The Development and Validation of a Scale of Career Anxiety
Abstract

This study investigated the development and validation of the Career Anxiety Scale (CAS), a scale devised to broadly capture career anxiety, from anxiety regarding career decisions to anxiety related to discussing career prospects. There is evidence supporting the psychometric soundness of the CAS. The CAS has high internal consistency and favorable construct validity. Scores on the CAS correlate positively with scores on measures of general anxiety and career indecision. Scores on the CAS do not correlate with scores on a measure of social desirability. Scores on the CAS discriminate between career-decided and career-undecided students, between students who have declared a major and students who have not, and between students with offers for jobs or for further schooling and students who do not. These findings support the ability of the CAS to measure levels of career anxiety. The CAS is an appropriate tool to measure career anxiety in undergraduate students and can be applied in research and counseling settings.

Key words: career anxiety, scale development, career indecision, anxiety
The Development and Validation of a Scale of Career Anxiety

Given recent economic trends, college students face enormous pressures to decide on a career path, which undoubtedly gives rise to career anxiety. Most college students experience some career anxiety and indecision (Gallagher, Golin, & Kelleher, 1992; Morgan & Ness, 2003). Even simply completing a career-planning questionnaire sufficed to increase levels of anxiety in liberal arts students (Berger-Gross, Kahn, & Weare, 1983). For this study, we defined career anxiety as a form of state anxiety related to various stages of the career process, from researching careers to discussing career goals.

Though career indecision is associated with career anxiety (Brown & Strange, 1981), career anxiety is a construct distinct from career indecision because career anxiety does not automatically dissipate following a career decision (Cavenagh et al., 2000). Measuring career anxiety is critical, however, because anxiety mediates the relationship between stress and physical health (Rawson, Bloomer, & Kendall, 1994). Career anxiety not only is a form of mental distress but may debilitate students physically. Beyond detrimentally affecting physical wellbeing, career anxiety is also associated with impairment in career competence and certainty (Daniels et al., 2006). Career anxiety also interferes with decision-making abilities (Germeijns et al., 2006). Although career anxiety may arise due to career indecision, it can also prevent students from deciding on a career path.

Students vary in levels of career anxiety. Based on the associations between career anxiety and career indecision, it is not surprising that students decided on a career have lower levels of career anxiety than undecided students (Brown & Strange, 1981). On the other hand, declarations of undergraduate major were not associated with levels of career anxiety (Brown & Strange, 1981). Students unaffiliated with any faculty member and arts students experience more career anxiety than students with faculty affiliations and professional students (Daniels et al.,
2011). Additionally, women who display problem-focused coping with high perceived control experience less career anxiety than those who perceive less control (Weinstein, Healy, & Ender, 2002).

The negative consequences of career anxiety suggest the importance of measuring career anxiety. Once people are aware that they are experiencing career anxiety, they can obtain help to alleviate their anxiety and to reduce the negative impact of the anxiety. Moreover, distinguishing career anxiety from career indecision will ensure interventions are catered to everyone experiencing career anxiety rather than only those struggling to decide on a career.

While many measures of career indecision exist, like the Career Factors Inventory (Chartrand & Robbins, 1990) and the Career Indecision Profile (Hacker et al., 2013), measures of career anxiety either are only embedded in these measures of career indecision in a limited manner or only cover a narrow proportion of our definition of career anxiety. For example, the Career Factors Inventory (Chartrand & Robbins, 1990) only contains six questions related to career anxiety, and these questions only address career anxiety in relation to career indecision. Other studies on career anxiety have used a modified form of the State-Trait Anxiety Inventory that asks participants to “indicate how you feel right now, that is, at the moment when you think about being decided or undecided about your career” (Weinstein, Healy, & Ender, 2002, p. 342), but again, this reduces career anxiety to career anxiety regarding career indecision. Due to these limitations in currently available measures, we created a measure for college students that addresses a broad range of career behaviors that may arouse anxiety.

