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Anxiety and self-efficacy as sequential mediators in US college students' career preparation

Anxiety and
self-efficacy

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Abstract

Purpose – Current college students in the USA are reporting higher levels of anxiety over career planning than previous generations, placing pressure on colleges to provide effective career development opportunities for their students. Research has consistently found that increasing career-related self-efficacy is particularly effective at increasing career-related behaviors among college students. These studies, however, do not account for the potentially negative impact of anxiety on cognitive, mediational pathways, including self-efficacy. Therefore, the purpose of this paper is to determine if anxiety plays a sequentially mediating role in the relationship between self-efficacy and job search intentions among college students.

Design/methodology/approach – Participants who were currently looking for a job or an internship were recruited to participate in an online study regarding career development preparation. Participants completed a job search behaviors “quiz” and were randomly assigned to either a “no feedback/control” condition or a “false-positive feedback/experimental” condition. Their career decision-making self-efficacy and state-trait anxiety were then assessed, as well as their intentions to engage in job search behaviors. A sequential mediational pathway analysis was performed to determine whether anxiety plays a mediational role in the relationship between self-efficacy and job search behaviors.

Findings – The hypothesized sequential mediational model was statistically significant. More specifically, participants who were randomly assigned to receive positive feedback experienced significantly lower levels of anxiety than participants in the control condition. In turn, lower levels of anxiety led to significantly higher levels of self-efficacy and significantly higher levels of job search intentions.

Practical implications – These findings have immediate implications for practitioners and educators who work with college students or any population that may be facing anxiety regarding the job search process. More specifically, these underscore the importance of lowering anxiety in order to lead to significantly higher levels of engagement in the career preparation process.

Originality/value – Currently, few studies (if any) have examined the potential mediating impact of anxiety on career-related self-efficacy and career development. Furthermore, no study has incorporated experimental methodology to test multiple pathways between anxiety, self-efficacy, and career preparation.

Keywords Anxiety, College students, Career preparation, Self-efficacy, Sequential mediational analyses

Paper type Research paper

Career planning (e.g. applying for and securing post-graduate employment) is reported to be a major source of stress among college students using campus mental health services in the USA, and students report feeling this anxiety about their future careers as early as freshman year (Beiter *et al.*, 2015; Twenge, 2011). These fears and anxieties are not unfounded; in 1973, only 28 percent of the jobs in the USA required an associate's degree or higher but this number jumped to 42 percent by 2010 (Carnevale *et al.*, 2014). Furthermore, a recent report indicates that over 95 percent of new jobs that were created since 2007 are occupied by individuals with post-secondary educational experience (Carnevale *et al.*, 2016). These numbers indicate that the need for a college degree in order to be competitive and successful in the workforce is higher now than ever before.



Studies have consistently found that recent graduates are more likely to be given interviews, be hired and to be offered higher salaries if they have engaged in job-related experiences as early as possible in order to avoid the “I need experience to get a job, but I can’t get experience until I have a job” dilemma experienced by many graduating seniors (Barber, *et al.*, 1994; Carnevale and Hanson, 2015; Kanfer *et al.*, 2001; Liu *et al.*, 2014; Saks and Ashforth, 2000). Colleges have understood this “Catch-22” and have focused on providing high-quality, career preparation training for their students at earlier stages in their college years through career services centers and extracurricular programming (Barber *et al.*, 1994; Carnevale and Hanson, 2015; Kanfer *et al.*, 2001; Liu *et al.*, 2014; Saks and Ashforth, 2000). These centers offer opportunities such as career counseling, career assessment, individual career information, mentorship support, mock interviews, securing off-campus internships, and hosting on-campus recruiting/networking events (Bao and Lao, 2015; McDow and Zabrocky, 2015; Vinson *et al.*, 2014; Renn *et al.*, 2014).

While such services are available to all students, recent surveys reveal that less than half of college students were aware of such resources (Fouad *et al.*, 2006; McKeown and Lindorff, 2011). In addition, college students have shown a substantial increase in the amount of time they spend on leisure and extracurricular activities, leaving less time available for career preparation and studying compared to previous cohorts (Babcock and Marks, 2010; Bureau of Labor Statistics, 2015; National Survey of Student Engagement, 2014; Fouad *et al.*, 2006). Current students and recent graduates also grew up during the Great Recession of the 2000s and have been forced to contend with negative financial circumstances, including an increasingly competitive job market (Aronson *et al.*, 2015; Berg-Cross and Green, 2010) alongside unprecedented amounts of student loan debt (The Institute for College Access and Success, 2014; Sparshott, 2015). As a new cohort matriculates and prepares to enter the workforce, it is important that career and other counseling services meet the ever-changing needs of the students they serve.

