The Impact of Psychological Distress Due to COVID-19 on College Student Career Development

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ABSTRACT

The COVID-19 pandemic has been an ongoing public health crisis and continues to create a variety of challenges (Centers for Disease Control and Prevention, 2020). Since the challenges of COVID-19 seem to be particularly salient for traditional college-age students (Kujawa et al., 2020) and career development is a corner stone of development at this stage, the current study investigated what impact the COVID-19 pandemic-related stress has on the psychological distress, career-development self-efficacy, and career decidedness of a sample of college students. Three hundred one students from a southeastern United States university participated in the study. We hypothesize 1) Impacts from pandemic stress will negatively impact the career development (i.e., self-efficacy and decidedness) of college students and 2) psychological distress will mediate the relationship between pandemic stress and the career development of college students.

The analysis revealed that pandemic stress does not directly impact the career development of college students. However, mediation analyses revealed a positive indirect relationship between pandemic stress and career decidedness when accounting for psychological distress as well as a negative indirect relationship between pandemic stress and career decision making self-efficacy when accounting for psychological distress. While impacts from COVID-19-related stress did not directly account for changes in career decision making self-efficacy and decidedness on its own, when in the presence of psychological distress the relationship between pandemic stress and career development exist. Moreover, the positive relationship between pandemic stress and career decidedness suggests that higher pandemic stress is associated with more career undecidedness when accounting for psychological distress. Likewise, the negative relationship between pandemic stress and career decision making self-efficacy suggests that higher pandemic stress is associated with lower levels of self-efficacy when making career decisions. Practical implications for these findings are discussed.

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the increase in depressive symptoms and the decrease in socialization (Graupensperger et al., 2021; Sokolovsky et al., 2021).

College students are in a unique position comparatively for several reasons. Many institutions of higher learning transitioned most, if not all, of their students online in the 2020–2021 academic year. Although universities regularly offer online courses, many were not equipped to handle the challenge of mostly virtual classes and neither were the online platforms being used to support students (Radu et al., 2020). Furthermore, some students still in the early phases of college are faced with selecting a major and making other choices in an unstable economy and job market (Aucejo et al., 2020). Likewise, students nearing graduation are now faced with the task of finding a job in an unstable economy and job market (Alter, 2020). Some students, like those interested in helping fields such as nursing, are faced with the dilemma of whether they should continue in their major given the current risks the COVID-19 pandemic poses for their field, while students closer to graduating with helping field degrees or similar are faced with the reality of entering the workforce during one of the most medically stressful times in recent history (Kochuvilayil et al., 2021). These pandemic circumstances make it critical for university service offices, mental health practitioners, and career practitioners to understand how to use what we know about career development to continue to assist college students during these unprecedented times.

Social cognitive career theory (SCCT; Lent, 2005; Lent & Brown, 2019) attempts to explain how academic and career interests develop, how educational and career choices are made, and how academic and career success is achieved (Lent & Brown, 2019). SCCT is well positioned to help us understand what college students are facing and how to assist them during and after pandemic times. SCCT emphasizes career decision-making self-efficacy (CDSE) beliefs or a person's confidence in completing career decision-making tasks. CDSE is thought to be dynamic and influenced by individual factors, the environment, and the specific occupational fields under consideration. Additionally, SCCT argues people are more likely to choose jobs involving activities they have strong self-efficacy beliefs as well as the skills and support to engage in these activities (Lent & Brown, 2008). Practitioners are encouraged to work with clients to make positive impacts on CDSE by focusing on the clients' personal performance accomplishments, vicarious learning, social persuasion, and physiological or emotional arousal (Lent & Brown, 2019). However, client experiences in these areas can also negatively impact their CDSE. Given the uncertainty created by the pandemic, we have hypothesized CDSE may be particularly impacted in the current environment.

With regards to the present study, arousal is an especially important component of self-efficacy. Arousal can be physiological or emotional, as both can positively or negatively impact self-efficacy. Having a level of arousal that is too high or too low can impede performance which can lead to things such as avoidance behavior, negative outcomes, and/or failure to accomplish a task or goal. However, when a person experiences an appropriate level of arousal, it can motivate the individual to successfully complete a task (Bandura, 1977).