The purpose of this study was to develop and find preliminary validity evidence for a new measure of college students’ levels of career anxiety, the Career Anxiety Scale (CAS). We predicted that students who have chosen a career would have lower scores on the CAS than students who have not chosen a career. Previous research has shown that students who have
already decided on a career experience less state anxiety than those who have not chosen a career path (Brown & Strange, 1981). Similarly, we expected that participants who currently do not have an offer for further schooling or a job offer would score higher on the CAS than students who have offers. We also predicted that scores on the CAS would show a moderate, positive correlation with general trait anxiety because career anxiety is a specific subtype of anxiety.

Furthermore, we predicted that scores on the CAS would show a moderate to high, positive correlation with career indecision, based on evidence that career anxiety is highly related to and a mediating factor on career indecision (Daniels et al., 2006; Daniels et al., 2011; Fuqua, Newman, & Seaworth, 1988; Fuqua & Seaworth, 1987). We further predicted that there would not be associations between year in school or gender and career anxiety based on previous research that has failed to demonstrate these associations (Daniels et al., 2011). Last, we predicted that scores on the CAS would show no correlation with scores on a measure of socially desirable responding because an online survey would provide sufficient anonymity to prevent biases due to social desirability.

Method

Generation of Initial Item Pool

Before generating items for the CAS, we reviewed the published literature on career anxiety and career indecision. We examined the wording used in anxiety scales to find different terms to refer to anxiety in order to encompass the entire range of the anxiety construct (Marteau & Bekker, 1992). To cover a broad range of what career anxiety may involve, we examined studies on career anxiety and career indecision to observe what career behaviors are referenced in their test items (Chartrand, Robbins, Morrill, & Boggs, 1990). In our items, we focused on how people feel during various stages of the career process, from researching careers to discussing career goals, and included various behaviors that may arouse career anxiety, like
discussing career plans, in order to cover as many situations testtakers may associate with career anxiety. An original pool of 46 items was written. Items were eliminated that were redundant or unclear.

The CAS contains 12 items, displayed in Appendix A. Participants are asked to indicate, “How strongly do you agree with the following statements.” Response options on the CAS ranged from 1 – *strongly disagree* to 6 – *strongly agree* with no neutral alternative (the total score is the sum of the responses to the 12 items, after reverse scoring appropriate items).

**Additional Measures**

**Scale of Vocational Indecision.** The Scale of Vocational Indecision (Osipow, Carney, & Barak, 1976) measures 16 separate facets of educational-vocational indecision created in reference to interviews with clients. The last item of the scale (“None of the above items describe me. The following would describe me better: (write your response on the answer sheet).”) was excluded to avoid free-response items (Osipow et al., 1976, p. 237). We added an additional question as a validity check in this measure to ensure respondents were reading the questions carefully (“If you are reading this question, please choose ‘Somewhat like me.’”). Response options for the 19 items of the scale ranged from 1 – *not at all like me* to 4 – *exactly like me* (the total score is the sum of the responses to the 18 items, after reverse scoring appropriate items and excluding our validity check). Scores on this scale distinguish career-decided students from career-undecided students, and the scores on this measure respond to counseling intended to lower levels of vocational-educational indecision (Osipow et al., 1976). Osipow et al. (1976) reported an internal consistency of .90 and .82 for two different samples that did not undergo an intervention for career indecision. In this study, Cronbach’s alpha was .76.

**Six-item short-form of the Spielberger State-Trait Anxiety Inventory (STAI).** The six-item short-form of the STAI (Marteau & Bekker, 1992) measures state and trait anxiety. The
entire scale was administered. Although the short-form of the STAI was designed to measure state anxiety, we altered the directions in order to measure trait anxiety instead. Participants were asked to indicate how they feel in general. Response options on this scale ranged from 1 – *not at all* to 4 – *very much* (the total score is the sum of the responses to the six items, after reverse scoring the appropriate items). Mean scores obtained from the six-item short-form are similar to scores obtained from the full measure and from the remaining 14 items of the STAI for normal populations and populations who received anxiety-inducing news (Marteau & Bekker, 1992). Marteau and Bekker (1992) reported an internal consistency of .82 for the six-item short-form of the STAI. In this study, Cronbach’s alpha was .85.