To address these concerns, some post-secondary institutions have started incorporating career preparation within their formal coursework. Stanford, for example, has received media attention for their “Design Your Life” course (Kurutz, 2016). The American Psychological Association (2007) specifically incorporated career planning and development as one of the learning goals that should be included for undergraduate programs, leading many psychology departments around the country to incorporate career awareness, development, and preparation within their curriculum (e.g. Case *et al.*, 2014). Other departments, including accounting (e.g. Wessels and Sumner, 2014), political science (e.g. Collins *et al.*, 2012), and chemistry (e.g. Jones and Seybold, 2016), have also started incorporating career preparation within their formal coursework for the major.

While studies have shown that these classroom experiences and opportunities through career centers on campuses have led to increased levels of post-graduation career awareness and preparation (e.g. Ciarocco *et al.*, 2016; Roscoe and McMahan, 2014; Peterson *et al.*, 2014), these opportunities are often restricted to faculty who have the time and other resources to create new coursework. Furthermore, they are most useful to students who are committed to pursuing careers within their majors, which do not reflect actual employment patterns of all college graduates (Abel and Deitz, 2013). Moreover, research suggests that up to 50 percent of all sophomores are still undecided about their occupational goals (Daniels *et al.*, 2011), therefore most of these courses are offered to students in their junior and senior years, which may be too late to avoid the aforementioned “Catch-22” dilemma. Finally, these courses do not require the students to engage in actual job search behaviors or to increase job search intentions.

The importance of job search intentions and career decision-making self-efficacy for college students

A meta-analysis of career preparation research revealed that job search behavior, including sending out resumes and conducting active searches for new job postings, was one of the

strongest predictors of successful employment outcomes, including interview offers and employment status (Kaner *et al.*, 2001). The increase in active job search behavior was also found to be positively related to number of job interviews and employment status (Saks and Ashforth, 2000). In addition, the frequency of job search behaviors was positively related to the number of job offers received (Liu *et al.*, 2014). For college students in particular, persistence throughout the search is ultimately the best indicator of their success, and resilience is a key factor in their continued job search (McKeown and Lindorff, 2011).

College students face seasonal challenges when seeking employment opportunities. For example, a full-time college student attending a residential campus far from home would need to seek part-time job opportunities near campus during the school year, but full-time opportunities in a different location. Therefore, increasing their job search behaviors immediately after completing a career preparation program (which may be held months before Summer internships are posted) may not be a useful outcome measure. The theory of planned behavior suggests that the best predictor of behavior is intention to perform the behavior, and research has demonstrated that this intention is the strongest predictor of actual job search behavior (Ajzen, 2011; Van Hooft *et al.*, 2004). For these reasons, college career counselors and researchers have focused on increasing job search intentions, such as students' performance on the proactive career behavior measure (PCBM; Clements and Kamau, 2017), as a primary goal for career preparation programs (Ajzen, 2011; Renn *et al.*, 2014; Van Hooft *et al.*, 2004).

College students also appear to be susceptible to the mediating influence of self-efficacy on their career-related behaviors, including job search intentions. Self-efficacy refers to belief a person holds regarding their power to affect situations (Bandura, 1977; Betz and Hackett, 2006; Taylor and Betz, 1983) and can predict behavioral change through a self-regulation model that is based on motivation that drives individuals to complete their goals. College students may be in greater need for self-regulation as they are relatively new to the workforce and are experiencing rude treatment by potential employers for the first time. Indeed, one study found that such treatment can lower students' job search intensity, but this decrease was mediated by their levels of self-efficacy (Ali *et al.*, 2016). Providing students with additional educational resources with the purpose of increasing their career self-efficacy has also been shown to increase their motivation to stay in college (Komarraju *et al.*, 2014). For these reasons, many career preparation programs for college students are designed specifically to increase a student's career self-efficacy (e.g. Brown *et al.*, 2010; Millman and Latham, 2001; Yanar *et al.*, 2009).