Psychological distress is considered to be a form of negative arousal and has been found to negatively impact CDSE in college students. For example, students who screened positive for depression and anxiety demonstrated lower GPAs and higher rates of prematurely dropping out of college compared to students who did not screen positive for depression or anxiety (Eisenberg et al., 2009). An earlier study by Constantine and Flores (2006) showed that college students with higher levels of psychological distress were found to have higher levels of career indecision, career uncertainty, and interpersonal conflict. In a more recent study, Thompson et al. (2019) controlled for self-esteem and found that not only are self-esteem and CDSE separate constructs, but that higher levels of psychological distress were associated with lower levels of CDSE. Işık (2012) surveyed college students and found that anxiety and negative affect were negatively related to CDSE while positive affect was positively related to CDSE, further confirming the link between psychological distress and lower levels of CDSE.

Cognitive Information Processing (CIP) theory (Sampson et al., 2000) focuses on some additional aspect of career decision-making, with theory components that address the decision-making process, negative thoughts associated with decision making, and level of career decidedness or decision state. Negative career thoughts, including decision-making confusion have been found to directly correlate with psychological distress, with negative career thoughts being significantly correlated mental health issues such as depression and anxiety (Sampson et al., 1996). Using the Career State Inventory to assess decidedness, Leierer (2016) found being more career decided is correlated with fewer negative career thoughts. Uthayakumar and colleagues (2010) noted that deciding on a career is an important developmental task in emerging adulthood, and career decidedness is also positively correlated to overall wellbeing. The COVID-19 pandemic and associated stress has caused many to reevaluate or not be able to decide on career due to the additional contextual factors (e.g., job stability and ability to work from home) that many see as important to consider when deciding on a career (Akkermans et al., 2020). Pandemic stress, more specifically fear, has made career decision making more difficult, leading to increased rates of depression (Mahmud et al., 2020).

While we could not address all these CIP career decision components with the current sample, the current study does incorporate the career decidedness of college students that were impacted by the pandemic. CIP argues that all individuals can make informed career decisions, but these decisions require effortful and deliberate thought involving both cognitive and affective processes. During this process people can experience uncertainty, dissatisfaction, a lack of clarity, or have negative thoughts that impair, impede, or block their ability to make an informed career decision (Sampson et al., 2000). The Career State Inventory (CSI; Leierer et al., 2020) was developed to assess these decision state components posited by CIP theory, allowing for an understanding of the career decidedness of those assessed.

The current study investigates what impact the COVID-19 pandemic-related stress has on the psychological distress, CDSE, and career decidedness of college students. The psychological distress associated with the COVID-19 pandemic appears to be particularly salient for emerging adults and college students (Kujawa et al., 2020). With the propositions of SCCT and CIP theory in mind, this psychological distress and subsequent negative arousal may be detrimental to CDSE and career decidedness. Given the evidence above, we hypothesize 1) Impacts from pandemic stress will negatively impact the career development (i.e., self-efficacy and decidedness) of college students and 2) psychological distress will mediate the relationship between pandemic stress and the career development of college students.

METHODS
PARTICIPANTS AND PROCEDURES
Three hundred one students enrolled in psychology courses at a Southeastern United States university participated in the study. Field (2018) supports 300 as a sufficient sample size given the number of variables in our study. The age of participants in the sample ranged from 18 to 51 years old with a mean age of 20.45 years. One hundred eighty-five identified as White/Caucasian, nine identified as Hispanic/Latinx, 83 identified as Black/African American, six identified as Asian/Pacific Islander, one identified as Native American/Alaskan Native, and 17 identified as biracial. Of the participants, 66 identified as male, 230 as female, one as transgender, two as non-binary, and two preferred not to answer. Two hundred seventy-five participants reported that they had declared a major and 26 reported that they had not declared a major at the time of taking the survey. In terms of classification, one hundred fifty-two participants were freshman, 59 were sophomores, 37 were juniors, 49 were seniors, one was a graduate student, and three selected other.