**13-item short form of the Marlowe-Crowne Social Desirability Scale.** The Marlowe-Crowne assesses socially desirable responding, which is a concern with self-report measures (Reynolds, 1982). The entire 13-item short-form was administered. Response options were 1 – *true* and 2 – *false* (the total score is the sum of the responses to the 13 items, after reverse scoring the appropriate items). Scores obtained from the 13-item short form of the Marlowe-Crowne correlated highly with the full version of the Marlowe-Crowne (Reynolds, 1982). Reynolds (1982) reported an internal consistency of .76 for the 13-item short-form of the Marlowe-Crowne. In this study, Cronbach’s alpha was .60.

**Career decidedness.** Participants were asked to indicate “Have you decided on a career to pursue after you graduate?” Response options were “Yes,” “No,” or “Not sure.” In this study, 56.5% of participants had decided on a career, 13.6% had not decided on a career, and 29.9% were not sure.

**Offer for further schooling or job offer.** Participants were asked to indicate “Do you currently have an offer for future employment or schooling (e.g. graduate school) after you
graduate?” Response options were either “Yes” or “No.” In this study, 14.3% had an offer for work or further schooling and 85.7% did not.

Participants

154 university students participated in this study. 12 participants who were not college students were excluded. Two participants were excluded for failing to answer the CAS. 19 participants were excluded for not completing all the surveys. 11 participants were excluded for failing our validity check. Of these 154 participants, 37% were male and 63% were female. 82.5% of participants had declared a major and 17.5% had not declared a major. The distribution by year in school was 16.2% freshman, 35.7% sophomores, 16.9% juniors, 27.3% seniors, 1.3% fifth year seniors, and 2.6% graduate students.

Procedure

Participants were recruited through email, social media, and word of mouth. Participants individually completed the survey online with the order of the surveys presented randomly. Our survey was hosted by Qualtrics.

Results

Findings from the initial item analysis are contained in Table 1. The entire response scale (1 to 6) was used for each item. Item means ranged from 2.81 to 4.11. Item standard deviations ranged from 1.24 to 1.52. Cronbach’s alpha for the total scale was .91. Cronbach’s alpha would not increase significantly with the deletion of any of the items. Corrected item-total correlations were all in the acceptable range (ranging from .42 to .77). Thus, upon initial inspection, no items were removed.

Principal axis factoring with direct oblimin rotation was used to examine the factor structure of the CAS. For all of the items, initial Eigenvalues were 6.05 and 1.33. After rotation, Eigenvalues were 5.39 and 3.03. However, the scree plot and a parallel analysis suggested a one-
factor solution. That factor, which we named Career Anxiety, accounted for 50% of the cumulative common variance.

Total scores for the CAS, STAI, SVD, and Marlowe-Crowne were created by summing item responses after reverse scoring appropriate items. See Table 2 for descriptives.

An independent samples t-test was conducted to compare levels of career anxiety for men and women. Levene’s test of homogeneity of variance for gender was not significant, $p = .20$. As expected, levels of career anxiety did not differ according to gender, $t(149) = 1.56, p = .12, d = .26$. See Table 2 for descriptives.

A One-way analysis of variance was conducted with career anxiety serving as the dependent variable and year in school serving as the independent variable. Levene’s test of homogeneity of variance for year in school was not significant, $p = .17$. Only considering freshmen through seniors, there were no significant differences in scores between groups, $F(3, 141) = .82, p = .49, \eta^2_p = .02$. See Table 2 for descriptives.

To evaluate the construct validity of the CAS, we conducted analyses to discern known groups validity. An independent samples t-test was conducted to compare levels of career anxiety for students who have an offer for future employment or schooling to students who do not. Levene’s test of homogeneity of variance was not significant for having an offer for future employment or schooling, $p = .94$. As predicted, students with offers had significantly less career anxiety ($M = 33.45, SD = 11.15$) than students who did not have an offer, $M = 45.40, SD = 11.32, t(149) = 4.59, p < .001, d = .75$.