Exploring anxiety as a sequential mediator

While the aforementioned studies show the importance of increasing career self-efficacy in students' career development (e.g. Côté *et al.*, 2006), it is unclear that increasing self-efficacy alone is appropriate or feasible in today's college environment, where students are arriving on campus with higher levels of anxiety compared to previous generations (Twenge, 2011). Students who are undecided about their major and, therefore, are unlikely to be engaged in career development coursework, tend to have higher levels of psychological distress, and lower levels of psychological well-being, compared to students who have decided upon a specific career path or major (Daniels *et al.*, 2011; Fouad *et al.*, 2006; Kimes and Troth, 1974). Even for individuals with a chosen career path, students often report delaying a job search due to anxiety (e.g. Vinton, 1992). Without a reduction in or elimination of anxiety, it is unlikely that an individual will be able to engage effectively in the cognitive demands required to learn new job skills and increase their career self-efficacy (e.g. Bandura, 1977, 1997; Gross, 2002), as anxiety can prevent an individual from engaging in the behaviors that would relieve their career indecision (Weinstein *et al.*, 2002), thereby prolonging or increasing their anxiety further.

Despite the established relationship between anxiety and cognitive processes (including self-efficacy) and the mediational impact of self-efficacy on job search behaviors, no one has formally tested if there is a significant, sequential, mediational pathway between these variables. Therefore, the purpose of the current study was to evaluate the sequential impact of anxiety reduction on increasing proactive career development behaviors, and in turn, job search intention.

Method

Participants

A total of 549 participants (experimental condition $n = 274$; control condition, $n = 275$) completed the survey. Participants who were currently looking for a job or an internship were recruited from Amazon®'s Mechanical Turk (mTurk). An online platform was chosen in order to reach a wide geographical range in a cost-effective manner and because college students across multiple disciplines have reported having more positive experiences with supplemental material when they are online compared to in-person (e.g. Case *et al.*, 2014; Halupa and Caldwell, 2015; Xin *et al.*, 2015). mTurk was chosen due to previous research findings confirming the generalizability of mTurk samples to the general population in the USA (Paolacci and Chandler, 2014). Participants were compensated \$0.50 for their participation.

Design and procedure

A between-subjects design with a positive feedback condition and no feedback control group was used to assess the relationship between positive feedback, self-efficacy, and anxiety on job search behaviors. Participants were asked basic demographic questions along with their baseline levels of anxiety regarding the job search experience and confidence in their career decision-making process. Next, the participants completed the "Job Skills Quiz" task. Then, they were randomly assigned to one of two experimental conditions: no feedback ($n = 275$) and feedback ($n = 274$), the latter of which consisted of a positive feedback mechanism. Afterward, all participants completed the Career Decision-Making Self-Efficacy Scale-Short Form (CDMSES-SF), State-Trait Anxiety Inventory (STAI), and PCBM. Finally, participants were given debriefing materials. Information regarding the specific measures is outlined below.

Measures

Baseline anxiety and confidence. Since research suggests that self-efficacy and self-reported confidence are separate constructs that are intimately related to one another and both are significant predictors of job-seeking behaviors (Villar *et al.*, 2000; Wiener *et al.*, 1999), students' self-reported levels of anxiety, and confidence in their job search abilities were assessed and controlled for in our analyses. Participants were asked the following questions: how anxious are you about your job/internship search? How confident are you about your job/internship search? For both questions, response options ranged from 1 ("Not at all") to 7 ("Very much").

Positive feedback mechanism

Career preparation task. A job search behaviors "quiz" was created for the study. This "quiz" was adapted from QuintCareers.com's Job Search Quiz (Hansen, 2006) to ensure content validity regarding career preparation behaviors. The quiz consists of 35 multiple choice and short answers about resumé creation and interview tactics in order to expose and to engage the participants with career preparation information and advice. The content of the "quiz" was designed to be straightforward so the positive feedback given in the experimental condition (see below) was realistic. The "quiz" was not scored, and the results

were not included in any subsequent analyses. Participants were debriefed after the study about the purpose of the task and directed to QuintCareers to access a full version.