After receiving approval from the institutional review board, participants were recruited through the School of Psychology's online survey management system for research participation. Participants were then rerouted to a secure online survey system, Qualtrics, to complete the survey. Following completion of informed consent and ensuring the participant was 18 years or older, participants completed a demographic questionnaire followed by randomly ordered measures of psychological distress, career decision-making self-efficacy, career decidedness, and the COVID-19 pandemic impact. Completion of the survey took approximately 30 minutes and participants were awarded extra credit for their chosen psychology course. The survey included two validity checks in the form of direct questions integrated into the survey items. Thirty-five participants were excluded due to incorrectly answering the validity items. Thirty-four participants were excluded due to failure to complete enough of the survey. Four participants were excluded because they did not meet the age requirement. Data was collected from November 2020 to February 2021 which was during the timeframe of the COVID-19 pandemic and the initial height of the pandemic in the United States (Centers for Disease Control and Prevention, 2021).

MEASURES
Pandemic Stress Index
Pandemic stress was measured using the Pandemic Stress Index (PSI; Harkness, 2020). The PSI is a recently developed 3-item measure that assesses behavior changes and stress individuals may have experienced during the COVID-19 pandemic. The first item assesses behavior changes as a result of the COVID-19 such social distancing and job loss. The second item asks participants to rate how much COVID-19 has impacted their daily lives on a five-point scale, with higher scores indicating a higher global impact on their lives due to the pandemic. Lastly, participants are asked about the psychosocial impact of COVID-19 with items referring to things like substance use, emotional distress, and financial stress. Participants were asked to indicate all relevant changes for them during the pandemic by responding yes or no to items. A total score for this measure was determined by summing all endorsed items to represent participants' overall endorsement of stress as a result of COVID-19. Given the novelty of this measure, there is limited research regarding the internal consistency. The scoring protocol used for the current study was previously used by Parrott et al. (2022) and their scoring was found to have adequate internal consistency (Cronbach's α = .80) as well as be normally distributed (M = 10.99, SD = 4.83, Skew = .22, Kurtosis = –.39) Additionally, it is worth noting that item one of the PSI did show that many participants experienced a change in behavior due to the COVID-19 pandemic. For example, only 12.6% reported no change

in behavior, 90.4% reported practicing social distancing, 67.8% reported isolating or quarantining themselves, 11% reported working from home, 25.9% reported not working at all, 11% reported a change in use of healthcare services, and 56.1% reported changing travel plans.

Depression, Anxiety, and Stress Scale-21

The Depression, Anxiety, and Stress Scale (DASS-21; Lovibond & Lovibond, 1995) was also used to assess psychological distress. The DASS-21 is considered a quantitative measure of distress with scales that measure depression, anxiety, and stress. The depression and the anxiety scales measures features unique to each mood disorder and the stress scale measures features of anxiety and depression such as tension or irritability. Sample items include "I found it hard to wind down" and "I felt down-hearted and blue". Participants are asked to read twenty-one statements and respond to items using a three-point Likert-type scale, ranging from (0), did not apply to me at all, to (3), applied to me very much, or most of the time, with higher scores indicating higher levels of depression, anxiety, stress. Scores are multiplied by two in order to compare the DASS-21 to the scores of the DASS-42. Antony et al. (1998) reported acceptable internal consistency reliability evidence for a normative sample (α = .94 for depression, .87 for anxiety, and .91 for stress). Additionally, the different DASS-21 scales were found to correlate well with other instruments measuring the same constructs. For example, the depression scale was found to correlate highly with the Beck Depression Inventory and the anxiety scale was found to correlate highly with the Beck Anxiety Inventory (Antony et al., 1998). A total score for the DASS-21 was calculated for the present study and resulted in an α = .87. The DASS-21 subscales had reliability coefficients of stress α = .85, anxiety α = .86, and depression α = .92. The DASS-21 total score was used in analysis.

