables in the delivery of career services. Osborn, Hayden, Peterson and Sampson (2016) explored the connection between aspects of career decision making and emotional and cognitive elements such as confidence, anxiety, and knowledge and found significant differences between pre-and posttest means for the three dimensions (i.e., increase in confidence in next steps, decrease in anxiety about career concerns, and increase in knowledge of next steps) after a brief encounter with a career practitioner. Medium effect sizes in terms of Cohen's *d* were noted for

knowledge and confidence, and a small effect size for anxiety. Freeman, Lenz, and Reardon (2017) found that an undergraduate career course increased certainty and satisfaction with their career state, had more positive motivation for goal setting, and experienced less negative thinking. These examples indicate a tangible connection between career interventions and affective and cognitive dimensions of career decision making.

Given the connection between affective and cognitive states, more specifically a state of worry, and processes involved in career development, the present study was designed to explore this unique connection in order to enhance understanding of the interplay between affective and cognitive states when making career decisions. Knowing this can inform the delivery of career services and the degree attention to affective aspects of a career concern is warranted. Examining the connection between affective components of worry and emotional career thoughts, cognitive dimensions of negative career thinking and information processing skills, and career decision state was the purpose of this study.

The Study

The purpose of this study was to examine the connection between worry and cognitive processes and dispositions. Given minimal awareness of the association between emotional state of worry on aspects of career development, this study was designed to ascertain the relationship between worry career decidedness, negative career thoughts, and information processing skills. The following questions were used to guide the study.

- 1) What are the relationships among worry, negative career thinking, emotional career thoughts, career decision state, and self-assessed CIP information processing skills?
- 2) What degree does worry predict variance in dimensions of career decision state?
- 3) What degree does worry predict variance in negative career thinking?

4) What degree does worry predict variance in perception of CIP self-assessed skills?

Sample

Sixty-nine American Amazon Turk workers from 27 different states completed the assessments. A post hoc power analysis using G*Power 3.1 (Faul, Erdfelder, Buchner & Lange, 2009) with 69 participants, an effect size estimate of .15, and error set at .05 indicated power of .89. They ranged in age from 21 – 60 with an average of age 32.59 (SD= 8.96), median of 30 and mode of 28. 44 (63.8%), 44(63.8%) identified as male, 24 (34.8%) as female, and 1 who preferred not to answer. Ethnic/racial identity included Caucasian/White (n = 50; 72.5%), African American (n = 3; 4.3%), Asian/Pacific Islander (n = 9; 13%), Latino/Latina (n = 5; 7.2%), and 2 (2.9.%) who preferred not to answer. Educational level ranged from high school diploma or equivalent through a professional degree, and specifically included: high school graduate, diploma, or equivalent (n = 11; 15.9%); some college credit, no degree (n = 16; 23.2%); trade/technical/vocational training (n = 1; 1.4%); Associate degree (n = 10; 14.5%); Bachelor's degree (n = 24; 34.8%); Master's degree (n = 6; 8.7%); and Professional degree (n = 1; 1.4%). In addition, 62 (89.9%) indicated no disability with seven indicating (10.1%) some form of illness or disability.

The sample consisted of Amazon Turk workers who volunteered to participate by completing various assessments such as, the Career Thoughts Inventory (CTI; Sampson, Peterson, Lenz, Reardon, & Saunders, 1996a), the abbreviated Penn State Worry Questionnaire (Berle, Starcervic, Moses, Hannan, Milicevic, & Sammut, 2011), the Career State Inventory (Leierer, Peterson, Reardon, & Osborn, 2017), four self-rated questions about CIP-related information processing skills, along with various demographic questions.

