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Adverse Childhood Experiences and Career Decision Making In College Students: Investigating The Moderating Effects Of Perceived Covid-19 Impact And Ambiguity Tolerance

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ADVERSE CHILDHOOD EXPERIENCES AND CAREER DECISION MAKING IN COLLEGE STUDENTS: INVESTIGATING THE MODERATING EFFECTS OF PERCEIVED COVID-19 IMPACT AND AMBIGUITY TOLERANCE

by

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ABSTRACT

College students face many difficult decisions as they navigate adulthood, including making a decision about their career. Although much research has already been conducted to explore these difficulties, little has explored the potential impact of adverse childhood experiences (ACEs) on one's career-related cognitions. Further, the COVID-19 pandemic has provided a new context in which difficulties with career-related decisions may be exacerbated. Through the lens of psychological stress, the current study examined the responses of 231 undergraduate students using a university-based online participant recruiting site, SONA. It was predicted that level of ACEs would be positively related with levels of negative career thoughts and career decision-making difficulty. Additionally, it was predicted that perceived COVID-19 impact would moderate these relationships, and that levels of career decision-making ambiguity tolerance would influence that moderating effect. Although there was some evidence to suggest a significant relationship between ACEs and negative career thoughts, there was no evidence to support the other hypotheses. However, exploratory analyses revealed significant positive relationships between perceived COVID-19 impact and levels of both negative career thoughts and career decision-making difficulties. These findings could inspire further research, as well as contribute to the development of more informed career counseling interventions. Some limitations to this study include convenience sampling, questionnaire length, and questionnaire content possibly resulting in participant burnout.

Key words: career decision-making, negative career thoughts, career decision-making difficulty, career ambiguity aversion, career ambiguity tolerance, adverse childhood experiences, COVID-19

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DEDICATION

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CHAPTER I – REVIEW OF LITERATURE

Career counselors must consider a variety of factors when helping individuals navigate the career decision-making process, including past and present stressors. The COVID-19 pandemic has presented many unique challenges for college students, including changes in how they navigate the world of career decision making. The present study was conducted to explore variables that could impact one's career decision-making in order to better inform career counseling practice. Two hundred and thirty-one students from a southeastern university were asked questions regarding the presence of adverse childhood experiences, how they perceived the COVID-19 pandemic, how they respond to ambiguity in the career decision-making process, how they think about their career decision-making, and their ability to engage in career decision-making. This study sought to determine if the number of adverse childhood experiences could predict levels of career decision-making difficulties or negative career thoughts; further, it sought to explore whether individuals' perception of COVID-19 impact and level of career decision ambiguity tolerance could influence this relationship.

The COVID-19 pandemic has had a variety of initial and ongoing impacts on the lives of many. College students are a particularly vulnerable group within the context of the pandemic due to factors including impeded social development, limited access to resources, disrupted routines, and higher reported warning signs for depression and anxiety (Hasan & Bao, 2020; Odriozola-Gonzalez et al., 2020; Cao et al., 2020, Bruine de Bruin, 2020). When exploring the effects of COVID-19 by age range, research conducted by the Center for Disease Control (CDC) and Pew Research Center found that young

adults (ages 18-24) were most impacted by the initial effects of COVID-19 (Schaefer & Raine, 2020; Duca et al., 2021).

In addition to the present stressor of COVID-19, adverse childhood experiences (ACEs) represent another important factor potentially influencing college students' ability to navigate important developmental tasks such as identity development, relationship formation, and career development. Studies focusing on ACEs in college students have found prevalence rates of up to 85% of respondents experiencing at least one ACE (Smyth et al., 2008), with more recent results exploring prevalence rates for various types of ACEs and finding a range of approximately 8.5% (family member incarceration) to 33% (emotional abuse) (Colburn et al., 2021).

Given the significant prevalence of ACEs and noted vulnerability of the college student population within the context of the COVID-19 pandemic, it is important to explore protective factors that may enhance college student's ability to navigate the aforementioned developmental tasks. Psychological flexibility has been shown to reduce potential negative outcomes related to mental health (Chou et al., 2018), even within the context of the pandemic (Browne et al., 2022). However, there has been little to no direct evidence regarding career-specific psychological flexibility variables, such as career decision ambiguity tolerance, and their potential to mitigate the effects of past or present stressors. The present study aims to illuminate possible predictive and protective factors of ACEs and career decision ambiguity tolerance in an effort to inform career counseling interventions for those who have experienced past, recent, and/or ongoing stressors. Due to the inherent pressure college places on determining one's next career steps, career

development is the focus of the current study; negative career thinking and career decision-making difficulties were the career development outcomes assessed.

College Students

The interest in researching traditionally-aged college students (i.e., 18-24) has grown over the past few decades as the percentage of the U.S. population enrolled has risen, diversity of college student characteristics has increased, and awareness of the "disproportionate burden of mental health problems" (e.g., depression, anxiety, suicidality) borne by the college student population (Lederer et al., 2021; Institute of Education Sciences, 2020; Higher Learning Advocates, 2018; Batra et al., 2021; Oswalt et al., 2020). In addition to these mental health problems, college students are tasked with undergoing major decisions regarding their futures and careers. Recent research revealed that 37% of undergraduate students change their major, which suggests a significant amount of college students experience fluctuations within their level of career decidedness (Astorne-Figari & Speer, 2019). Additionally, several studies have found that undergraduate students seeking career-related help present with high initial levels of career decision-making difficulties and negative career thoughts (e.g., Anghel & Gati, 2021; Atuahene, 2021). Although some studies have explored the impact of the COVID-19 pandemic on the workforce and students entering the medical or hospitality fields (e.g., Osborn et al., 2022; Santos, 2020; Chuang et al., 2020), there is a gap in the literature regarding the effect of the pandemic on the general college student career decision-making experience. Several studies have investigated the impact of the COVID-19 pandemic on the college student population and found significant implications related to increased stress, financial strain, and decreased mental health outcomes (Lederer et al.,

2021; Wang et al., 2020; Son et al., 2020). In addition to these findings, many studies have found significant relationships between a variety of negative outcomes (i.e., mental health decline in college, alcohol consumption, academic course withdrawals) and the number of adverse childhood experiences (ACEs) endorsed by the student (Karatekin, 2018; Warnecke, 2018; Marks et al., 2021; Romm et al., 2021).

Adverse Childhood Experiences

Adverse childhood experiences (ACEs) include a broad range of adverse experiences that can occur in childhood, including abuse (i.e., physical, emotional or psychological, sexual) and various aspects of household dysfunction including familial abuse, substance abuse, mental illness, and criminal behavior (Crouch et al., 2020; Bucci et al., 2016; Felitti et al., 1998). ACEs have been found to impact biological processes, cognitive functioning, career trajectories, job performance, and mental health outcomes in adulthood (Doom et al., 2021; Dorvil et al., 2020; Crouch et al., 2020; Cloitre et al., 2019; Coursol et al., 2001; DePrince & Freyd, 2004; Currie & Widom, 2010; Anda et al., 2004; Felitti et al., 1998; Ford & Blaustein, 2013; Liu et al., 2013, McEwan & Gianaros, 2010; Park et al., 2021). Further, individuals with a history of ACEs have consistently been shown to report higher levels of current stressors, impacts of stress on mental health, and current trauma-related symptoms (Mosley-Johnson et al., 2021; McLaughlin et al., 2010; Cloitre et al., 2019).

ACEs are a particular variable of interest when researching college students, as recent findings have revealed approximately 17% of college students reported high levels of ACEs, with four or more being considered “high” (Hedrick et al., 2021). While investigating the impact of ACEs in the context of the academic year, Karatekin (2018)

found that mental health decline could be predicted by the number of ACEs a student had experienced, with the number of current stressors mediating the relationship. Higher numbers of ACEs have also been found to predict negative outcomes including alcohol consumption and academic course withdrawals (Marks et al., 2021; Romm et al., 2021; Warnecke, 2018). Additionally, ACEs have been found to negatively impact areas of the brain which could hinder one's ability to engage in executive functions including goal setting and prioritization (Ford & Blaustein, 2013) which are crucial aspects of the decision-making process and associated with negative career thoughts (Sampson et al., 2020).