Career State Inventory

The state of participants' career decision was assessed using the Career State Inventory (CSI; Leierer et al., 2020). The CSI assesses an individual's ability for career decision making by measuring certainty and satisfaction with a career goal as well as one's confidence in pursuing a career and life goals. Depending on the individual's response pattern, the CSI may identify those who are confused, dissatisfied, and/or are uncertain about a career goal. The CSI consists of five items that measure the three career decision state dimensions mentioned previously (certainty, satisfaction, and clarity). Certainty is measured by an occupational alternatives question which asks participants to list all occupations they are considering and then circle the occupation that is the participant's first choice. Satisfaction is measured via individuals indicating how satisfied they are with their responses on the occupational alternatives question using

a five-point Likert type scale with higher scores meaning higher dissatisfaction. Career clarity is measured by three true-false items with a true response receiving a score of 1 and a false response receiving a score of 0. Total scores range from 0–11 with lower scores being indicative of clarity, satisfaction, and certainty in one's career choice. The CSI appears to have acceptable internal consistency, r = .74, based off its use in a normative sample and college students (Leierer et al., 2020). For the purposes of this study, the CSI total score was used in analysis and was shown to have adequate internal consistency as evidenced by α = .80.

Career Exploration and Decision Self-Efficacy-Brief Decisional

Career development self-efficacy was assessed with the Career Exploration and Decision Self-Efficacy – Brief Decision Scale (CEDSE-BD; Betz et al., 1996). This scale consists of 8 items measuring one's confidence in their ability to perform different career exploration and decision-making tasks. Responses are on a five-point scale ranging from no confidence at all (0) to complete confidence (4) with higher scores reflecting higher levels of self-efficacy for career explorations and decision making. Examples of items on the CEDSE-BD include "learn more about careers you might enjoy," and "figure out which career options could provide a good fit for you." The CEDSE-BD has been found to have adequate internal consistency and has been found to strongly correlate with other, well-established measures of career decision self-efficacy in samples of college students (Lent et al., 2016). For the present study, a total score was calculated for use in analysis and was shown to have adequate internal consistency as evidenced by α = .94. Additionally, this measure is consistent with theory and other measures regarding outcome expectations, goals, and social support which are important aspects of theory, SCCT, underpinning this study (Lent et al., 2019).

RESULTS

The relationship between the current study's variables was initially investigated via correlation coefficients. There was a significant correlation between pandemic stress as measured by the PSI and psychological stress as measured by the DASS-21 total and subscale scores. There was a lack of correlation between pandemic stress and the career development measures, the CSI and CEDSE-BD. As can be seen in Table 1, there was a significant correlation between the career development measures and some of the DASS-21 scores. A review of this sample's DASS-21 scores revealed that this pandemic-era sample's reported psychological distress was higher than the typical college sample prior to the pandemic. In reviewing the article by Cheung and

colleagues (2020), which sampled college students prior to the pandemic, mean scores for the present study sample were consistently higher than the Cheung DASS-related findings (i.e., DASS depression Cheung M = 5.56, Current Study M = 12.61; DASS anxiety Cheung M = 6.95, Current study = 10.13; DASS stress Cheung M = 8.90, Current study = 15.09). The review of these mean differences suggested that current study participants were experiencing more psychological distress during the pandemic then college students prior to the pandemic, further justifying that the DASS-21 is likely tapping into pandemic-related distress. A full correlation matrix, along with variable Means, Standard Deviations, and ranges is shown in Table 1.

To assess the hypotheses regarding the impact of the COVID-19 pandemic-related stress on college students' general psychological distress and career development two mediation analyses were employed using PROCESS in SPSS Model 1. The first mediation model involved analyzing the relationship between pandemic stress, psychological distress, and career decidedness. Coefficients for the *a* (pandemic stress predicting psychological distress), *b* (psychological distress predicting career decidedness), *c* (pandemic stress predicting career decidedness) and *c'* (indirect effect of pandemic stress on career decidedness when accounting for psychological distress) paths are shown in Figure 1 and Table 2. Pandemic stress did

	1	2	3	4	5	6	7
1. PSI total score	1	.297**	.181**	.254**	.266**	−.016	−.007
2. DASS stress	.297**	1	.755**	.770**	.916**	.101	−.149*
3. DASS anxiety	.181**	.755**	1	.746**	.905**	.121*	−.197**
4. DASS depression	.254**	.770**	.746**	1	.924**	.200**	−.237**
5. DASS total score	.266**	.916**	.905**	.924**	1	.156**	−.216**
6. CSI total score	−.016	.101	.121*	.200**	.156**	1	−.524**
7. CEDSE-BD total score	−.007	−.149*	−.197**	−.237**	−.216**	−.524**	1
Mean	16.09	15.09	10.13	12.61	37.89	4.65	15.24
Standard deviation	4.02	10.00	9.79	11.39	28.55	2.44	5.87
Range	6–26	0–42	0–42	0–42	0–126	2–12	0–24

Table 1 Correlations for Study Variables.