Assessments

Career Thoughts Inventory (CTI). The CTI (Sampson et al., 1996a) is a 48-item measure of negative career thinking associated with career problem-solving and decision-making. A total score, along with three subscale scores: Decision Making Confusion (DMC), Commitment Anxiety (CA), and External Conflict (EC) comprise the assessment. The total score assesses the total amount of negative career thinking and one's ability to engage in the career decision-making process. The 14 DMC items measure one's inability to start or sustain the career decision-making process due to emotions or lack of understanding. An example item from the DMC scale includes "I'm so frustrated with the process of choosing a field of study or occupation I just want to forget about it for now." The 10 CA items measure one's inability to commit to a choice and generalized anxiety about the outcome. A sample item from the CA scale includes "I worry a great deal about choosing the right field of study or occupation." Finally, the five EC items measure one's inability to separate self-perception from the input of others leading to a reluctance to assume responsibility for making a decision. An example item from the EC scale includes "I'm always getting mixed messages about my career choice from important people in my life." Options to respond range from 0 (*strongly disagree*) to 3 (*strongly agree*) on a 4-point Likert-type scale. The CTI was normed for use with 11th- and 12th-grade high school students, college students, and adults. The CTI has yielded internal consistency coefficient alphas between .93 and .97 for the total score. For the subscale scores, the alphas ranged from .90 to .94 for DMC, .79 to .91 for CA, and .74 to .81 for EC (Sampson et al., 1996a). Four-week test-retest stability coefficients for the total scores were .77 overall. Four-week test-retest stability coefficients for the subscale scores were .77, .75, and .63 overall for DMC, CA, and EC, respectively. In this study, the internal-consistency for the respective CTI subscales were .94 for

DMC, .84 for CA, and .81 for EC and .96 for the CTI total scale. Convergent and discriminate validity evidence for the CTI has been previously reported (Sampson et al., 1996b).

Within the CTI, there are specific items containing emotional content that were utilized in the creation of the CTI emotion variable. In total, 11 items (i.e., items 3, 8, 11, 19, 21, 27, 32, 33, 35, 43, and 47) were determined to focus on the affective elements of one's experience. Specific examples include: "I get so depressed about choosing a field of study or occupation that I can't get started." and "I get so anxious when I have to make decisions that I can hardly think." Internal consistency for the CTI emotion items was .89.

Penn State Worry Questionnaire-3. The Penn State Worry Questionnaire-3 (PSWQ-3; Berle et al., 2011) was derived from the original 16-item Penn State Worry Questionnaire (Molina & Borkovec, 1994) which was designed to measure worry. To provide more precision to the assessment, abbreviated and ultra-brief versions of this assessment were developed to address poor-model fit regarding the full version with older adult samples and to increase clinical utility by eliminating the need for reverse scoring items (Kertz, Lee, & Bjorgvinsson, 2014). Responding to the items on the PSWQ involves rating each question on a scale of 1 (*not at all typical of me*) to 5 (*very typical of me*). The three questions on the ultra-brief version of assessment are, "Once I start worrying, I cannot stop.", "I worry all the time.", and "Many situations make me worry." The three-item, ultra-brief version has been found to have strong psychometric properties such as good internal consistency (.85) and reasonable convergent validity with measures of anxiety ($r = .44$) and depression ($r = .57$) and discriminant validity from a measure of psychoticism ($r = .38$) (Berle et al., 2011). Cronbach alpha for the current study was .96 indicating strong internal consistency.

Career State Inventory. The Career State Inventory (CSI, Leierer, Peterson, Reardon, & Osborn, 2017) is designed to obtain a current (state) assessment of one's career decision-making readiness (Leierer, Wilde, Peterson, & Reardon, 2016) and is specifically comprised of three dimensions alluding to career certainty, satisfaction, and clarity (Leierer, Peterson, Reardon, & Osborn). The component of readiness is connected to CIP (Sampson, Reardon, Peterson, & Lenz, 2004). Career decision-making readiness has been defined as one's preparation for deliberate and effortful career decision-making and problem-solving (Bullock, Saunders, & Peterson, 2015). The measure utilizes items for established career-related scales to such as the Occupational Alternatives Questionnaire (Slaney, 1978,1980) for certainty which inquires about all the occupations that a respondent is considering at the moment and indicating their first choice. Satisfaction is measured by the question "How satisfied are you with your first choice?" on a five-item scale (1 = *very satisfied*; 2 = *satisfied*; 3 = *not sure*; 4 = *dissatisfied*; and 5 = *very dissatisfied*). Vocational Clarity is obtained from three true-false items on the My Vocational Situation (MVS; Holland, Daiger, & Power, 1980) which state, "If I had to make an occupational choice right now, I'm afraid I would make a bad choice."; "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."