Psychological Stress and COVID-19

Researchers have long studied stress and its impacts on physical and mental health. Psychological stress can be operationally defined as the result of an individual's perception of their environmental demands as greater than their ability to navigate (Lazarus & Folkman, 1986; Cohen et al., 1995). Although many models have been developed in an attempt to explain how stress affects our lives, research has highlighted the efficacy of Lazarus and Folkman's transactional model and the role of meaning making within the coping process (Lazarus & Folkman, 1984; Folkman, 1997, 2008; Biggs et al., 2017). The transactional model outlines a stepwise process in which individuals engage in primary and secondary appraisals to assess level of threat and availability of resources to cope with the stressor (Lazarus & Folkman, 1984). For many, distress can happen when individuals perceive themselves as having insufficient resources or ineffective coping skills. Recently, researchers have conducted studies which have confirmed the transactional model of stress in recent samples (Obbarius et al., 2021)

as well as highlighting the effects of optimism on the stress process and perceived psychological impacts of the COVID-19 pandemic (Puig-Perez et al., 2022).

In addition to how individuals process and cope with stressors in the moment, it is important to explore the effects of repeated stressors, long-term stressors, and the cumulative effects of stress over time. Prior studies have explored the negative impacts of long-term stressors and the role of prolonged activation (Ellis & Del Giudice, 2014; Brosschot et al., 2005). Findings have shown that even when controlling for past stressors, there is a negative relationship between one's current experience of stress and problem-solving abilities (D'Zurilla & Sheedy, 1991). Prolonged stress has been shown to have negative effects on areas of the brain that impact learning, decision making, and future responses to stress (Bucci et al., 2016; Thomason & Marusak, 2017). These findings are particularly relevant as the pandemic is a likely example of ongoing stress for most people, particularly college students attempting to learn and make decisions about the future amidst other developmental stressors. Additionally, the previously mentioned stress accumulation model provides some insight into how this experience of stress could be amplified for individuals who have experienced ACEs (Hostinar et al., 2015; Evans et al., 2013). It is important to acknowledge that COVID is unlikely to be the last significant stressor faced that could impact many (e.g., Eldred, 2023; Weintraub, 2021). Understanding career development within the stressor of a pandemic may help career counselors plan for intervention under future stress situations that impact the students or clients they serve or our community as a whole.

Career Decision Making

As mentioned, career decision making is one of the key developmental tasks that college students undertake. Career decision making can be defined here as engaging in cognitive processes related to education and occupation options related to one's career goals (Kulcsár et al., 2020; Xu, 2021a). Reardon and colleagues (2000) posited that career decision making is a cognitive task, thus making it vulnerable to any event or stimuli which may negatively affect cognition including future time perspective, ACEs, and stress (Jia et al., 2020; Bucci et al., 2016; Thomason & Marusak, 2017; Strauser et al., 2006). One seminal and burgeoning theory for conceptualizing the career decision-making process is Cognitive Information Processing theory (CIP theory; Sampson et al., 2020). This theory provides a framework for solving career-related problems and making career decisions based on knowledge of oneself (e.g., values, skills, interests), one's career options (e.g., education, skills, environment), the skills one uses to make decisions, and how one thinks about their decision-making (e.g., "metacognitions") (Sampson et al., 2020). Within a CIP theory framework, the aspects of self- and options-knowledge, how one makes career decisions, and metacognitions about career decisions are all points of vulnerability when individuals face stress, trauma, and mental health issues.

Career Decision-Making Difficulty

In CIP theory-guided interventions, students are asked to engage in a career decision-making process that includes learning more about themselves (e.g., skills, values), their options (e.g., career, major), how they make decisions, and how they prioritize and execute those options (Sampson et al., 2020). Career decision-making difficulties can occur within any stage of the career decision-making process and can be

connected to various cognitive and emotional factors (Saka et al., 2008). Career decision-making difficulties have been significantly correlated with higher levels of negative career thoughts, lower levels of career decision-making self-efficacy, lower decidedness, and lower career commitment (Kleiman et al., 2004; Amir & Gati, 2006; Fouad et al., 2009; Werner, 2019; Klumpp, 2020). Additionally, career decision-making difficulties have been related to intolerance of uncertainty and, more specifically, career decision ambiguity aversion (Arbona et al., 2021; Storme et al., 2019), which is a focus in this study.

Negative Career Thoughts

Negative career thoughts are defined as distorted cognitions that hinder career decision-making processes (Sampson et al., 1998) and have been associated with career indecision and career choice satisfaction (Saunders et al., 2000; Bullock-Yowell et al., 2012). Negative career thoughts fall under the category of metacognitions, which encompasses the executive processing portion of career decision-making, including self-talk that can impede decision making (Osborn et al., 2018). Given previous evidence of the negative effects of stress on problem solving, learning, and decision making (D'Zurilla & Sheedy, 1991; Bucci et al., 2016), the present study intended to further explore the relationship between stressors (i.e., ACEs) and career decision-related cognitions. The exploration of this relationship and further investigation of pandemic-related stress could provide valuable insight into the effectiveness of career counseling interventions moving forward, as well as further the literature on trauma-informed career counseling (Powers & Duys, 2020).

Career Decision Ambiguity Tolerance

With the uncertainty and stress brought on by the pandemic, career decision ambiguity tolerance may be a crucial aspect of future career counseling interventions, particularly those that address the areas of self-knowledge and metacognitions. Career decision ambiguity tolerance is defined as one's ability to perceive and respond to environmental information that is perceived as uncertain, unfamiliar, or inconsistent (Budner, 1962; Furnham & Ribchester, 1995; Xu & Tracey, 2014). Ambiguity tolerance has been found to play a significant role within the career decision-making process (Xu & Tracey, 2014, 2015a, 2017). Xu and Tracey's foundational research on ambiguity tolerance has explored the implications regarding career decidedness, career decision-making self-efficacy, and the mental health impacts of career decision making. Ambiguity tolerance was found to predict career indecisiveness and dysfunctional career thoughts, with higher levels of ambiguity tolerance correlating with lower levels of general indecisiveness and dysfunctional beliefs as measured by the Career Decision-Making Difficulty Questionnaire (Xu & Tracey, 2014, 2015b). Recent research found a significant negative correlation between psychological flexibility and intolerance of uncertainty (Mallett et al., 2021). Additionally, Chou and colleagues produced findings which showed that college students who report higher levels of psychological inflexibility in the face of uncertainty also report more negative mental health outcomes. In light of these findings, it is important to consider how career decision ambiguity tolerance could play a key role in improving career counseling interventions and/or student resilience in the context of relevant stressors by mitigating the negative impact of the accompanying uncertainty and psychological inflexibility. Thus, the present study

explored the potential role of career ambiguity tolerance as a representative measure of career-related psychological flexibility.

CHAPTER II – THE PRESENT STUDY

The proposed study aimed to expand upon the career development literature regarding previous experiences of ACEs and the impact of an ongoing stressor such as the COVID-19 pandemic on career decision-making in college students. Additionally, potentially related factors were explored including perceived impact of the pandemic and individual career ambiguity tolerance. The present study provides valuable information on how college students perceive the impact of the COVID-19 pandemic as a long-term stressor as well as their continued perception of pandemic-related distress. It was hypothesized that individuals who have experienced higher levels of ACEs would experience greater levels of negative career thoughts (Hypothesis 1) and more career decision-making difficulties (Hypothesis 2). It was also hypothesized that individuals who perceived a substantial impact associated with the COVID-19 pandemic would experience the aforementioned effects to a greater degree (Hypothesis 3 & Hypothesis 4). Additionally, it was hypothesized that ambiguity tolerance would moderate the moderating effect of perceived COVID-19 impact on the relationship between ACEs, negative career thoughts (Hypothesis 5), and career decidedness (Hypothesis 6).

CHAPTER III – METHODS

Participants

Participants included 231 undergraduate college students from a mid-sized, southeastern university. It was determined that two hundred participants was the minimum recommended to run regression-based analyses with adequate power (Comrey & Lee, 1992; Myers et al., 2017). Participant characteristics are shown in Table 1. Descriptive analyses showed the majority of the current sample as reporting the following characteristics and identities: 18-19 years old, non-first generation, lower-division students (i.e., freshman or sophomores), majoring within the College of Education and Human Sciences, White, heterosexual, single, female identifying, not employed, and with no prior mental health treatment. Of those who disclosed receiving prior mental health treatment, approximately 82% reported receiving mental health diagnoses. Within this sample, 24.3% reported experiencing 0 ACEs, 43% reported experiencing between 1 and 3 ACEs, and 32.8% reported experiencing 4 or more ACEs. The Career State Inventory (CSI; Leierer et al., 2017) revealed that 39% reported high levels of career decidedness, 52.8% reported midrange scores, and 8.2% reported high levels of uncertainty. Regarding COVID-19 perception, the majority of participants noted their perceived height of the pandemic as being between March and December of 2020, with the most frequent responses being March, April, and May of 2020 (See Figure 3). Data was collected from August 2022 to December 2022. During this time, the university was operating under normal procedures with classes meeting in person and mask use being optional. Although the omicron variant had emerged in late 2021 and caused a spike in cases, overall rates of

illness and deaths due to COVID-19 were lower than previous years at the time of data collection (Powder, 2022).