Experimental, positive feedback mechanism. At the end of the job search survey, the participants in the positive feedback condition received this message: “You scored among the top 10% of all of our national survey takers. Congratulations on passing the test! You will receive full results after completing the full survey.” The control group proceeded to the next section of the survey without receiving any message. This feedback mechanism was selected due to its success in previous examinations of the impact of performance accomplishment on self-efficacy among college students (Luzzo *et al.*, 1999).

CDMSES-SF. The CDMSES-SF (Betz and Hackett, 2006) contains 25 items assessing participants’ confidence around handling tasks related to career decisions. Participants responded to items using a seven-point scale ranging from 0 (No Confidence at all) to 7 (Complete Confidence). Sample items include: “Decide what you value most in an occupation,” and “Talk with a person already employed in the field you are interested in.” The averaged self-efficacy scores can range from 1 to 7, with higher scores reflecting greater career-related confidence (Cronbach’s $\alpha = 0.96$).

STAI. The STAI (Spielberger *et al.*, 1983) contains 20 items and is the definitive instrument for measuring state anxiety in adults. The STAI uses a seven-point scale ranging from 1 = Not at all to 7 = Very Much So. Sample items include: “I feel strained” and “I feel nervous.” Scores are summed then averaged and range from 1 to 7 (Cronbach’s $\alpha = 0.78$).

PCBM. In the PCBM (Strauss *et al.*, 2012), participants rate how likely they think they will be to take actions to further career goals on from 1 (strongly disagree) to 5 (strongly agree). Supervisor was reworded with “mentors and professors” to make it appropriate for college students and items were reworded so that they could reflect future intentions. Five additional items were created for this study to include items about internships, career services, and alumni networks to target resources specifically for students. Sample items include: “Plan what I want to do in the next few years of my career” and “Build a network of contacts or friendships to provide me with help or advice that will further my work chances.” Confirmatory factor analysis revealed that these five additional items mapped onto the original factor and the altered scale had the same Cronbach’s α as the original scale (Cronbach’s $\alpha = 0.95$). Therefore, there is no evidence that the alterations affected internal validity, and the sum of the entire scale was included in the analyses.

Results

Checking for selection bias

While 927 college students (age range 18-26 years; $M = 23.2$, $SD = 2.4$) began our survey, approximately one-third ($n = 378$) chose not to complete it or had to be excluded due to invalid IP addresses. A series of χ^2 analyses were conducted to see whether the people who were dropped from the analyses were significantly different from the people completed the survey. The two groups did not differ on sex, $\chi^2(1, n = 839) = 0.62, p = 0.73$, age, $\chi^2(6, n = 839) = 6.41, p = 0.38$, semesters completed $\chi^2(4, n = 836) = 2.91, p = 0.57$, nor time spent in job hunting, $\chi^2(5, n = 837) = 1.72, p = 0.89$. Therefore, concerns regarding selection bias in the sample were eliminated.

Next, a series of χ^2 and *t*-test analyses were conducted to ensure that random assignment was successfully implemented within the final sample. The experimental and control groups did not differ on sex, $\chi^2(1, n = 548) = 1.53, p = 0.47$, age $\chi^2(6, n = 548) = 2.40, p = 0.88$, semesters completed, $\chi^2(4, n = 546) = 3.25, p = 0.52$, nor time spent in job hunting $\chi^2(5, n = 547) = 1.62, p = 0.90$. Therefore, concerns regarding selective bias in the random assignment process were eliminated (see Table I).

ET
60,2*Checking for common method bias*

In order to assess common method bias, the phenomena wherein commonalities in the methods of measurement in a study influence the results of that study, the Harman's single factor test was conducted (Podsakoff *et al.*, 2003). This test indicated that 27.3 percent of the variance among the measures was due to common method biases. Therefore, we can conclude that common method bias likely did not have a significant impact on our results.

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Determining reliability of our measures

Assessing covariates. Independent *t*-tests were conducted to determine which demographic variables should be included as covariates in subsequent analyses. Unsurprisingly, number of past internships, baseline anxiety, and baseline confidence were significantly correlated with the independent measures. There was also a significant sex difference on the CDMSES-SF (Male $M = 5.25$, $SD = 1.04$; Female $M = 5.52$, $SD = 0.91$), $t(537) = -3.24$, $p = 0.001$, $d = 0.27$, and PCBM (Male $M = 5.00$, $SD = 1.06$; Female $M = 5.20$, $SD = 1.06$), $t(537) = -2.14$, $p < 0.05$, $d = 0.19$. Therefore, these variables were included as covariates (see Table II).