The CSI is a brief questionnaire that assesses one's capability to undertake career decision making, which is derived from measuring 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 (Leierer et al., 2017). In terms of validity, the CSI total score was significantly correlated ($r = .63$) with the CTI total score and its subscales (DMC, $r = .63$, CA, $r = .60$, and EC, $r = .42$) and vocational clarity scores were significantly correlated to the My

Vocational Situation Identity Scores ($r = .72$). Scores range from 2-12, with lower scores indicating higher degrees of readiness. Internal consistency for the measure has been found to be .74 and for this study was indicated as .66 falling within an acceptable range.

CIP Specific Variables. To measure specific skills within the CIP pyramid, four questions addressing each component of the pyramid of information processing domains were asked. These included a self-rating on a 5-point Likert scale ranging from poor to excellent of skills in knowledge of interests, values and skills, knowledge about options, career decision making skills, and awareness of and ability to control self-talk. In addition to individual responses to items, a composite score was also calculated. These items were first used in Osborn, Sides and Brown (2020), for pre and post test scores and had a Cronbach's alpha of .82 and .86. In the present study, Cronbach's alpha was .9.

Procedures

University IRB Approval was granted for this study. The second author posted a link for the study and offered \$1 for successful completion of the survey, which included the inventories above as well as demographic questions. Three validity items were placed within the survey to assure that test takers were answering questions deliberately. A sample validity item was "Please respond with strongly agree on this question, for quality assurance purposes." If an individual marked anything other than the requested answer, they were automatically closed out of the survey with a message that they had failed a validity check. Incomplete surveys were removed from the database.

Analysis

Correlations using SPSS (version 25; IBM corp., 2017) were calculated between several cognitive and affective variables. Negative thinking (i.e., CTI total, CTI emotion items and

subscales of decision-making confusion, commitment anxiety, external conflict), worry (i.e., total score of items on the PSWQ-3; “Once I start worrying, I can’t stop;” “I worry all the time;” “Many situations make me worry;”, components of CIP theory (i.e. self knowledge, options knowledge, decision making skills, and a composite score of skills), and career decisions state (i.e. CSI total and its dimensions; certainty, clarity, satisfaction). Several linear regressions were utilized to understand the degree of predictability of worry on aspects of negative career thinking, CIP-self reported skills, and career decision state. Due to specific items of the CTI being used on multiple subscales, simple linear regressions as opposed to a multiple regression were utilized. Assumptions of normality, homoscedasticity, linearity, and multicollinearity were met for the linear regressions.

Results

In addressing research question one, several moderate to strong associations were found between variables (see Table 1). Higher worry scores were correlated with more negative career thinking, poorer certainty and clarity, and lower self-rated skills on CIP information processing components. Negative career thinking was correlated with the CSI total and CSI components clarity and certainty and negatively correlated with cognitive information processing skills. Worry was significantly correlated with all variables except CSI-Satisfaction and the CTI dimension of External Conflict. CIP info-processing components of Self Knowledge, Occupations Knowledge, and Decision-Making skills were significantly positively correlated and all three were significantly negatively correlated to Executive Processing.