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).
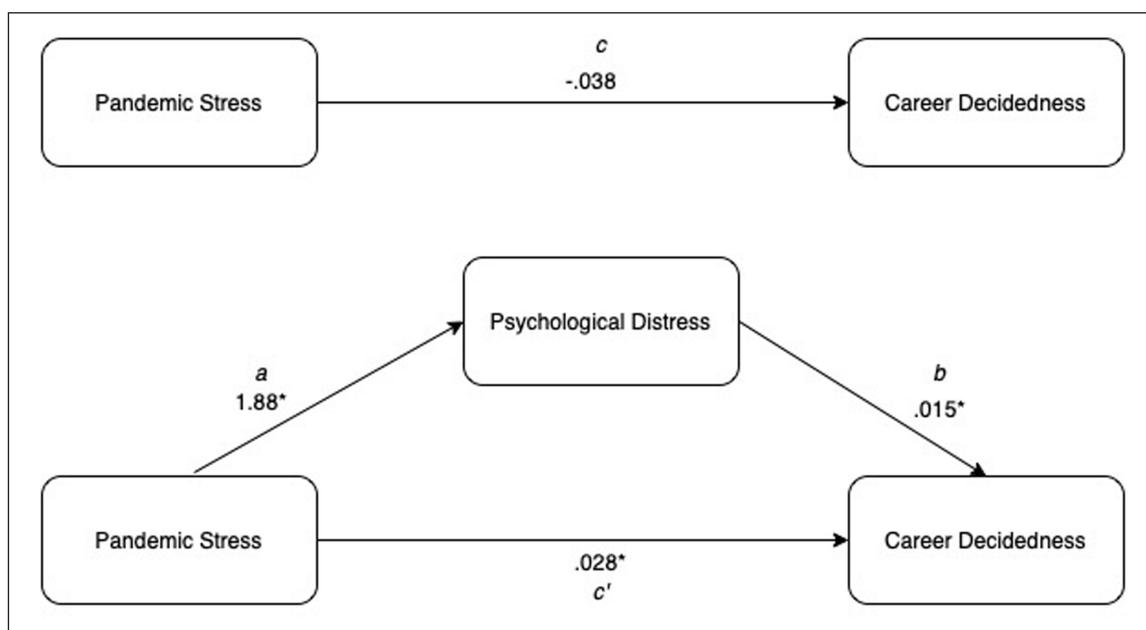
Figure 1 Model analyzing psychological distress as a mediator of the relationship between pandemic stress and career decidedness.

* *Indicates significance.*

not significantly predict career decidedness (b = −.038, s.e. = .036, p > .05). However, pandemic stress positively predicted psychological distress (b = 1.88, s.e. = .396, p < .001), and psychological distress positively predicted career decidedness (b = .015, s.e. = .005, p < .001). These results suggest an indirect effect of pandemic stress on career decidedness when accounting for psychological distress. Furthermore, the significant indirect effect means that pandemic stress cannot solely account for a change in the career decidedness of college students. Using bootstrapping procedures also using PROCESS in SPSS, unstandardized indirect effects were computed. The test of the indirect effect of pandemic stress on career decidedness via psychological distress indicated a significant indirect effect with a point estimate of .028, 95% CI [.008, .052]. Ultimately, these results suggest

that hypothesis one which states that pandemic stress will negatively impact the career development (i.e., career decidedness) of college students is not supported. However, the second hypothesis, psychological distress fully mediates the relationship between pandemic stress and career decidedness, is supported.