Testing the sequential mediational model

To test the hypothesized, sequential mediational model, predictors were entered in SPSS in four steps outlined in detail below (see Figure 1 and Table III). As predicted, when all variables are entered into our model the experimental condition has a significant direct effect on STAI only, $\beta = -0.24$, $t(523) = -5.65$, $p < 0.001$, STAI has a direct effect on CDMSES-SF only, $\beta = -0.39$, $t(523) = -9.35$, $p < 0.001$, and CDMSES-SF is shown to be a direct positive predictor of PCBM, $\beta = 0.57$, $t(522) = 15.05$, $p < 0.001$:

- Step 1: the variables entered as control variables, sex, internship experience, baseline anxiety, and baseline confidence, were entered first and together explain a significant amount of variance in PCBM, $F(4, 525) = 12.17$, $p < 0.001$, $R^2 = 0.085$. All covariates but internship experience are significant predictors of PCBM in this first step $\beta = 0.11$, $p < 0.01$.
- Step 2: adding in experimental condition as a dichotomous predictor, the overall model remains significant, $F(4, 524) = 9.75$, $p < 0.001$, $R^2 = 0.085$. Experimental condition,

Table I.
Means and standard
deviations by
experimental condition

| Condition | Control <i>M</i> (<i>SD</i>) | Experimental <i>M</i> (<i>SD</i>) | Total <i>M</i> (<i>SD</i>) |
|-----------------------|-----------------------------------|--|---------------------------------|
| PCBM | 5.13 (1.02) | 5.08 (1.11) | 5.10 (1.06) |
| CDMSES-SF | 5.34 (0.96) | 5.43 (1.02) | 3.00 (1.19) |
| STAI | 3.14 (1.24) | 2.86 (1.13) | 5.38 (0.99) |
| "Baseline" anxiety | 4.73 (1.75) | 4.83 (1.77) | 4.87 (1.76) |
| "Baseline" confidence | 4.57 (1.43) | 4.39 (1.69) | 4.48 (1.57) |

Table II.
Correlations among
continuous baseline
and outcome
measures

| Measure | 1 | 2 | 3 | 4 | 5 |
|--------------------------|---|--------|---------|--------|--------|
| 1. PCBM | – | 0.60** | –0.22** | 0.08 | 0.22** |
| 2. CDMSES-SF | | – | –0.40** | –0.09* | 0.18** |
| 3. STAI | | | – | 0.23** | 0.19** |
| 4. "Baseline" anxiety | | | | – | –0.05 |
| 5. "Baseline" confidence | | | | | – |

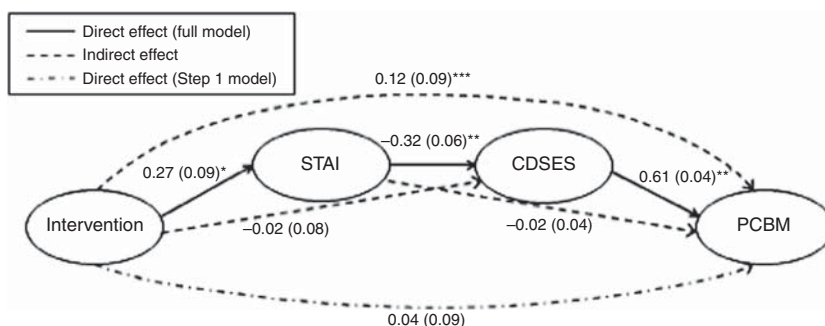
Notes: * $p < 0.05$; ** $p < 0.001$

however, does not add to the predictive power of the model, $\Delta F(1, 524) = 0.16, p = 0.69$, and is not a significant predictor, $\beta = 0.02, t(524) = 0.40, p = 0.69$ of PCBM.

- Step 3: STAI was entered as a potential mediator between condition and PCBM. The overall model still explains a significant amount of variation in PCBM, $F(7, 522) = 49.46, p < 0.001, R^2 = 0.14$. All covariates and STAI, $\beta = -0.24, t(523) = -5.65, p < 0.001$ were significant predictors of PCBM. Further multiple regression analyses utilizing SPSS' PROCESS macro (Hayes, 2015) revealed that

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Notes: Path coefficients were assessed at the mean values of four covariates: sex, internship experience, and baseline job search anxiety and baseline confidence. The path model at Step 1 included only the covariates and experimental condition as predictors of PCBM.