To better understand the predictive nature of worry on negative career thinking, career decision state, its specific components (i.e., certainty, clarity, satisfaction), self-assessed CIP information processing skills, simple regression analyses were conducted (see Table 2). Worry

was substantially predictive of negative career thinking and its components of decision-making confusion and commitment anxiety. Worry predicted career decision state and its dimensions certainty and clarity. Worry was found to be predictive of affective aspects of a career concern as identified by the items of the CTI focused on emotion. Finally, worry was predictive of variance in CIP-focused skills especially in decision-making and executive processing.

Discussion

The results of this study provide a detailed overview of the relationship of affective states such as worry and affective aspects of metacognitions as measured by the CTI emotion-focused items, with negative career thoughts and career decision state. These results align with previous studies (e.g., Pisarik et al., 2017; Xiao, et al., 2014), indicating the connection between affective states such as career anxiety and the process of making a career decision. The association between negative career thoughts on career decision state found in this present study is consistent with previous research (Chason et al., 2013). In relation to worry and negative thinking, findings are congruent with McLaughlin, Borkovec, and Sibrava's (2007) work regarding the association between worry and negative thinking. More broadly, results support existing research establishing the connection between affective and cognitive dispositions and career decision state (Bullock-Yowell et al., 2011). This emphasizes the need for career practitioners to assess and intervene when appropriate with emotional experience of encountering a career concern.

The strong associations between career decision state, its components such as clarity and satisfaction, and negative career thoughts, especially commitment anxiety and decision-making confusion, as well as relationships among CIP self-assessed skills, aligns with results of previous studies that have explored the connection between negative career thinking and career decision state (Bullock-Yowell et al., 2011; Bullock-Yowell et al., 2015). The specific association

between external conflict and career decision clarity indicates a relationship between external factors such as family and clarity while navigating a career concern. Career-related interests, skills, and values alone do not fully explain challenges related to one being ready to engage in the tasks necessary for a career decision. High levels of worry can inhibit effective completion of this process.

The strong association and predictive relationship between worry and the CTI emotion-focused items uncovers untapped benefits of the CTI as a gauge of one's emotional state in relation to their career development. Elevations on these items could indicate a need for intentional focus on the affective state of a client or student to minimize the negative impact of emotions on career-decision making. Given the previously indicated inhibitive nature of worry on cognitive functioning (Hayes, Hirsch, & Mathews, 2008), these findings suggest that the CTI emotion items and the PSWQ-3 provide relevant information to inform career interventions.

Worry's impact on CIP self-rated skills indicates that clients will likely rate themselves more poorly in their ability to manage the key components identified by CIP as requisite for effective career decision making. This perceived lack of capability has implications in hindering their successful navigation of their career concern. This intersects with many of the common skills necessary to successfully complete tasks inherent in career development such as information seeking, employing awareness of self and options, and ability to make and execute a decision.

Implications for Theory

This study examined elements specific to cognitive information processing theory (Sampson et al., 2004), specifically, negative career thinking and self-assessed skills for each of the components of the pyramid of information processing. In addition, the results of this study

sought to broaden understanding of how emotions comprise, relate and predict these elements. Prior research has not examined explicitly emotional items of the Career Thoughts Inventory (CTI; Sampson et al., 1996), and yet scale analysis indicates strong internal consistency, suggesting its potentiality for future research as a stand-alone scale. The significant relationship of worry to each subscale (i.e., commitment anxiety, decision-making confusion, and external conflict), emotional items, and total scale of the CTI, as well as the CIP self-rated skills demonstrates how emotions are woven through the pyramid of information processing domains. Further exploration of how affective components interface with cognitive processes in CIP theory is recommended.

Implications for Practice

The connections between cognitive and affective dispositions and career decision state speak to the importance of a comprehensive assessment when addressing career concerns. The findings of this study indicate the presence of negative career thoughts may be influencing clarity and satisfaction within a career decision. Whether via formally or informally, evaluating accompanying feelings and thoughts is important when addressing career-related concerns (Saka, Gati, & Kelly, 2008; Gati et al., 2011). This information can minimize the inhibiting effect of these factors on career decision making and shape the development of career interventions thereby increasing the likelihood that the appropriate form of support is being provided.