The second mediation model involved analyzing the relationship between pandemic stress, psychological distress, and career decision making self-efficacy. Coefficients for the *a* (pandemic stress predicting psychological distress), *b* (psychological distress predicting career decision making self-efficacy), *c* (pandemic stress predicting career decision self-efficacy) and *c'* (indirect effect of pandemic stress on career decision making self-efficacy when accounting for psychological distress) paths are shown in Figure 2 and Table 3. Pandemic stress

| PATH	b	se	t	p
a	1.88	.396	4.76	<.001
b	.015	.005	2.92	<.001
c	−.038	.036	−1.05	.293
Indirect Effects	Effect	BootSE	BootLLCI	BootULCI
X on Y	.028	.011	.008	.052

Table 2 Results of model analyzing psychological distress as a mediator of the relationship between pandemic stress and career decidedness.

Note: Bootstrap CI's do not cross zero which implies significance.

PATH	b	se	t	p
a	2.51	.383	6.55	<.001
b	−.053	.013	−3.96	<.001
c	.119	.092	1.29	.197
Indirect Effects	Effect	BootSE	BootLLCI	BootULCI
X on Y	−.132	.043	−.226	−.057

Table 3 Results of psychological distress as a mediator of the relationship between pandemic stress and career decidedness.

Note: Bootstrap CI's do not cross zero which implies significance.
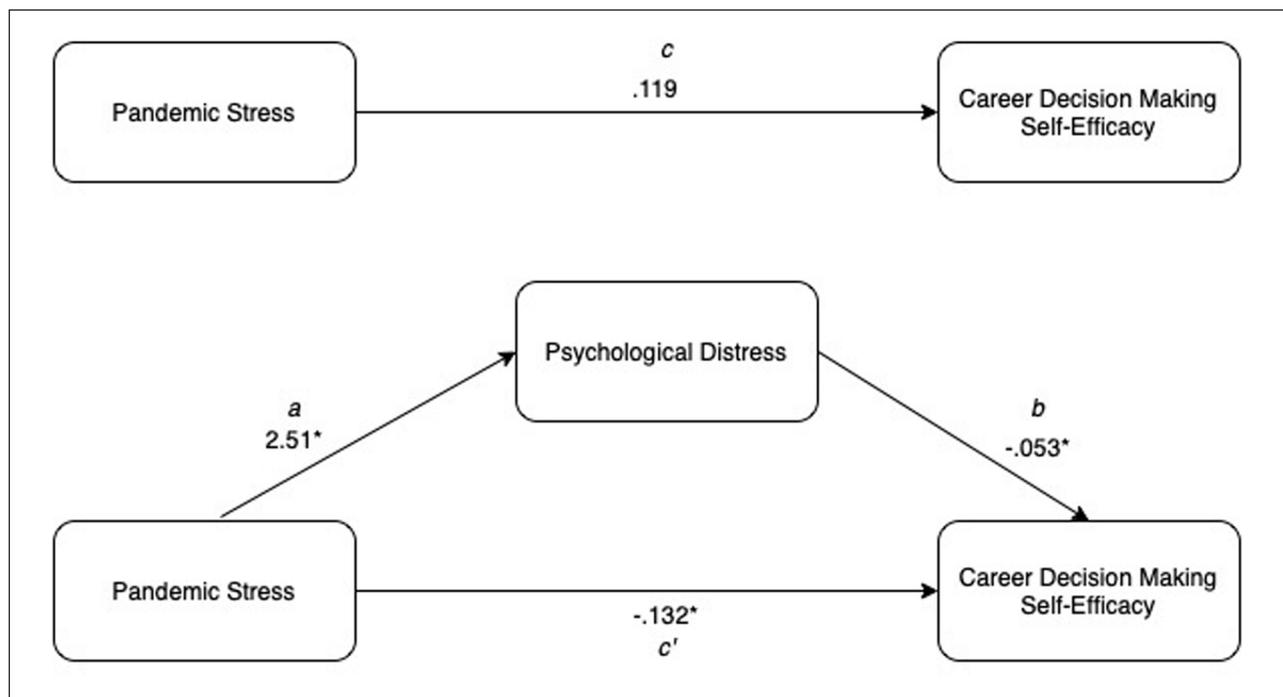
Figure 2 Model analyzing psychological distress as a mediator of the relationship between pandemic stress and career decision making self-efficacy.