* $p \leq 0.01$; ** $p < 0.001$; *** $p < 0.10$

Figure 1. Path diagram for sequential model showing relative correlations between experimental condition and serially related constructs, anxiety, self-efficacy, and proactive career behavior

| Predictor | <i>b</i> | SE | β | R^2 | ΔR^2 |
|-----------------------|----------|------|---------|--------|--------------|
| <i>Step 2</i> | | | | 0.09** | 0.00 |
| Sex | 0.23 | 0.09 | 0.11* | | |
| Internship Experience | 0.05 | 0.04 | 0.05 | | |
| Baseline anxiety | 0.07*** | 0.03 | 0.11*** | | |
| Baseline confidence | 0.17** | 0.03 | 0.24** | | |
| Condition | 0.04 | 0.09 | 0.02 | | |
| <i>Step 3</i> | | | | 0.14** | 0.05** |
| Sex | 0.23* | 0.09 | 0.11* | | |
| Internship experience | 0.08*** | 0.04 | 0.09*** | | |
| Baseline anxiety | 0.10** | 0.03 | 0.16** | | |
| Baseline confidence | 0.13** | 0.03 | 0.19** | | |
| Condition | 0.12 | 0.09 | 0.05 | | |
| STAI | −0.22** | 0.04 | −0.24** | | |
| <i>Step 4</i> | | | | 0.40** | 0.26** |
| Sex | 0.23* | 0.09 | 0.11* | | |
| Internship experience | 0.05 | 0.04 | 0.05 | | |
| Baseline anxiety | 0.07** | 0.03 | 0.11** | | |
| Baseline confidence | 0.17** | 0.03 | 0.24** | | |
| Condition | 0.12 | 0.09 | 0.02 | | |
| STAI | −0.02 | 0.04 | −0.02 | | |
| CDMSSES-SF | 0.61** | 0.04 | 0.57** | | |

Notes: Step 1 is not reported in this table because the regression weights of variables entered at Step 1 do not change at Step 2. * $p < 0.01$; ** $p < 0.001$; *** $p < 0.05$

Table III. Results from hierarchical regression/path analysis, predicting proactive career behavior from exposure to experimental condition (i.e. "condition"), state anxiety, career decision-making self-efficacy, and covariates

condition was a significant predictor of STAI, $\beta = 0.14$, $t(527) = 3.38$, $p = 0.001$ (95 percent CI (0.14, 0.52)).

- Step 4: CDMSES-SF was entered leading to a significant increase (relative to 0) in the amount of variance in PCBM accounted for by the model, $\Delta F(1, 522) = 226.61$, $p < 0.001$, $\Delta R^2 = 0.26$. Further in line with predictions, the effect of STAI on PCBM is reduced to non-significance, while CDMSES-SF became a significant predictor of PCBM, $\beta = 0.57$, $t(522) = 15.05$, $p < 0.001$. Again, using the PROCESS macro to assess intermediary paths in the full model, only STAI is revealed to be a significant intermediary predictor of CDMSES-SF, $\beta = -0.32$ $t(523) = -7.53$, $p < 0.001$, $b = -0.32$ (95 percent CI (-0.41, -0.24)).

Discussion

Previous research on career assessment and development has focused on the importance of using career self-efficacy as a mediator to increase job search intentions, with little effort placed on trying to reduce the substantial amounts of anxiety that are experienced by today's college students (e.g. Twenge, 2011). Furthermore, few (if any) studies have incorporated experimental methodology to test multiple pathways between self-efficacy, anxiety, and job-seeking behavior intentions. For example, Brown *et al.* (2010) created an intervention that decreased anxiety over interviewing, which led to stronger performances in an interview scenario, but did not include a measure of self-efficacy. Furthermore, when they examined the impact of their intervention on self-efficacy and job-seeking behavior, they did not include a measure of anxiety. While their findings go the furthest to examine the relationships between these variables separately, the current study and sequential path analysis approach allowed us to determine how the variables relate to each other collectively.