A one-way analysis of variance procedure was conducted with career anxiety serving as the dependent variable and career decidedness as the independent variable (Yes, No, Not Sure). Levene’s test of homogeneity of variances for career decidedness and career anxiety scores was not significant, $p = .43$. A significant main effect of career decidedness was found, $F(2, 148) =$
In support of our hypothesis, post-hoc Tukey HSD tests indicated that students who had decided on a career had significantly lower career anxiety scores ($M = 38.48$, $SD = 10.93$) than both students who had not decided on a career path ($M = 52.20$, $SD = 8.61$) and students who were not sure if they had decided on a career path ($M = 49.52$, $SD = 10.48$). No other significant differences were found.

An independent samples t-test was conducted to compare levels of career anxiety for students who have declared a major and students who have not. Levene’s test of homogeneity of variance for having decided on a major to pursue was significant, $p = .02$, and so we did not assume equal variances. Although previous research found no impact of major on levels of career anxiety (Brown & Strange, 1981), we found that students who had declared a major had significantly less career anxiety ($M = 42.43$, $SD = 12.38$) than students who had not declared a major, $M = 49.33$, $SD = 8.29$, $t(54.65) = 3.55$, $p < .001$, $d = .96$.

To further evaluate the construct validity of the CAS, we conducted analyses to discern discriminant and convergent validity. As predicted, scores on the CAS showed a significant, moderate, positive correlation with general anxiety scores, $r(147) = .35$, $p < .001$. Also consistent with predictions, scores on the CAS were significantly positively correlated with scores on a measure of career indecision, $r(145) = .61$, $p < .001$. Scores on the CAS were not significantly correlated with scores on a measure of socially desirable responding, $r(149) = -.13$, $p = .12$.

**Discussion**

The purpose of the current study was to develop and validate a new scale measuring levels of career anxiety. A variety of data analysis techniques were used to create the CAS, which is a comparatively short and simple tool that measures levels of career anxiety. We found evidence of reliability, convergent validity, discriminant validity, and criterion-related validity. Internal consistency reliability for the scale was high and would not significantly change with the
deletion of any items, so no items were removed. Scores on the CAS were correlated with scores on measures of general anxiety and career indecision but not correlated with scores on a measure of socially desirable responding. The moderate correlation between the CAS and career indecision affirms the importance of distinguishing career anxiety from career indecision. While related, career anxiety and career indecision are not synonymous. Anxiety over career indecision is only one aspect of career anxiety, and this is captured by the broadness of our scale. Likewise the small correlation with general anxiety confirms that we are measuring a distinct facet of anxiety and not exclusively measuring general trait anxiety. Scores on the CAS were importantly not correlated with socially desirable responding, which suggests that scores obtained are not due to impression management.

The CAS also discriminated between populations expected to and populations not expected to experience career anxiety. Career-undecided students scored higher than career-decided students on the CAS. Students with offers for further schooling or a job offer scored lower than students without such offers. Students who had declared a major scored lower than students who had not yet declared a major. Brown and Strange (1981) did not find differences in levels of career anxiety between students who had declared a major and students who had not after controlling for career decision status. In future studies, we should test whether the difference between students who have declared a major and students who have not persists after controlling for career decidedness. The CAS did not demonstrate gender differences or differences according to year in school, which is consistent with previous research that found no differences between males and females or between grade levels in experiences of career anxiety (Daniels et al., 2011). This evidence suggests that the 12-item CAS is an appropriate tool that measures levels of career anxiety in undergraduate students.
Both exploratory and confirmatory factor analysis supported the existence of one factor in the CAS. There was preliminary evidence for the existence of another factor centering on career prospects. Additional questions can be added about career prospects to evaluate whether anxiety concerning career prospects is a distinct subtype of general career anxiety. Items proposed to address this preliminary factor about anxiety over career prospects include: “I worry about not being able to find a job” and “I am concerned about having limited employment opportunities.”

Limitations of this study include the limited sample. Most of the participants in this study were recruited from an elite Midwestern school and so may not be representative of the general population of university students. Before the scale can be recommended for use with college students in general, more data should be gathered from students attending other universities. Data should also be gathered from graduate students and high school students to evaluate whether this scale can be applied to graduate and high school students. More males, students who have not yet declared a major, and students with job offers or offers for further schooling can be tested in the future to achieve more equal distributions in these populations.