* Indicates significance.

did not significantly predict career decision making self-efficacy (b = .119, s.e. = .092, *p* > .05). However, pandemic stress positively predicted psychological distress (b = 2.51, s.e. = .383, *p* < .001), and psychological distress negatively predicted career decision making self-efficacy (b = –.053, s.e. = .013, *p* < .001). These results suggest an indirect effect of pandemic stress on career decision making self-efficacy when accounting for psychological distress. Furthermore, the significant indirect effect means that pandemic stress cannot solely account for a change in the career decision making self-efficacy of college students. Using bootstrapping procedures in PROCESS in SPSS, unstandardized indirect effects were computed. The test of the indirect effect of pandemic stress on career decision making self-efficacy via psychological distress indicated a significant indirect effect with a point estimate of –.132, 95% CI [–.226, –.057]. Similar to the mediation above, hypothesis one, pandemic stress will negatively impact the career development (i.e., career decision self-efficacy) of college students is not supported. However, psychological distress fully mediates the relationship between pandemic stress and career decision self-efficacy meaning that hypothesis two is supported.

DISCUSSION

The present study explored the impact of the COVID-19 pandemic or pandemic stress on college students' psychological distress and career development. Mediation analysis revealed that while the relationship between pandemic-related stress and career development is not direct, it is fully mediated by psychological distress. Psychological distress explains the relationship these college students have between their pandemic-related stress and career development (e.g., career decidedness and career decision making self-efficacy) impacts.

Likely, many of us are not fully aware of exactly how the pandemic impacts us and those impacts vary as the pandemic ebbs and flows. Despite these college students' awareness of the impact, our study reveals significant psychological distress during this earlier phase of COVID-19 that seems to explain how the pandemic impacts college student career development. Given the critical nature of career development in this stage of life, impacts in this area are important to address and assure practitioners are prepared to address. Additionally, this study highlights that impacts from critical events may not be easy to directly assess. These college student participants were experiencing unprecedented high rates of depression, anxiety, and stress symptoms that may not have been fully attributed to the pandemic in their minds. This highlights those we work with or research may not always be fully aware of what impacts them and how. Assessment beyond direct impacts is important.

The current study has implications for career practitioners. The pandemic appears to be impacting general psychological distress among college students, which in turn appears to be impacting their career development. As mentioned previously, this population has been uniquely impacted by the pandemic and, inevitably additional crises either individual or world-wide will be faced by these current college students and those in the future. Understanding how to assist those impacted by the pandemic informs us about how to understand and help those with future, career development needs in times of crisis. A lot has been put on hold for college students due to virtual schooling, tasks related to identity exploration like learning how to become more self-sufficient and having one's ways of thinking about the world challenged. Similarly, the career development of college students has also evolved due to the COVID-19 pandemic. Findings from this study suggest that career practitioners may need to take a holistic approach when helping with career development and focus more on meeting the mental health needs of college students prior to, or in conjunction with, focusing on career development needs. However, knowing about this need is only one piece. Future research should focus on interventions that help college students navigate their lack of self-efficacy due to unique challenges presented by the COVID-19 pandemic and other crises or overwhelming events.

SCCT has several practice recommendations that may be helpful given the results from the present study. The first practice recommendation is to acknowledge barriers (Lent, 2005; Lent & Brown, 2019). As mentioned previously, COVID-19 and related stress has created barriers for students that may prevent them from achieving goals related to career development. Acknowledging these barriers and increasing support could be beneficial in helping students come to terms with how the pandemic has impacted them and will continue to impact their career development. Doing these two things could lead students and career practitioners to foster more realistic expectations which may in turn decrease levels of depression and anxiety because students will have a better developed, realistic plan for their career development.

Interventions aimed at increasing career decidedness and self-efficacy may also be helpful for students navigating their career development during the COVID-19 pandemic (Lent & Brown, 2008). Career practitioners could offer psychoeducation about goal setting and assist students in setting short, attainable goals about the career development. This intervention could make it more likely for students to achieve their goals which would increase their feelings of career development self-efficacy (Lent & Brown, 2008). CIP-based practice recommendations include the use of an Individual Learning Plan (ILP; Sampson, et al., 2020),