Procedure

Data was collected via the School of Psychology's online participant recruitment system, SONA. Participants were offered extra credit in participating classes for completing the survey. Participants were asked to complete a series of questionnaires and measures via the online survey system, Qualtrics. To determine the validity of responses, participant response time and answers to three validity items were assessed following guidelines suggested by the literature (Meade & Craig, 2012; Abbey & Meloy, 2017). Validity questions based on infrequent responses were incorporated into the measures within Qualtrics (Huang, 2015). To encourage attention to directions and item content, participants were notified at the beginning of the study that the quality of their responses will be checked (Paas et al., 2018). If a participant failed a validity item, they were informed that the item was meant to check their attention and they were encouraged to increase their attention on future questions in order to complete the survey and be eligible for compensation (i.e., SONA credit, entry for the gift card). Additionally, guidelines suggested by researchers investigating the use of online data collection services (Arndt et al., 2022; Griffin et al., 2021; Perkel, 2020) were used to screen for potential bots and inattentive participants, through the use of CAPTCHA response, personal Qualtrics links, and qualitative questions. Measures were administered in a random order to account for potential order effects. SONA participants who failed validity items were prompted to increase attention and were allowed to continue with the questionnaire. These students still received class credit and remained in the study and their responses were further

reviewed for validity in the areas of response time, consistency of responses, infrequently endorsed items, and answer variability. Data was cleaned to remove invalid and incomplete responses prior to data analysis. Details for data cleaning can be found in the Data Analysis section.

Measures

Along with a demographics questionnaire, participants were asked to complete a variety of measures related to childhood experiences, their perceived impact of the COVID-19 pandemic, their aversion to ambiguity, and career decision variables. Correlations, mean, and standard deviation for all measures can be found in Table 2.

Demographics

A brief demographics questionnaire (see Appendix B) was designed by the researcher to collect data on gender identity, race/ethnicity, sexual identity, year in school, religious/spiritual identity, family of origin information, and past therapeutic experiences and diagnoses. General demographic information was obtained utilizing questions adapted from Hazeltine's 2019 study regarding inclusive language use in demographics questionnaires. Religious/spiritual identity was assessed in part via questions adapted from the Religious Belief Salience scale (RBS; Blaine & Crocker, 1995).

In addition to these demographic variables, the Career State Inventory (CSI; Leierer et al., 2017) was used to screen for career decidedness among participants. The CSI was developed to assess readiness and decidedness within the decision-making process and has been found to predict negative career thoughts as measured by the Career Thoughts Inventory (CTI; Sampson et al., 1996a; Leierer et al., 2016). The CSI was used

in the current study to describe the career decidedness level of the participants and not utilized in the planned analysis. It contains five items of various response styles (e.g., open, true/false) which yield a total score ranging from low (2-4) to high (10-12) levels of uncertainty and dissatisfaction. The CSI was found to have acceptable internal consistency ($\alpha = .74$; Leierer et al., 2020). Within the current sample, the CSI was found to have questionable internal consistency ($\alpha = .65$).

Assessment of Early Trauma

The Adverse Childhood Experiences Scale (abbreviated here as ACEs-10; Felitti et al., 1998) was created to assess various types of childhood traumatic experiences. It contains ten yes-no items that assess abuse, violence, and household issues. Items are scored as a "1" if the participant endorses ever experiencing the event and "0" if they have never experienced it. Within the current sample, the ACEs-10 was found to have acceptable internal consistency ($\alpha = .79$). Recent research has expanded upon the questionable use of the ACEs-10 as a screener or research tool due to the lack of psychometric research, limited item coverage, and problematic response options and scoring (McLennan et al., 2020). Thus, this study aims to mitigate these limitations by including quantitative and qualitative (see Appendix C) response options for participants to expand upon the current impact of past events. Additionally, wording preceding the ACEs-10 items attempted to address the issues of abrupt item presentation inconsistent with trauma-informed care as well as wording which may bias or prime participants on subsequent measures (McLennan et al., 2020). The ACEs remained the focus scale for the present study due to its extensive use in the field and ability to generalize ACEs results more easily to relevant research.

However, given the concerns presented about the use of the ACEs-10 as a research measure, this study also implemented the use of the shortened version of the Early Trauma Inventory – Self Report (ETI-SR-SF; Bremner et al., 2007). The ETI-SR-SF was identified as a version of the 62-item ETI-SR that could more easily be implemented in research and practice (Bremner et al., 2007). Although the short form has not been as thoroughly reviewed, the ETI-SF was found to have strong content validity and structural validity in a systematic review of childhood trauma measures (Saini et al., 2019). The ETI-SR-SF is a 27-item measure with yes-no items assessing for general trauma ("Were you involved in a serious accident?"), and physical ("Were you ever punched or kicked?"), emotional ("Were you often put down or ridiculed?"), and sexual ("Did anyone ever have genital sex with you against your will?") abuse. These subscales had internal consistencies ranging from 0.70 to 0.86 (Bremner et al., 2007). Within the current sample, the ETI showed good internal consistency overall (total score, $\alpha = .87$), with subscale values ranging from questionable to good: general trauma, $\alpha = .68$; physical abuse, $\alpha = .78$; emotional abuse, $\alpha = .83$; sexual abuse, $\alpha = .88$. The ETI-SR-SF total score correlated significantly with the ACEs-10 ($r = .66$, $p < .001$) in the current sample.

Assessment of COVID-19 Psychological Impact

The COVID-19 Psychological Impact Scale (abbreviated here as CPIS; Akan, 2022) was developed to assess the psychological impact of the COVID-19 pandemic on adults. It contains twenty-four items which assess anxiety ("I'm afraid of getting sick"), frustration ("I get bored of always doing the same things"), and dejection ("Whatever I do, I can't relax") associated with the COVID-19 pandemic. Items are scored on a 5-point Likert scale from *never* (1) to *always* (5). A total score is obtained by summing the scores

of each item, and higher scores indicate greater levels of COVID-19 psychological impact. During its initial creation and validation, the CPIS was found to be valid and reliable for populations aged 18 to 65 (Akan, 2022). The total score was found to have good internal consistency ($\alpha = .93$) in addition to the subscales of dejection, anxiety, and frustration ($\alpha = .94$, $\alpha = .81$, $\alpha = .83$; Akan, 2022). Within the current sample, total score internal consistency was found to be high ($\alpha = .930$). When assessed for criterion validity, the CPIS was found to significantly correlate with the Depression Anxiety Stress Scale (DASS; Lovibond & Lovibond, 1995) both in overall score ($r = .71$; $p < .05$) and with the depression ($r = .65$, $p < .05$), anxiety ($r = .54$, $p < .05$), and stress ($r = .66$, $p < .05$) subscales (Akan, 2022). In the current study, instructions were added prior to the questions, asking participants to "Please answer the following items while reflecting on your experiences during the height of the pandemic for you." Following the CPIS, participants were asked to explicitly identify what time period they perceived as the most impactful for them (see Figure 3). It is notable that the majority of responses indicated March, April, and May of 2020 as their perceived "height of the pandemic."

Assessment of Ambiguity Tolerance

The Career Decision Ambiguity Response Scale-Revised (CDAR-R; Xu & Tracey, 2015b, 2017a) was developed to measure peoples' responses to the ambiguity that often arises during the career decision-making process. It was originally created and validated using a college student sample. The CDAR-R consists of four subscales (i.e., preference, tolerance, confidence, aversion) comprised of twenty items such as "I am open to careers which I have never heard of or thought of before" and "I am tolerant of the unpredictability of a career" which are scored on a 7-point Likert scale from *strongly*

disagree (1) to *strongly agree* (7). The CDAR-R was designed for use of mean subscale scores, with higher scores indicating higher levels of each factor. Primary analyses in the current study were conducted using the tolerance subscale score. Regarding measure reliability, studies have found alpha coefficients ranging from .74 to .87 for the aforementioned subscales within a sample of college students (Xu et al., 2016). Recent research has also found strong reliability for the measure as a whole within samples of college and noncollege participants, with α coefficients of .81 and .86 respectively (Xu, 2021b). The CDAR-R has been found to significantly correlate with career decision self-efficacy and career adaptability (Storme et al., 2019). Within the current sample, the CDAR-R tolerance subscale was found to have good internal consistency (α = .82).