Though structural components of career development such as resume writing, interviewing, and networking are essential skills necessary for successful career making, associated thoughts and feelings can significantly influence one's ability to effectively engage in this process (Sampson et al., 2004). This study specifically identifies worry as an impactful

emotion worthy of attention in a career services interaction. The PSWQ-3 was identified as a relevant assessment for career development support.

The findings of this study supports calls for more holistic career services focusing on integrating career and mental health concerns (Blustein, Kenna, Gill, & DeVoy, 2008; Hayden, 2016; Hayden, Kronholz, Pawley & Theall, 2016; Hinkleman & Luzzo, 2007; Lenz, Peterson, Reardon & Saunders, 2010; Stoltz & Haas, 2016). Evaluating the influence of worry and emotional aspects of negative career thoughts via assessments such as the PSWQ-3 and a specific item -analysis of career assessments such as the emotion-focused items on the CTI ensures that all facets of need are being addressed. When issues are identified, coordinating mental health support may be necessary in certain instances.

This research adds to a growing awareness that career decision state is affected by mental health constructs and specific cognitive and affective elements such as one's negative thinking or worry regarding their current concern. In addition, the sample consisting of adults as opposed to college-age participants expands the application of career development research to a broader population of those receiving services as many studies focus on college-age students. Comprehensive assessment and support is needed to effectively identify and remediate interconnected facets of career development concerns (Osborn & Zunker, 2016; Zunker, 2008)

Implications for Training and Supervision

Given the relationship of affective and cognitive dimensions with career decision making as evidenced by this research, the training of career professionals requires attention to these aspects in the preparation of career services practitioners. Though varied professional identities often co-exist in career services facilities, ensuring providers are able to assess and address affective and cognitive dimensions of career development and associated concerns is imperative

for providing effective career support. Whether through collaboration with mental health service facilities to provide professional development opportunities to career center staff, accessing existing resources such as recent articles on the career and mental health connection, or viewing presentations on the topic, prioritizing access to this information for professional staff is critical to ongoing development of career services practitioners (Hayden, 2016; Lenz, Peterson, Reardon & Saunders, 2010).

In addition, continual and consistent supervision of career service practitioners with a focus on the complex nature of career concerns such as associated emotions is recommended (Sampson et al., 2004), and is in accordance with the ethical standards for supervision (section G1.a) outlined by the National Career Development Association (NCDA, 2015). Prioritizing the experiences of those being served in the career services facility as opposed to focusing solely on the necessary tasks and duties within supervision of career practitioners can be instrumental in attuning providers to the depth of career concerns and the degree emotions and thoughts can impact a career decision (Hoppin & Goodman, 2014). This individualized support for practitioners can also identify ongoing areas of growth and target interventions to enhance their awareness of strategies for assessing for cognitive and emotional states and shaping career interventions accordingly.

Limitations

The present study is not without its limitations. Using MTurk workers might have been a limitation (Follmer, Sperling, & Suen, 2017), in that characteristics of MTurk workers might lead to sampling bias. For example, workers may be drawn to or away from a certain type of study, and all workers must be regularly online in order to know of the opportunities for research. This targeted sampling strategy limits the generalizability of the findings. Also, the

researchers were purposeful in their selection of specific dimensions such as negative career thinking and worry, meaning the responses of the participants were filtered through pre-conceived notions of the connection between these variables. Though the selected assessments were chosen based on an understanding born from previous research on these aspects of career decision making, this does not capture all possible affective and cognitive dimensions of career decision-making and problem solving. Finally, utilizing a regressions simply illustrates relationships between variables eliminating causal conclusions. Further research could build on the identified associations found in this research focusing on causal aspects of affective and cognitive components on career decision state.