The CAS can be used in career counseling centers for undergraduate students. The use of this measure will enable advisors to identify students experiencing career anxiety. Once people are aware that they are experiencing career anxiety, they can obtain help to alleviate their anxiety and to reduce the negative impact of the anxiety. The characteristics of those experiencing low levels of career anxiety suggest different avenues for interventions to combat career anxiety, including encouraging problem-focused coping and faculty affiliations (Daniels et al., 2011; Weinstein, Healy, & Ender, 2002). Importantly, distinguishing career anxiety from career indecision will ensure these interventions are catered to everyone experiencing career anxiety rather than only those struggling with career indecision. Researchers can use the CAS to measure
career anxiety rather than current scales like the modified STAI in order to fully capture all aspects of career anxiety.
References


Table 1

**CAS Item Analysis**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Mean (SD)</th>
<th>Corrected Item-Total Correlation</th>
<th>Alpha If Item Deleted</th>
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<tr>
<td>1</td>
<td>4.11 (1.47)</td>
<td>.77</td>
<td>.89</td>
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<td>3.49 (1.47)</td>
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<td>3</td>
<td>3.06 (1.26)</td>
<td>.64</td>
<td>.90</td>
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<td>4</td>
<td>3.84 (1.38)</td>
<td>.74</td>
<td>.89</td>
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<td>3.55 (1.28)</td>
<td>.68</td>
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<td>2.81 (1.24)</td>
<td>.63</td>
<td>.90</td>
</tr>
<tr>
<td>8</td>
<td>3.58 (1.52)</td>
<td>.59</td>
<td>.90</td>
</tr>
<tr>
<td>9</td>
<td>3.99 (1.51)</td>
<td>.54</td>
<td>.90</td>
</tr>
<tr>
<td>10</td>
<td>3.56 (1.47)</td>
<td>.76</td>
<td>.89</td>
</tr>
<tr>
<td>11</td>
<td>3.93 (1.48)</td>
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<td>.90</td>
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<tr>
<td>12</td>
<td>3.86 (1.51)</td>
<td>.62</td>
<td>.90</td>
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*Note.* The entire response scale (1 to 6) was used for each item.
Table 2

**Total Score Descriptive Statistics**

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<th>Scale</th>
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<tr>
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<tr>
<td>CAS Male</td>
<td>41.68 (10.92)</td>
</tr>
<tr>
<td>CAS Female</td>
<td>44.83 (12.54)</td>
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<tr>
<td>CAS Sophomore</td>
<td>43.10 (12.14)</td>
</tr>
<tr>
<td>CAS Junior</td>
<td>41.23 (19.99)</td>
</tr>
<tr>
<td>CAS Senior</td>
<td>43.64 (12.69)</td>
</tr>
<tr>
<td>STAI Total</td>
<td>14.43 (3.79)</td>
</tr>
<tr>
<td>SVD Total</td>
<td>34.96 (7.04)</td>
</tr>
<tr>
<td>MC Total</td>
<td>4.75 (2.91)</td>
</tr>
</tbody>
</table>
Appendix A

The Career Anxiety Scale

How strongly do you agree with the following statements:

Questions rated on a scale from 1 to 6:

6 – strongly agree
5 – agree
4 – somewhat agree
3 – somewhat disagree
2 – disagree
1 – strongly disagree

1. Thinking about my future career is scary.

2. I feel nervous when others ask me about my career plans.

3. I feel confident when talking about my occupational goals. (reverse scored)

4. I feel worried when I make career-related decisions.

5. I feel secure when I contemplate my career goals. (reverse scored)

6. Thinking about my resume makes me feel stressed.

7. I enjoy thinking about my future career. (reverse scored)

8. I worry about committing to a career choice.

9. I worry about not being able to find a job.

10. I feel nervous about choosing a career.

11. I am concerned about having limited employment opportunities.

12. I am afraid of being dissatisfied with my chosen career.