To address this gap in the literature, this study examined whether anxiety serves as a sequential mediator to the established mediational role of career self-efficacy on job search behavior intentions, through the use of (positive) false feedback. The results from this study reveal that participants who were randomly assigned to receive positive feedback experienced lower levels of anxiety, which led to higher levels of career self-efficacy and higher levels of job search intentions compared to participants who did not receive any feedback. Sex, baseline anxiety, baseline confidence, and previous internship experience were controlled for in this sequential mediational pathway model. These results emphasize the importance of reducing anxiety in order to take advantage of the mediating effect of career self-efficacy on job search intentions.

It may seem surprising that such a simple (and false) feedback can have such a significant role in career preparation behaviors. These findings, however, are consistent with the stereotype threat literature, which has repeatedly shown that reducing the anxiety through a false feedback mechanism (i.e. being told the test is not a measure of diagnostic ability) can significantly increase performance on diagnostic measures (e.g. Aronson and Williams, 2004) and suggest that addressing emotional and mental health concerns has become an important element of post-secondary education. Indeed, there has been a sudden increase in the number of college students reporting experiencing anxiety since the 1980s (American Psychological Association (APA), 2013). Therefore, it would be beneficial for career services to offer programs that are geared to identifying and managing anxiety. Of course, false feedback cannot be seen as a substitute for intensive mental health therapies or an in-depth, job skills training. Rather, it may help to lessen some of the mild job-related anxiety that inhibits proactive job search behaviors in an efficient manner and push the people who participate in the program to further their job search in the future.

The results of this study can also be beneficial to career counseling practitioners and career service administrators. Creating a generic activity that includes a false feedback mechanism can serve as a "foot-in-the-door" activity that can get younger students with undecided majors

and career paths to start thinking about career preparation before they engage in the more time-intensive work that is required among older students with determined career paths. Moreover, the proliferation of post-secondary e-learning has required educators and administrators to examine how to provide a comprehensive educational experience to a larger audience that is more affordable and flexible for students' schedules (Allen and Seaman, 2008; Bell and Federman, 2010). In 2014, over 28 percent of students in post-secondary education in the USA took at least one online course and 14 percent of students engaged solely in online courses (National Center for Education Statistics, 2016). Incorporating career preparation programs within established online curriculum could ensure that colleges and universities are providing their online students with the same benefits and resources as their residential students. Despite these findings and implications, there are several limitations outlined below.

Limitations and future directions

There are several methodological limitations which should be addressed in future studies. First, while job search intention is a commonly used outcome measure for college students (e.g. Ajzen, 2011), we cannot be sure that the sequential pathway led to actual job offers or higher salaries. Due to the nature of our sample, longitudinal follow-ups were not possible, but should be explored in future research. Furthermore, the CDESES-SF measures self-efficacy in the general domain of career decision making and behavior, but this study focused on the mechanics of the job search. Future studies should use more direct measures, such as a job search self-efficacy scale developed to target the actual job search process rather than just decision making (Saks *et al.*, 2015). Similarly, the state anxiety measure does not capture the range of emotions that students feel about the job search, such as depression, which has also increased among college students (e.g. APA, 2013). Examining the role of other negative arousal emotions on self-efficacy and career planning behaviors should be explored in future research.

A further limitation is that we did not include the participants' race in our survey. This is not uncommon in career development and career self-efficacy research (e.g. McDow and Zabrocky, 2015), but is less common in psychology and education research. Our analyses, however, showed that random assignment was carried out effectively and there was no evidence of selection bias among those who did not complete the survey based on sex, age, number of semesters completed, and the amount of time spent looking for a job. But, we are aware that there are racial differences in job behaviors, including employment patterns (Bureau of Labor Statistics, 2016), so future research should examine this further.

Finally, it is also important to remember that career-related anxiety can be experienced throughout adulthood, and increasingly so for millennials. For example, a 2016 Gallup report revealed that 21 percent of millennials reported switching jobs in the past year, which is three times the number of non-millennials (Adkins, 2016), and therefore, have just as much reason to be anxious in the coming decades as their peer group members who are currently entering the workforce. Moreover, individuals who have chosen to re-enter the workforce after years of providing full-time caregiving to their children or elders may also be facing anxiety that is hindering their efforts to find employment. In other words, examining the role of anxiety management may prove to be highly beneficial to a large proportion of the workforce beyond college students.

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