Assessment of Career Decision-Making Difficulties

The Career Decision-Making Difficulties Questionnaire (CDDQ; Gati et al., 1996) was developed to assess an individual's level of career decision-making difficulties, specifically focusing on concerns of a lack of readiness, lack of information, and inconsistent information. It contains thirty-four items including "I find it difficult to make a career decision because I do not know what factors to take into consideration" and "I believe that a career choice is a one-time choice and a life-long commitment." Items are scored on a 9-point Likert scale ranging from *does not describe me well* (1) to *describes me well* (9) and combined for a total score. Higher scores on the CDDQ indicate greater levels of difficulties making career decisions. The CDDQ total score was initially found to have high internal consistency (α = .95) (Gati et al., 1996). Levin and colleagues (2020) examined the structure of the CDDQ and evaluated its effectiveness across various demographic factors including age, country, and gender and found that the

level of invariance among these variables supports its use in a variety of samples. The CDDQ has been found to negatively correlate with career decision self-efficacy (r = -0.67; p < .001) (Santos et al., 2018). Within the current sample, the CDDQ was found to have excellent internal consistency (α = .95).

Assessment of Negative Career Thoughts

The Career Thoughts Inventory (CTI; Sampson et al., 1996a) assesses the level of negative career thoughts associated with the career decision-making process. It contains forty-eight items (e.g., "I'm afraid I'm overlooking an occupation") which include three subscales that assess levels of career decision-making confusion, commitment anxiety, and external conflict. Items are scored on a 4-point Likert scale ranging from *strongly disagree* (0) to *strongly agree* (3). Higher scores indicate more negative career thoughts. Higher scores on the CTI have been found to correlate with higher levels of reported depressive symptoms in college students (Dieringer et al., 2017; Saunders et al., 2000; Dagenhart, 2004; Walker & Peterson, 2012). Additionally, total scores on the CTI have been found to significantly correlate with total scores on the Career Decision-Making Difficulties Questionnaire (r = .82; Kleiman et al., 2004). Within the current sample, the CTI total score was found to have excellent internal consistency (α = .97).

CHAPTER IV – RESULTS

Data Analysis

Data was downloaded from Qualtrics into Excel for recoding (i.e., converting demographic responses to numerical values) before being imported into SPSS. Initially 274 individuals engaged the survey. Nineteen participant responses were removed due to being outside of the desired age range of 18 to 25. Participant responses were then examined for effort via visual scan for inconsistent and incomplete responses, response times less than 2 standard deviations below the mean, and seemingly low-effort responses (i.e., no response variability across multiple measures); twenty-three participants were removed. Prior to analysis, data was cleaned using Mahalanobis, Cook's, and leverage values as criterion for deleting outliers, resulting in data for one participant being removed. The remaining 231 surveys were analyzed to test assumptions. There was a minor violation of homoscedasticity for both moderation models, with lower variability at lower predicted values for each. The PROCESS Moderation Model 3 (v. 4.3; Hayes, 2018) was used to investigate potential moderating relationships, and HC3 (Davidson & MacKinnon, 1993) was used to correct for heteroscedasticity given the sample size was below 250 (Long & Ervin, 2000). Bootstrap resampling (5,000 samples) was used to estimate 95% confidence intervals, and all analyses were two-tailed with significance thresholds of .05. Preliminary analyses included correlations and psychometric data for each measure, measures of spread (e.g., range, mean, standard deviation) for measures and demographic variables, including the Career State Inventory (CSI).

Primary analyses consisted of two moderated moderations, which were followed by exploratory moderations and mediations. Analyses consisted of two linear regressions

followed by two moderation models and two moderated moderation models. The linear regressions tested the first and second hypotheses and revealed whether there was a relationship between ACEs, as measured by the ACEs-10 and negative career thoughts (Hypothesis 1) and career decision making difficulties (Hypothesis 2). Subsequently, simple moderations were executed to explore the potential moderating effect of perceived COVID-19 impact on these relationships (Hypotheses 3 and 4). Finally, the moderated moderation models were executed to explore whether the influence of perceived COVID-19 impact is contingent on the level of Career Decision Ambiguity Tolerance (Hypotheses 5 and 6; see Figure 1 and Figure 2).

Hypothesis Testing

The simple regression analyses revealed that the level of ACEs explained a significant proportion of negative career thoughts ($R^2 = .03$, $F(1, 229) = 6.84$, $p = .010$), supporting Hypothesis 1. However, level of ACEs did not significantly predict career decision making difficulties ($R^2 = .01$, $F(1, 229) = 3.19$, $p = .075$). Thus, Hypothesis 2 was not supported.

Subsequent moderation analyses which included perceived COVID-19 impact revealed significant overall main effects for both the CTI model ($R^2 = .21$, $F(3, 227) = 19.74$, $p < .001$) and the CDDQ model ($R^2 = .19$, $F(3, 227) = 16.70$, $p < .001$).

Finally, the moderated moderation analyses, which included career decision ambiguity tolerance, revealed significant overall effects for both the CTI model (see Figure 1) ($R^2 = .23$, $F(3, 227) = 8.83$, $p < .001$) and the CDDQ model (see Figure 2) ($R^2 = .21$, $F(3, 227) = 7.89$, $p < .001$). However, there was a lack of significant interaction effects in both simple moderation (i.e., two-way interactions) and moderated moderation

models (i.e., three-way interactions), which suggested no moderating relationships (see Figures 4 and 5). Thus, Hypotheses 3, 4, 5, and 6 were not supported.

Post-Hoc Analysis

Following primary analyses, exploratory simple regressions were conducted to investigate the effect of perceived COVID-19 impact on negative career thoughts and career decision making difficulty. The results revealed that level of perceived impact explained a significant proportion of both negative career thoughts (R^2 = .21, F(1, 229) = 60.01, p < .001) and career decision-making difficulties (R^2 = .19, F(1, 229) = 52.64, p < .001).

As additional post-hoc analyses, simple independent regression analyses exploring the predictive value of the CDAR-R subscales were conducted to determine if ambiguity tolerance accounted for variance in negative career thoughts and career decision-making difficulties. Level of negative career thoughts, as measured by the CTI, was significantly predicted by the ambiguity tolerance subscales of Preference (R^2 = .04, F(1, 229) = 9.52, p = .002; β = -5.49, t(229) = -3.09), Confidence (R^2 = .06, F(1, 229) = 15.50, p < .001; β = -.58, t(229) = -3.94), and Aversion (R^2 = .23, F(1, 229) = 66.35, p < .001; β = 11.43, t(229) = 8.15). The CDDQ was found to be significantly predicted by the Confidence (R^2 = .04, F(1, 229) = 9.15, p = .003; β = -.24, t(229) = -3.03) and Aversion (R^2 = .24, F(1, 229) = 73.48, p < .001; β = .64, t(229) = 8.57) subscales. This indicates higher predictive value among items that ask participants to indicate their confidence in (e.g., “I hold confidence in handling unpredictability of career”) and/or fear of (e.g., “I am afraid of sorting out the complex aspects of a career”) handling ambiguity within the career decision making process rather than openness to career decision ambiguity. It is

likely that the Confidence subscale is more closely linked to negative career thoughts given the overlap of item content with the Commitment Anxiety and Decision-Making Confusion subscales of the CTI. Likewise, the Aversion subscale is likely linked more closely with the CDDQ due to the overlap in question content regarding fear around complex career decision-making processes.

Additionally, stepwise regression analyses were conducted to explore which predictor variables contribute most to changes in CTI and CDDQ scores. The results of the two stepwise regression analyses are shown in Table 3. Variables were added to the model in the following steps: 1) Tolerance, 2) Preference, 3) Confidence, and 4) Aversion. The stepwise regression assessing CTI predictability revealed that each model was significant, with continuous significant increase in R^2 between models. The fourth model indicated each subscale was a significant predictor of the CTI and cumulatively accounted for 35.4% of the variance ($R^2 = .35$ $F(4, 226) = 31.00$, $p < .001$). Additionally, the stepwise regression assessing CDDQ predictability revealed that each model was significant. The fourth model indicated each subscale was a significant predictor of the CDDQ and cumulatively accounted for 32.7% of the variance ($R^2 = .33$ $F(4, 226) = 27.51$, $p < .001$). The Aversion subscale was the most significant predictor ($R^2 = .24$ $F(1, 229) = 73.48$, $p < .001$); as the aversion score increases by 1, score increases of 10.25 and .58 are seen on the CTI and CDDQ respectively.