Conclusion

This study examined the relationship between affective and cognitive aspects and career decision state with a specific focus on worry and its impact on negative career thinking, career decision state, and CIP self-rated skills. Findings indicated that there is a relationship among the variables of negative career thinking, career decision state, self-assessed CIP skills, and worry. Worry predicted negative career thoughts, career decision state, and self-assessed CIP skills. Results indicate a need for comprehensive assessment and treatment of career concerns especially in the area of affective dispositions. Continued research into emotional dimensions of career decision-making and problem-solving will provide practitioners with a better understanding of effective ways in which to support those they serve.

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Table 1
Correlations, Means and Standard Deviations of Correlations between DCT, CSI, and Worry

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	M	SD
1. CTI-DMC														14.3	9.4
2. CTI-CA	.72**													13.6	6.2
3. CTI Total	.93**	.84**												103.9	26.2
4. CTI-EM	.85**	.81**	.91**											14.5	7.0
5. CSI-Cert	.36**	.44**	.35**	.36**										2.0	.7
6. CSI-Clar	.63**	.57**	.62**	.60**	.33**									1.3	1.2
7. CSI-Satis	.34**	.23	.23	.19	.38**	.29*								1.7	.8
8. CSI Total	.62**	.58**	.57**	.55**	.70**	.79**	.75**							5.2	2.1
9. CIP-SK	-.41**	-.39**	-.37**	-.43**	-.34**	-.41**	-.42**	-.55**						3.6	1.1
10. CIP-OK	-.48**	-.55**	-.48**	-.51**	-.45**	-.44**	-.42**	-.60**	.76**					3.3	1.2
11. CIP-DM	-.43**	-.56**	-.41**	-.53**	-.28*	-.45**	-.40**	-.54**	.70**	.75**				3.0	1.2
12. CIP-EP	-.39**	-.52**	-.41**	-.50**	-.17	-.51**	-.23	-.45**	.61**	.55**	.74**			3.4	1.2
13. CIP-Comp	-.49**	-.58**	-.48**	-.57**	-.36**	-.52**	-.42**	-.62**	.87**	.88**	.92**	.83**		13.3	4.2
14. Worry Tot	.52**	.46**	.54**	.63**	.25*	.47**	.08	.39**	-.28*	-.29*	-.39**	-.44**	-.40**	8.5	3.9

Note: CTI scales – higher scores = greater negative thinking; DMC = Decision Making Confusion; CA = Commitment Anxiety; CTI Total = total negative career thoughts; CTI-EM = CTI emotional items; CSI scales – higher scores = less certainty, clarity, and satisfaction; CSI-Cert = Certainty; CSI-Clar = Clarity; CSI-Satis = Satisfaction; CIP-SK = Self Knowledge; CIP-OK = Options Knowledge; CIP-DM = Decision Making; CIP-EP = Executive Processing; CIP-Comp= Composite; Worry Tot= total – higher scores = higher worry. *p <.05; ** p <.01

Table 2
 Linear regression analyses of worry predicting career-related constructs

Variable	B	<i>SE B</i>	<i>B</i>	t	R ²	F
CTI total	2.9	.59	.54	5.0	.29	25.3***
DMC	1.08	.22	.53	4.9	.28	24.0***
CA	.59	.14	.46	4.1	.22	17.2***
EC	.11	.1	.15	1.2	.02	1.37
CTI Emotion	1.02	.16	.63	6.5	.40	42.3***
CSI Total	.21	.07	.39	3.3	.15	10.6**
CSI-Certainty	.05	.02	.25	2.1	.06	4.2*
CSI-Clarity	.14	.03	.47	4.2	.22	18.0**
CSI-Satisfaction	.02	.03	.08	.6	.01	.43
CIP	-.41	.12	-.40	-3.5	.40	12.1**
Skills Composite						
CIP SK	-.08	.03	-.28	-2.3	.08	5.4*
CIP OK	-.09	.04	-.29	-2.4	.09	5.9*
CIP DM	-.12	.04	-.39	-3.4	.15	11.2*
CIP EP	-.13	.03	-.44	-3.9	.20	15.4***

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