CHAPTER V – Discussion

The present study assessed the relationship between adverse childhood experiences (ACEs) and two career decision-making variables, negative career thoughts and career decision making difficulties. Additionally, the present study examined the moderating effects of perceived COVID-19 impact and career ambiguity tolerance. Although the results showed that there were no significant moderating effects, they revealed a significant relationship between ACEs, COVID-19 impact, and the career variables of negative career thoughts and career decision-making difficulties. Exploratory post hoc regression analyses revealed a significant positive relationship between level of perceived COVID-19 impact and levels of both negative career thoughts and career decision-making difficulty. This could suggest that the significance within the moderation models may stem from the influence of perceived COVID-19 impact. These speculations are further supported by the lack of significant effect of ACEs on career decision-making difficulties within the simple regression.

Although these results may suggest that COVID-19 impact may be a larger predictor of negative career thoughts and career decision making difficulties, qualitative responses highlighted potential perpetual stressors stemming from ACEs including negatively impacted social relationships, persistent trauma and/or anxiety symptoms, and low self-esteem and/or low self-confidence. Some students reported ACEs to have "changed [their] perspective, mood, motivations, and ultimately [their] future," with others noting impact on "character development," having to "mature quicker," and being able to "recognize [their] needs." Some statements highlighted resiliency (i.e., "It makes you realize that no matter how much you think you are not going to be able to get through

a situation, you can and you just have to push through") while others noted indirect effects (i.e., "I don't want for anyone else to have to feel that way, and it kind of guided me to my career choice").

An additional consideration when examining this study's findings is the large overlap of depression and anxiety symptoms present in the COVID-19 Psychological Impact Scale's item content. It is possible that the CPIS may be serving as a proxy for mental health impacts and revealing a relationship between mental health and career variables rather than impacts specific to the pandemic. However, this reveals the likelihood that those presenting to services for career-related issues are in need of some mental health intervention in order to most effectively engage in the career decision-making process.

Considering previous research, the results of the present study provided additional evidence to support prior claims that childhood stressors may negatively impact career decision-making (Xu, 2021b). Xu posited that ambiguity aversion may act as a mechanism for the predictive relationship between childhood unpredictability and career decision-making difficulties (Xu, 2021b). Although the present study did not examine a mediating effect or focus on the Aversion subscale, exploratory analyses suggested significant predictive relationships between Aversion subscale scores and both CTI and CDDQ total scores. Additionally, the current findings contribute to the literature by exploring possible connections between ACEs, perceived COVID-19 impact, and career decision-making outside of parenting and medical literature. Xu's dual-process theoretical model concerning the management of both career-decision confusion and ambiguity is a trend in career decision-making research (Xu, 2021a). The current findings

could provide some insight into the role of ACEs and perceived COVID-19 impact as "background inputs" (Xu, 2021a) (e.g., psychological and sociocultural factors) or sources of career confusion and ambiguity for current and future generations of college students. For example, an individual who has experienced some form of childhood trauma or stressor during formative years may experience continued psychological distress which inhibits their ability to engage in cognitively demanding tasks such as exploring all various career options within a career choice, or they may perceive their future as too unpredictable to make an informed decision. In the present study, the Tolerance subscale was not found to predict the career decision-making variables, consistent with prior studies (Xu, 2017). These findings suggest that this measure of career decision ambiguity tolerance may not be efficacious as a screening measure in career counseling interventions; it may otherwise suggest refinements to the Tolerance subscale be made considering the theoretical base for its influence on career decision-making variables. Although the Tolerance subscale was not a significantly predicting variable, the CDDQ was found to be significantly predicted by the Confidence and Aversion subscales. Results indicated the potential utility of the CDAR-R as a career counseling intervention measure, with the ability to act as a screener or intervention tool when identifying or guiding those with higher levels of negative career thoughts or career decision-making difficulties. This is especially the case when considering the Aversion subscale and CDDQ relationship, as 24 percent of the variability in CDDQ scores was attributed to Aversion scores. These findings could contribute to the body of research exploring the importance of ambiguity management within the career decision-making process.

Limitations

The primary limitations of the present study largely revolve around study design. Although efforts were made to reduce participant strain, it is possible that presenting two measures of adverse childhood experiences contributed to participant fatigue both in the realms of study length and distress related to question content. This factor, in addition to the presence of other lengthy measures, could have resulted in decreased participant effort or ability to answer fully. Additionally, efforts to reduce questionnaire length also limited the researcher's ability to incorporate other measures of potentially influential factors such as perception of time and general mental health symptomology. Regarding the sample, responses were conveniently sampled via a system which is primarily used by students in the College of Education and Human Sciences, and may not be representative of the college student population as a whole. Additionally, having participants respond while retrospectively considering their experiences during their perceived "height of COVID-19" could yield inaccurate depictions of their experiences. Similarly, the initial study plan was developed during the height of COVID-19, but data collection occurred during a significantly different time (e.g., less social distancing, greater access to resources, university resuming regular practices).

In addition to possible perspective shifts given the difference in COVID-related experience at the time of planning versus time of data collection, the direction of career decision ambiguity tolerance also made a significant shift. Initially, the study was constructed with aspects of positive psychology in mind, intending to explore the construct of ambiguity tolerance as a possible target for career counseling interventions. However, continued research revealed a relative weakness of the Tolerance subscale and

shifted towards the use of the Aversion subscale (Xu, 2021a). Although this does not lessen the impact of the current findings, it does stray from the initial conceptualization of possible protective factors and meaning-making abilities towards a conceptualization which focuses more on symptom reduction.

When considering the applicability of these findings, it is important to note the variables present within the sample. Considering the use of SONA for data collection, the majority of the sample are likely to carry characteristics of students who are enrolled in a psychology course and engage in extra credit. Data reflected some expected characteristics including majority White female participants. It also revealed an unexpected outcome of a higher prevalence of ACEs than previous research findings, which may be reflective of the types of individuals who choose to participate in a study exploring the effects of adverse childhood experiences. At a university level, it is also important to note the high acceptance rate, prevalence of minority groups, and Pell Grant recipients attending the university surveyed, as these factors all influence the generalizability of these results.

Directions for Future Research and Practice

It is recommended that future studies further assess the relationships between ACEs, perception of large-scale stressors, and career decision making variables. Although the hypothesized relationships were not supported, exploratory analyses revealed significant relationships that are worth continuing to explore. With the overwhelming census within the sample being that COVID-19 was a significant stressor, it is crucial that the career counseling research community explore, or at least consider, how career interventions may benefit from supplementing protocols with exploration of

individual perception of large-scale or long-term stressors and levels of career decision ambiguity tolerance. Given the prior research regarding the effects of optimism in the face of stress, future studies could examine the role of resiliency and the development of positive coping following adverse childhood experiences and the interplay that may have with college students' engaging the common developmental task of career decision-making. Although the Aversion subscale of the CDAR-R was more impactful on the other variables than the Tolerance subscale within this study, that may suggest the importance of interventions that target ambiguity aversion to increase career-related psychological flexibility. In other words, practitioners could seek to increase career-related psychological flexibility with interventions such as ACT-based career counseling (Luken & Folter, 2019; Kiuru, 2021) or processing measure responses (e.g., asking a client to consider their experience in the present moment while exploring career-related values or ranking career options). Further research should examine the use of the Aversion subscale as a way to assess client predispositions and develop interventions aimed at reducing career-related ambiguity aversion.

In addition to highlighting potential avenues for future career interventions, the findings of this study highlight the importance of mental health interventions in the face of career-related needs. Post-hoc analyses suggested a connection between perceived impact of COVID-19 and career decision-making variables; with the consideration that the measure of COVID-19 impact could be acting as a proxy for a measure of mental health issues (e.g., anxiety, depression), the implication of limited mental resources should be considered. It is likely that career counselors will be working with college students who are experiencing co-occurring mental health and career-related issues and

are in need of some mental health intervention to create space for career development work.

Additionally, career counseling research would benefit from further exploration of the relationship between perceived COVID-19 impact and career-decision-making variables found during exploratory analysis to see if these results can be replicated among other samples or provide insight into how potential future stressors (e.g., future pandemics, school shootings, assault) may factor into one's career decision-making process.

Regarding the measurement of ACEs, the present study provided additional data on the use of the ETI-SR-SF as a more psychometrically robust measure. Although one subscale had questionable internal consistency, future studies should continue to explore this measure as a research-focused alternative to the ACEs-10.

Conclusion

The results of the current study highlight the importance of considering contextual information while providing services such as career counseling. Although past life events or current stressors may seem unrelated to career decision making, it is clear that there is value in exploring how clients have experienced or are experiencing stressful events in order to select and deliver effective interventions. Two hundred and thirty-one undergraduate students were recruited through SONA, a university-based online recruiting system which rewards participants with class credit. Using measures of childhood traumatic experiences, negative career thoughts, career decision making difficulties, career decision ambiguity response, and perceived COVID-19 impact, this study sought to identify the relationship between past stressors, current stressors, and

students' career decision-making experience. Although results did not show significant moderating effects, there was evidence to support relationships between ACEs and negative career thoughts. Additionally, exploratory analyses revealed significant relationships between perceived COVID-19 impact and career decision-making variables which could inspire future researchers to examine this relationship further.

Table 1 *Demographic characteristics of study participants*

Characteristics	Values	Frequency	Percent (%)
Age	18	67	29
	19	79	34.2
	20	33	14.3
	21	31	13.4
	22	10	4.3
	23	3	1.3
	24	4	1.7
	25	4	1.7
Classification	Freshman	102	44.2
	Sophomore	57	24.7
	Junior	44	19
	Senior	28	12.1
First Generation Student	No	128	55.4
	Yes	92	39.8
	Maybe	11	4.8
Major Group	Education and Human Sciences	115	49.8
	Arts and Sciences	51	22.1
	Nursing and Health Professions	48	20.8
	Business and Economic Development	15	6.5
	Undecided/Undeclared	2	0.9
Race/Ethnicity	White	129	55.8
	Black/African American	70	30.3
	Multiracial	21	9.1
	Hispanic/Latinx	5	2.2
	Asian	5	2.2
	Middle Eastern	1	0.4
Gender Identity	Female	175	75.8
	Male	42	18.2
	Non-binary	7	3.0
	Genderqueer/Gender non-conforming	4	1.7
	Trans man	3	1.3

Table 1 (continued)

Sexuality	Heterosexual	160	69.3
	Bisexual	31	13.4
	Lesbian	8	3.5
	Gay	7	3.0
	Multiple Identities	7	3.0
	Pansexual	7	3.0
	Queer	6	2.6
	Not Sure	3	1.3
	Demisexual	1	0.4
	Asexual	1	0.4
Employment Status	Unemployed	120	51.9
	Employed	111	48.1
Number of hours worked (if employed)	0-10	23	10.0
	10-20	36	15.6
	21-30	32	13.9
	31-40	18	7.8
	40+	2	0.9

Note. N = 231, non-order-based values presented in order of frequency. "Multiracial" response for the Race/Ethnicity category included participants endorsing racial identities included the following: White/Black, White/Asian, Black/Asian, Black/White/Hispanic/Native American, Black/Native American, Black/Hispanic, and Native American/Hispanic, and Brazilian/Black/Hispanic. "Multiple Identities" response for the Sexuality category included participants endorsing multiple identities such as: heterosexual/bisexual, heterosexual/demisexual/asexual, bisexual/pansexual, pansexual/asexual, bisexual/queer, heterosexual/demisexual, and bisexual/not sure.

Table 2 *Subscale and total score correlations*

Variable	M (SD)	1	2	3	4	5	6
1. CSI	5.57 (2.28)	—					
2. ACEs-10	2.67 (2.43)	.174**	—				
3. CPIS	66.42 (19.30)	.112	.249**	—			
4. CDAR-R Tolerance	5.08 (1.18)	.073	-.028	.071	—		
5. CDDQ	3.89 (1.55)	.439**	.117	.432**	.169**	—	
6. CTI	49.97 (28.78)	.473**	.170**	.456**	.133*	.783**	—
7. ETI-SR-SF	6.91 (5.45)	.097	.658**	.268**	.075	.060	.205**

Note. N = 231. *p < .05, **p < .01 (2-tailed). CSI = Career State Inventory, ACEs-10 = Adverse Childhood Experiences Questionnaire, CPIS = COVID-19 Psychological Impact Scale, CDAR-R Tolerance = Tolerance subscale of the Career Decision Ambiguity Response Scale – Revised, CDDQ = Career Decision-Making Difficulties Questionnaire, CTI = Career Thoughts Inventory, ETI-SR-SF = Early Trauma Inventory Self Report – Short Form

Table 3 *Predictors of negative career thoughts (as measured by the CTI) and career decision-making difficulties (as measured by the CDDQ)*

	Predictors	B	SE B	β	t	R^2	F
CTI						0.35	$F(4, 226) = 31.00$***
	Tolerance	6.37	1.53	0.26	4.16***		
	Preference	-6.07	1.6	-0.22	-3.8***		
	Confidence	-6.72	1.37	-0.29	-4.90***		
	Aversion	10.25	1.32	0.43	7.78***		
CDDQ						0.33	$F(4, 226) = 27.51$***
	Tolerance	0.32	0.08	0.25	3.87***		
	Preference	-0.21	0.09	-0.14	-2.35*		
	Confidence	-0.31	0.08	-0.25	-4.16***		
	Aversion	0.58	0.07	0.45	7.80***		

Note. N = 231. *p < .05, **p < .01, ***p < .001

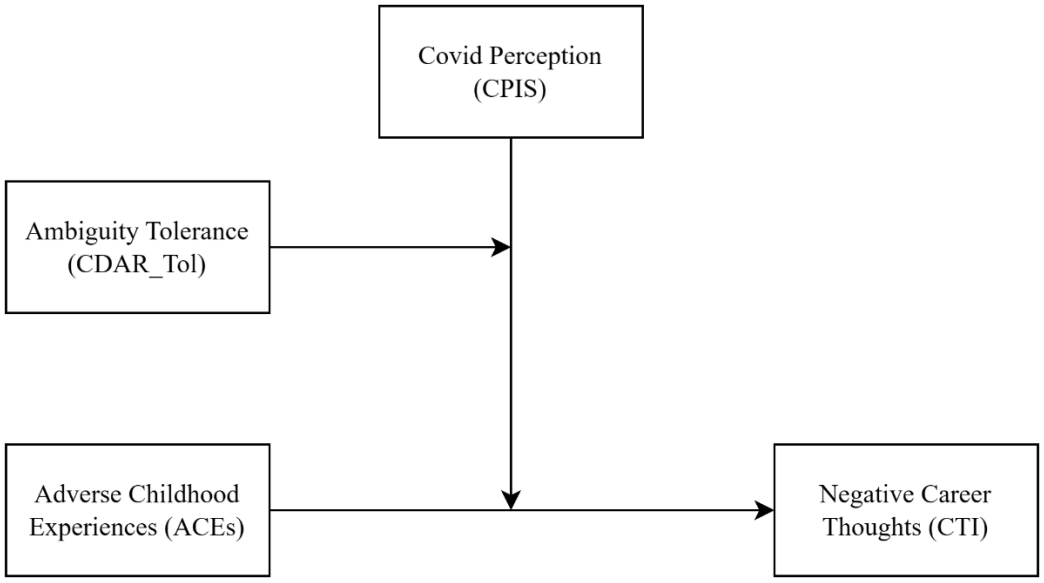

Figure 1. Depiction of the moderated moderation model for Hypothesis 5.

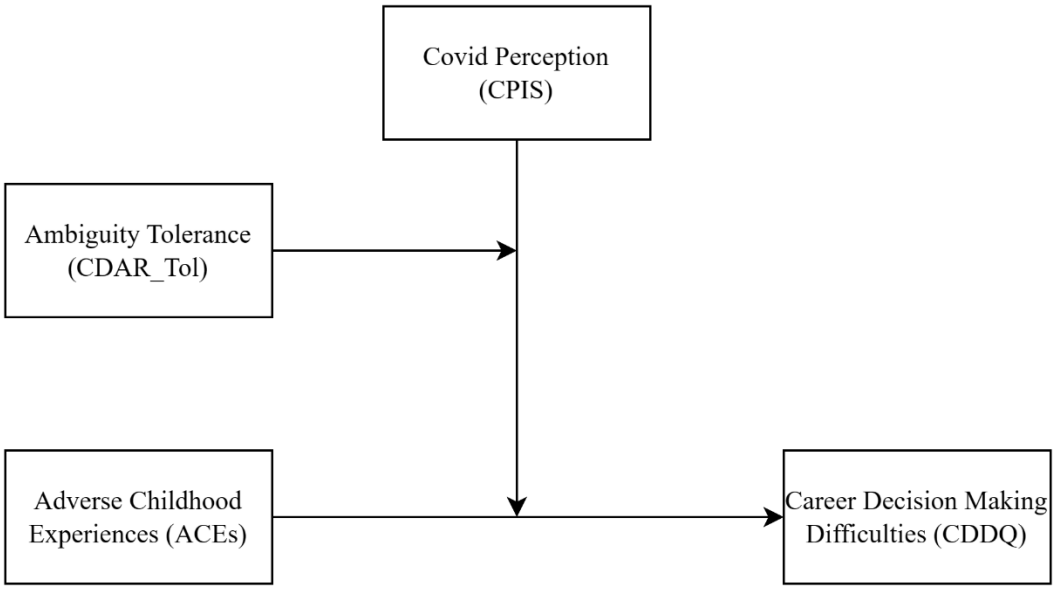

Figure 2. Depiction of the moderated moderation model for Hypothesis 6.

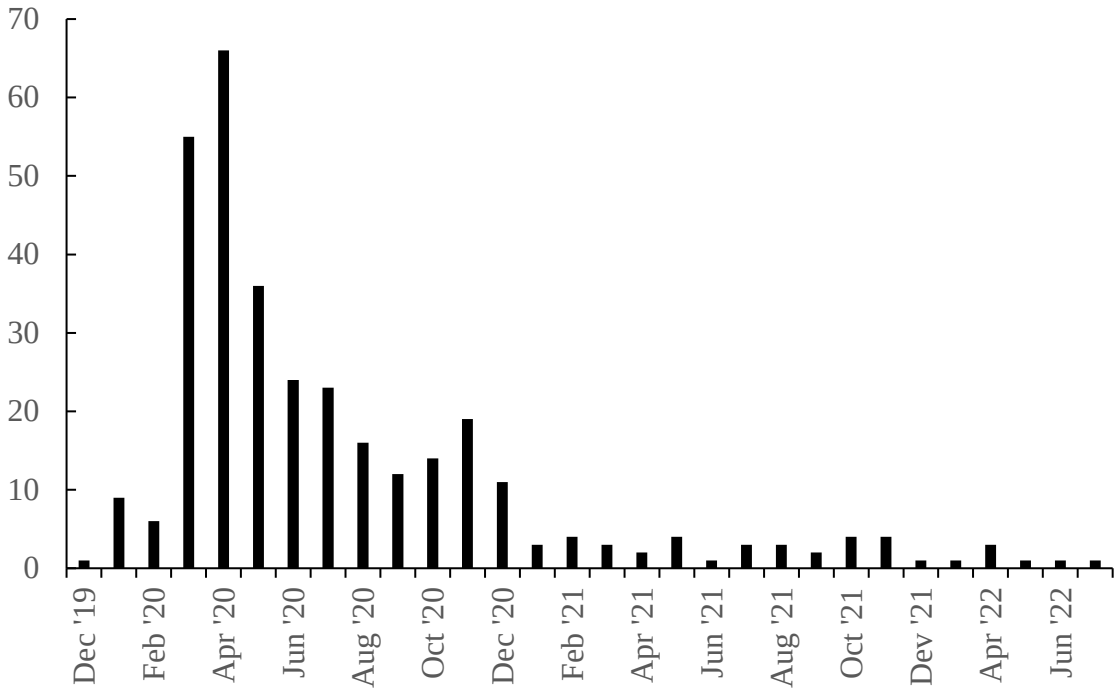

Figure 3. Response frequencies regarding participants' perceived height of the COVID-19 pandemic.

Note: The survey item read as follows: "When would you consider the 'height of the pandemic' to be for you? (month and year)"

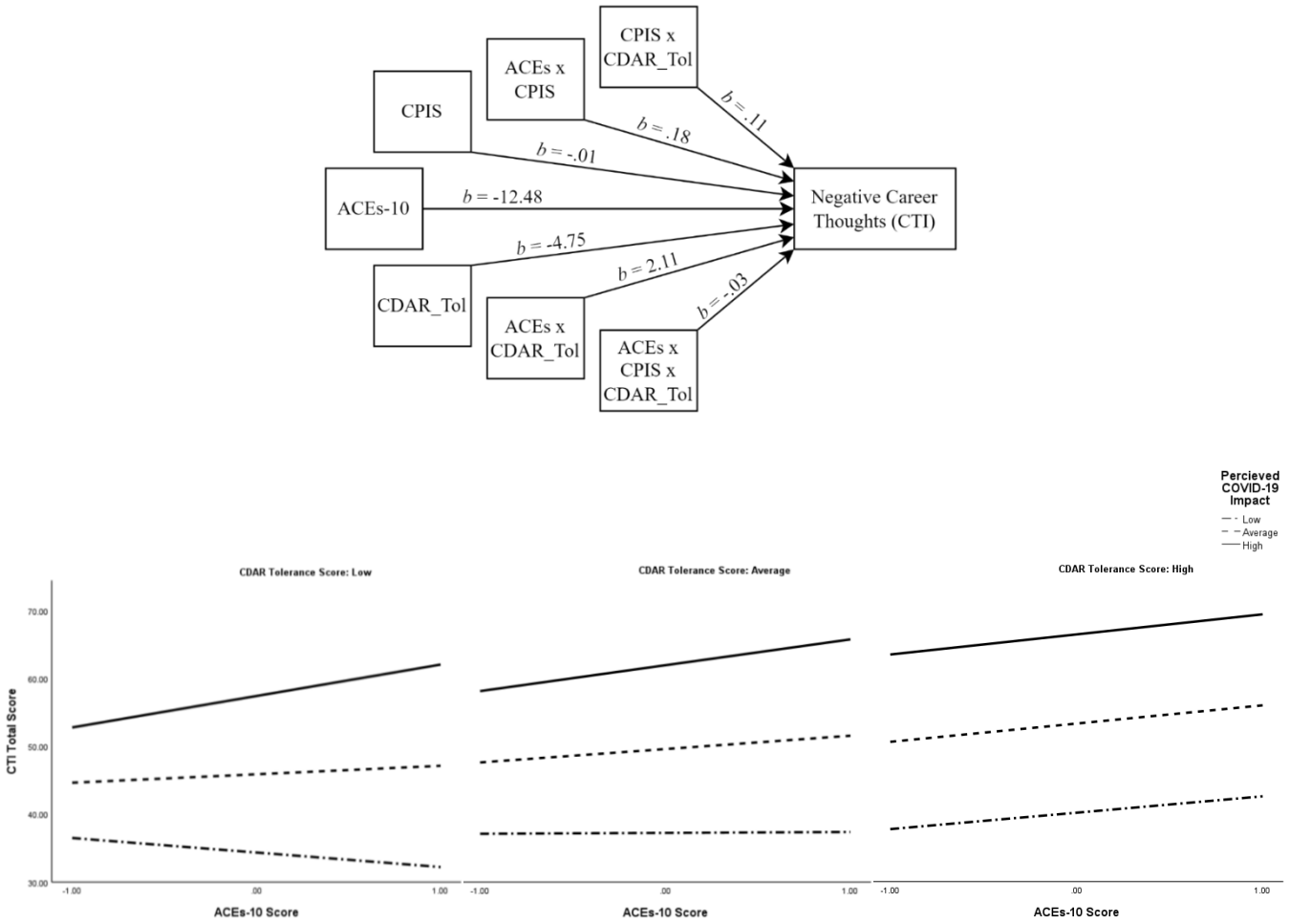

*Figure 4. Moderated moderation results with unstandardized regression coefficients, with simple slopes. *p < .05.*

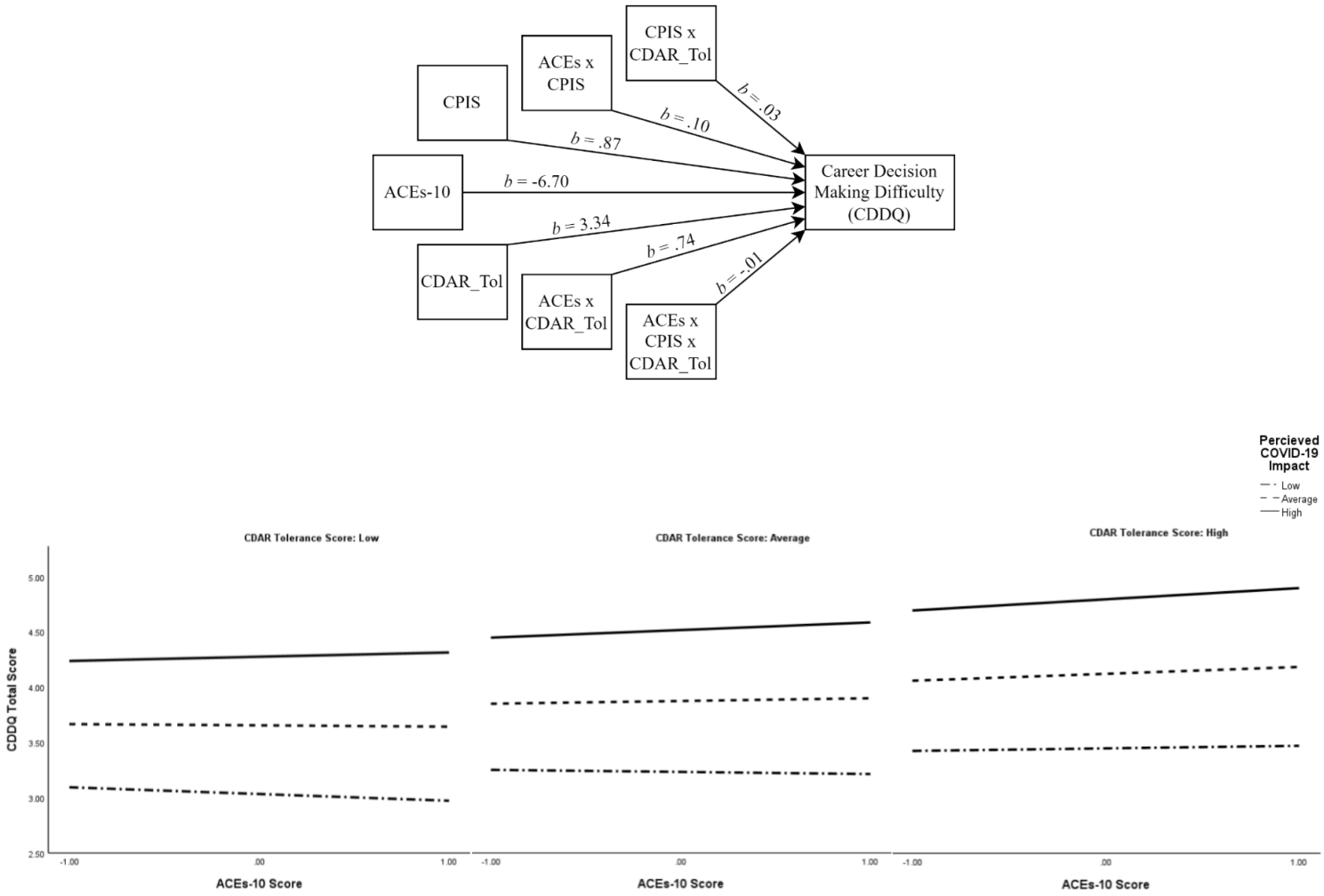

*Figure 5. Moderated moderation results with unstandardized regression coefficients, with simple slopes. *p < .05.*

APPENDIX A – IRB Approval Letter

Office *of*
Research Integrity

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

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NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident submission on InfoEd IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER:	22-1235
PROJECT TITLE:	Adverse Childhood Experiences and Career Decision Making in College Students: Investigating the Moderating Effects of Perceived COVID-19 Impact and Ambiguity Tolerance
SCHOOL/PROGRAM	School of Psychology
RESEARCHERS:	PI: Kendall Klumpp Investigators: Klumpp, Kendall~Yowell, Emily~
IRB COMMITTEE ACTION:	Approved
CATEGORY:	Expedited Category
PERIOD OF APPROVAL:	26-Oct-2022 to 25-Oct-2023

Donald Sacco Jr.

Donald Sacco, Ph.D.
Institutional Review Board Chairperson

APPENDIX B – Demographics Questionnaire

1. Date of birth (indicated via software)
2. Age (in years): _____
3. What is your college classification:
    a. Freshman
    b. Sophomore
    c. Junior
    d. Senior
    e. Graduate Student
4. Did either of your parents/guardians graduate with a Bachelor's Degree?
    a. Yes
    b. No
5. What is your current major? _____
6. Please list all occupations you are considering right now. *(six text boxes provided)*
    a. Which occupation is your first choice? If undecided, type "undecided."
    b. How well satisfied are you with your above responses?
        i. Very Satisfied
        ii. Satisfied
        iii. Not Sure
        iv. Dissatisfied
        v. Very Dissatisfied
    c. T/F If I had to make an occupational choice right now, I'm afraid I would make a bad choice
    d. T/F Making up my mind about a career has been a long and difficult problem for me.
    e. T/F I am confused about the whole problem of deciding on a career.
7. Please indicate your racial/ethnic identity (select all that apply):
    a. White
    b. Black
    c. Native American or Alaskan Native
    d. Hispanic/Latinx
    e. Latin American
    f. Mexican
    g. Puerto Rican
    h. Cuban
    i. African American
    j. First Nation/Native Canadian
    k. Asian
    l. South Asian
    m. Chinese
    n. Korean

o. Japanese
p. Other Asian
q. Filipino
r. Arab/West Asian
s. Middle Eastern
t. North African
u. Pacific Islander
v. Different identity, please state: _____

8. What is your current gender identity? (select all that apply):
    a. Female
    b. Male
    c. Non-binary
    d. Trans male/Trans man
    e. Trans female/Trans women
    f. Genderqueer/Gender non-conforming
    g. Different identity, please state: _____
9. What sex were you assigned at birth, on your original birth certificate?
    a. Female
    b. Male
10. Please indicate your sexuality (select all that apply):
    a. Heterosexual (Straight)
    b. Lesbian
    c. Gay
    d. Bisexual
    e. Queer
    f. Pansexual
    g. Demisexual
    h. Asexual
    i. Not sure
    j. Different identity, please state: _____
11. Please indicate your marital status (select all that apply):
    a. Single
    b. Married
    c. Separated
    d. Divorced
    e. Widowed/Widower
    f. In a relationship
    g. Other (please state): _____
12. How many children do you have?
    a. 0
    b. 1
    c. 2
    d. 3

e. 4+

13. Are you currently employed?
    a. No
    b. Yes

    (If answered 'Yes') What is your current job? _____

    (If answered 'Yes') How many hours do you typically work per week?
    a. 0-10
    b. 10-20
    c. 20-30
    d. 30-40
    e. 40+

14. To what extent do you believe that God exists?
    a. I believe God exists; I am a theist
    b. I don't know if God exists; I am agnostic
    c. I do not believe God exists; I am an atheist.
    d. Other (please describe)
    e. I prefer to not answer this question

15. Please indicate the religious orientation that aligns closest with your beliefs:
    a. Atheist
    b. Agnostic
    c. Spiritual, not religious
    d. Not spiritual, not religious
    e. Buddhist
    f. Christian
    g. Hinduism
    h. Islam
    i. Judaism
    j. Sikhism
    k. Prefer not to disclose
    l. None of these fit, I describe my religious orientation as (please state): _____

16. Please indicate to what extent you agree/disagree to the following statements:
    a. I allow my religious/spiritual beliefs to influence other areas of my life.
        i. (0 = strongly disagree, 10 = strongly agree)
    b. My religious/spiritual beliefs provide meaning and purpose to my life.
        i. (0 = strongly disagree, 10 = strongly agree)
    c. My religious/spiritual beliefs lie behind my whole approach to life.
        i. (0 = strongly disagree, 10 = strongly agree)
    d. Being a religious/spiritual person is important to me.
        i. (0 = strongly disagree, 10 = strongly agree)

17. Is there emphasis placed on religion/morality in your family?
    a. Yes
    b. No (if no – was there ever?)
    c. Other (please state): _____

18. Is there a great deal of conflict in your family?

a. Yes
b. No (if no – was there ever?)
c. Other (please state): _____

19. Is there a great deal of emphasis placed on achievement in your family?
    a. Yes
    b. No (if no – was there ever?)
    c. Other (please state): _____
20. What is your parents' marital status? (select all that apply)
    a. Married
    b. Separated
    c. Divorced *(if selected – how old were you at the time?)*
    d. Widowed/Widower
    e. Never married
    f. Other (please state): _____
21. Have you ever received mental health treatment?
    a. Yes
    b. No

    (If 'Yes' selected) Please describe your experience briefly: _____

    (If 'Yes' selected) Did you find this experience to be helpful?
    a. Not at all helpful
    b. Slightly helpful
    c. Somewhat helpful
    d. Very helpful
    e. Extremely helpful

APPENDIX C – ACEs Qualitative Questions

Please read each question carefully and provide a brief answer. If you do not wish to answer, please type "prefer not to answer" in the box provided.

1. How have these past experiences influenced your identity development?
    a. 0=not influential; 1=slightly influential; 2=somewhat influential; 3=very influential; 4=extremely influential
    b. *Text box provided*
2. Which of these experiences was the most impactful for you and why?
    a. *Qualtrics logic provided a list based on previously endorsed items from the ACES-10 and ETI-SR-SF*
    b. *A text box was also available for the 'why' portion of the question.*
3. Have you experienced any other events that were not listed, but that you feel impacted your development? Please describe.
    a. *Text box provided*

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